

DEVELOPING THE FOUNDATION FOR A NEW APPROACH TO UNDERSTANDING HOW MEDIA ADVERTISING WORKS

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Massive marketplace changes and several new research and analytical approaches have raised serious questions about “how media advertising works” in the interactive, networked, global systems found in the 21st century media marketplace. Three new concepts/streams of research are identified: a) simultaneous media exposure by consumers, b) new cognitive psychology concepts on how consumers process information, and c) new analytical techniques that allow marketers to parse out the synergy that occurs among media vehicles in the marketplace. These are combined to provide a new model of “how media advertising” works today. The authors present a consumer media consumption model as the basic approach and urge the industry to extend and enhance their initial thinking.

INTRODUCTION

We start with a rather lofty title. The reason: most advertising, and particularly media professionals, believe they understand “how media advertising works”. Nonetheless, many of those beliefs, hypotheses, “rules-of-thumb” and “collected industry wisdom” are based on a set of assumptions that have, over the years, morphed into a set of rules, and indeed by-laws, that should and must be challenged. It is our premise that new evidence, marketplace observations and technical capabilities now allow us to challenge the hoary notions of “how media advertising works”, particularly in the 21st century marketplace.

This paper begins with identification of our “derived assumptions” and “hypotheses” of current industry practice that support “how media advertising works”. We term these “derived assumptions”, for in many cases that is what they really are, assumptions, often lacking substantial scientific evidence of their being true, replicable, supportable or perhaps even relevant, given current knowledge.

We follow the identification of those “derived assumptions” with three marketplace observations. Those include:

- a) New research evidence of how media vehicles are consumed,
- b) How individuals take in, process and use advertising and other forms of marketing communication to assist them in making marketplace decisions, and
- c) Some new statistical techniques that have the potential to unlock the secrets of how various advertising media work in combination to create what is often called “media synergy”.

We then offer our new model of “how media advertising works” in the 21st century marketplace. This model we submit to the advertising industry, and particularly to ESOMAR and ARF, as beginning thoughts on developing new concepts on “how media advertising works”. Clearly, this is a matter of critical importance to the entire marketing and communication industry around the world. We simply must have better understanding of “how media advertising really works” in an interactive, networked, media pervasive, global marketplace. We close with some observations of next steps and challenges we believe must be met if we are to move forward both intellectually and economically.

ASSUMPTIONS AND CHANGES

There is little question the advertising media landscape has changed dramatically over the past decade or so. While our specific research is based on U.S. examples, we are convinced similar situations can be found around the world, particularly in those economically developed countries where media advertising has or is becoming a major factor in commerce.¹⁾ Everywhere, wireless and electronic media applications have grown, exponentially in some cases.²⁾ Traditional media forms have fragmented and splintered.³⁾ Audiences have shifted their attention and interest to a broad variety of new information and entertainment alternatives and venues.⁴⁾ There has been increasing consumer acceptance of TiVo and other commercial-suppression or by-pass systems.⁵⁾ In short, almost everything in the media advertising arena has changed except one thing, the basic assumptions the industry use of “how media advertising works”. Those assumptions drive all media planning, buying and implementation for what is now a multi-billion dollar industry growing annually at a rate of 5.6% globally.⁶⁾

In our research, we have found the way in which advertisers and agencies seem to assume “how media advertising works”, is actually static. It seems to be caught in a time warp, based on concepts that were developed a half-century or more ago. And while they have been challenged over the years, they continue to survive and are still the basis for almost every media advertising decision by the marketers, agencies and by the media themselves.⁷⁾

The basic media advertising model is closely aligned with the 4Ps marketing mantra. That concept, developed in the 1950s and perhaps earlier, assumes the marketer and media control the commercial marketplace.⁸⁾ The premise is that the marketing firm decides what products or services to make, how to package, price and distribute them, and, most of all, how to communicate and advertise those products to potential consumers.⁹⁾

When it comes to the fourth P, i.e., promotion, the marketing organization develops the messages and contracts with various media organizations to distribute them. It is clearly an outbound only, mass-communication driven, efficiency-based approach that assumes that the more messages distributed by the marketer are always in the firm’s best interest.¹⁰⁾ Thus, the current thinking of “how media advertising works” is based on a stimulus-response communication model stemming from a behaviorist psychological view of consumer information processing developed in the early 20th century.¹¹⁾

Underlying these traditional message distribution models are another set of assumptions, e.g., that “media advertising works” through creation of some type of attitudinal change among the consumers exposed to those messages.¹²⁾ That has resulted in the development of various types of “hierarchy of effects”

advertising models that posit consumers move through some type of mental decision process that starts with awareness of the product and service and ends with purchase behavior. It further assumes that media advertising messages, when delivered or at least distributed to prospective consumers, move them through the process over time through a series of attitudinal “steps or stages”. The most common of those hierarchy models can be traced to the unproven hypotheses developed by Lavidge and Steiner and Colley in the early 1960s.¹³⁾ Thus, most media advertising concepts are linear in nature, always outbound and based on a message tonnage approach that is generally modeled as a sigmoid or learning curve.¹⁴⁾ So, in this view, “media advertising works” by moving consumers up or along the attitudinal change path on the way to a purchase.

We should note here that most of the hierarchy-of-effects models stop short of the ultimate consumer response, purchase behavior. They are focused only on what are called “communication effects”. The argument being made is that there are “too many intervening variables” in the marketplace to actually connect media advertising to sales.¹⁵⁾ Thus, for the most part, today’s assumptions about “how media advertising works” are based on some type of influencing or changing of attitudes held by consumers as a result of their being exposed to media advertising messages. It is further assumed that this consumer attitudinal change or reinforcement will have some impact on consumer purchase behaviors on behalf of the advertised product or service sometime in the future.

In summary, the “derived assumptions” currently being made about “how media advertising works” are: that it is based on influencing attitudinal change in groups of “targeted prospects” however those groups might be defined.

Consistent with this approach, other assumptions are made about “how media advertising works”. Since the focus is on message tonnage, the emphasis in advertising is on the efficient distribution of messages, i.e., more messages or lower cost. This is in keeping with the stimulus->response model of communication effects. Since media tonnage becomes the critical factor in a s->r model, efficiency becomes the common media-planning goal.

However, there is another compounding factor. Most media measurement systems have developed around estimating or calculating the distribution of messages, commonly through a single media form. Measures of media value are based on the number of eyes or ears exposed to the media advertising or the number of times the messages are distributed or repeated.¹⁶⁾ Because the basic concept is an s->r model, each media advertising delivery form is measured and valued separately and independently. Any type of media coordination or identification of media synergy, therefore, is relegated to a minor role in the overall understanding of “how media advertising works”.

In short, we might summarize the basic industry assumptions and approaches to “how media advertising works” as being a “supply-chain” model, mirroring the concepts developed by Porter in the early 1980s on how marketers can best approach the marketplace.¹⁷⁾ In a supply-chain approach, consistent with the “marketer in control” models of “how media advertising works”, the goal is to squeeze waste and inefficiencies out of the media systems and to make the entire process more cost efficient.

In this paper, we argue this “supply-chain” approach to “how media advertising works” is badly outdated. Since the basic premises of marketing and marketing communication were developed over 50 years ago, media consumers have changed and changed radically. The media forms have changed. The marketplace has changed. Yet, the basic concepts and assumptions being used to explain or illustrate or plan “how media advertising works” have remained static – stuck in the middle of the last century.

It seems clear the advertiser, agencies and media themselves assume interested, involved, single-medium-using consumers processing advertising information through some type of internal hierarchy that is driven by a stimulus->response model. The assumption is also made that each media form works separately and independently of the others. Any combination effects or impacts between or among media forms are dismissed or ignored. It is also assumed that any media advertising competition occurs only within that media form, i.e., various magazine titles compete with other titles, television stations compete with other television stations and so on.¹⁸⁾ That reinforces the current system of measuring each medium separately and independently. As a result, each advertising media form is additive in terms of the basic number of messages being distributed. Since efficient delivery of messages, consistent with a stimulus->response model, is key, adding message delivery from the various forms of media, whether they be counted as exposures, opportunities-to-see or whatever, underlie most media advertising concepts.

We base our challenge to the existing concepts, models and common industry wisdom of “how media advertising works” on three marketplace observations. These come from three relatively new streams of research and understanding. Those are identified along with the supporting concepts in the next section. We then triangulate these three concepts to develop a new model of “how media advertising works” today, not yesterday.

THREE OBSERVATIONS THAT DRIVE THE NEW MODEL

Our basic approach to the development of a new model of “how media advertising works” is based on three marketplace observations.

- a) A large portion of today’s media consumers do not access nor use the advertising media singly and individually. Instead they multi-task or use various forms of media in combination with each other. It is what we call “simultaneous media exposure”. We document our research on this phenomenon with substantial evidence collected over the past two years.¹⁹⁾
- b) The current stimulus->response model that underlies most concepts of “how media advertising works” is based on an outdated mental information processing model that ignores current developments in cognitive psychology. Our research has found consumers are able to multi-task or use media in various combinations all at the same time. They do take in advertising messages but they do not process them in the manner that is assumed in the behaviorist psychological concepts that underlie current advertising thinking.²⁰⁾
- c) There is synergy between and among media forms. That simply means that when advertising messages are delivered on behalf of the same product or service, the impact of those messages is not simply additive, it is likely synergistic. Thus, the overall impact of the media advertising may be greater than the sum of its individual parts. Conversely, some combinations of media forms and messages may well be destructive in terms of their overall impact on consumers. We introduce some recently developed analytical concepts that provide methodologies to allow that media synergy to be determined.²¹⁾

Simultaneous Media Exposure

We start first with a discussion of our research on what we call “simultaneous media exposure” or SIMM. BIGresearch is a consumer intelligence company and is a pioneer in the study of simultaneous use of media. BIGresearch surveys 12,000 - 14,000 people via email two times a year and implements a representative sample strategy in which 14 age and sex cells are weighted and balanced against the U.S. Census. Their work has been recognized by several large corporate clients in the United States and has most recently been published in the *Journal of Consumer Behaviour* (April 2004).

The present research study of 13,000 was conducted in October 2003. It is based on an initial BIGresearch online pilot study of 1,883 participants conducted during May 2002. That was followed by three fully executed investigations into simultaneous media usage and its effects on 7,800

respondents (August 2002), and 12,322 respondents in wave three (March 2003).

The summary view from these studies is that new communication technologies are transforming the historical reading culture in the country into an audio-visual-kinetic culture. In essence, the interplay of images, sounds, and graphics become central to a cultural system, which is essentially one of self-reproduction. The new technologies transform modern three-dimensional space and sequential time, that is, a space of locations and distances are changed into *presences* without distances into take-for-granted with which we interact “right at home,” to multiple perspectives that are fused and become inextricable intertwined with our own. The space of concentrated metropolitan places of business and commerce, of trade and transportation, is dispersed and yet made more accessible. The times are at an instant from every time. Space, time and motion are experiencing radical transformations as these events unfold.²²⁾

One of the by-products of this radical transformation is a fragmented media environment characterized by an exploding number of media alternatives vying for people’s time attention and usage. Unfortunately, people still have only 24 hours in a day. That creates the consumer need to simultaneously use various media forms simply to keep pace with events around them. As we know from personal experience, people often talk on the phone or face to face while listening to the radio or viewing TV. Therefore, simultaneous media usage is not new to society, but it appears to be new to the media advertising community and particularly to media researchers and planners.

Substantial data is available from the three SIMM studies conducted to this point to illustrate our points. The database now contains well over 30,000 respondents. Rather than provide summary data, however, we highlight some of the findings from the October, 2003 SIMM study and compare them with earlier studies to show the growing change in the way media are used by consumers. Tables 1 shows some examples from the most current study show:

Table 1
SIMULTANEOUS MEDIA USAGE

	<i>Online</i>	<i>Newspaper</i>	<i>Magazines</i>	<i>Radio</i>	<i>TV</i>	<i>Mail</i>
Radio						
<i>R</i>	17.4%	11.7%	9.3%		2.2%	10.0%
<i>O</i>	39.9%	35.2%	37.2%		15.5%	47.1%
TV						
<i>R</i>	33.4%	22.5%	16.0%	6.3%		18.7%
<i>O</i>	31.8%	41.7%	43.8%	22.6%		54.6%
Magazines						
<i>R</i>	3.2%			5.5%	6.6%	
<i>O</i>	20.1%			37.3%	44.8%	
Newspaper						
<i>R</i>	5.7%			9.4%	8.6%	
<i>O</i>	16.9%			40.2%	43.8%	
Mail						
<i>R</i>	11.2%			7.1%	11.2%	
<i>O</i>	31.0%			44.0%	52.9%	
Online						
<i>R</i>		4.8%	3.9%	15.5%	24.9%	7.2%
<i>O</i>		15.4%	17.5%	36.6%	36.9%	30.4%

R = Regularly

O = Occasionally

Table 1 above illustrates the preponderance of SIMM participation both as a regular activity and as an occasional event. (Note: regular is defined as being done routinely, as a set pattern; while occasionally means no set pattern, done as the mood suits).

While engaged in simultaneous media usage, 49.3% of respondents indicated they pay attention to one medium more than the other(s), 34.0% say they attend to each media equally at the same time. Note, only 16.7% of the sample say they do not engage in simultaneous media usage. It is this finding, coupled

with other indicators, which points to the experience of synaesthesia, which we define as awareness of cross-sense modalities such as: seeing sounds, tasting smells and hearing color.²³⁾ This, we believe, is a primary operative principle in today's media environment.

Clearly, from our studies, SIMM is not just a whim but is important to consumers in today's rapid-fire environment. Time spent with media for TV/cable, radio, Internet, newspaper, magazines and direct mail usage is over 9.9 hours per day. If a person were to engage in media purely on an individual basis, between school, shopping, homework, sleeping, and other activities what take a person outside the scope of attending to media, there would not be enough hours in a day to accomplish everything.

Interestingly, this pervasive use of media is confirmed by the silo measures of individual advertising media vehicles as estimated by Arbitron; Targeting Media, Nielsen's Media Research and Interactive Media. When the total reported media usage by these individual media measures (Arbitron for radio, Nielsen for television and Interactive Media for online) is consolidated, there is little difference between what is reported by these measurement firms and what were reported in the SIMM studies. For example, by combining the results of estimated media usage reports, a total of approximately 10 hours per day are spent on media. This is approximately the same usage as we found in the SIMM studies. This means that simultaneous media usage is indeed a fact but only indirectly measured by the single media measurement organizations.

Additional insights from the SIMM study show that when asked, "When you watch TV and a commercial comes on, what do you do? Responses were somewhat surprising.

- 16.9% of the population regularly leaves the room – an increase of 1.6% from the March 2003 SIMM study (15.3% base);
- 34.5% of population regularly mentally tunes out – an increase of 3.7% from the March 2003 study (30.2% base);
- 29.9% of population regularly watch, but not with full attention – in comparison to the 30.1% reported in the March 2003 study;
- 32% of population regularly channel surfs, an increase of 1.4% from the March 2003 study (30.8% base);
- 35.1% of population regularly talks with others in the room or on the telephone, an increase of 2.7% from March 2003 study, which found 32.8% did this.

The experience of simultaneous media usage is a fact but we suggest it is not an attention problem.²⁴⁾ Instead it is a shift in the logic of cultural perception. We argue it is an attunement from successive experience to simultaneity and

synaesthetic experience of media, which, in turn, restructures human attention. The incidence of simultaneity, as shown in the data (see table 1) is an increasingly regular experience of a large portion of the media population and thus a large portion of the media advertising audience as well.

The simultaneity and the synaesthetic of the media experience affirms in McLuhan (1967)²⁵⁾ manner that a generation raised on newspapers would develop minds that work linearly, similar to the experience with the print media. Thus, they would likely engage in activities one at a time: read a book, then talk on the phone, and then eat dinner. The TV babies, however, would experience the world in a non-linear fashion. Their minds would work differently. Their brains would work like a television experience: a program, followed by an advertisement and then, perhaps a change of channels and so on. They would read a book; talk on the phone, watch television, read a magazine, go online and so on but not in discrete sequences. Instead they might do all of them at the same time. Thus, one experience would therefore interpenetrate the other, creating a dramatically different media-advertising marketplace.

The SIMM experiences we have captured create the necessity to look at the synergistic (cooperative) assemblage of various media combinations, which, in turn, creates a different form of media advertising receptivity and usage. Areas we are only beginning to understand.

Given that as each vehicle in traditional media advertising research is treated in isolation, many if not most of our traditional media concepts become irrelevant. For example, the concepts of exposure, frequency, duplication and reach must be totally re-thought and re-defined if they are to be continued in use at all. Remember the concept of exposure presupposes exclusivity. Frequency is defined as discrete sensory participation, not very relevant in a SIMM situation. Duplication only examines multiple media in succession. Reach is measured as unduplicated audiences and accumulation is determined by aggregating media forms. As a comparison, our studies have shown that multiple forms of media are received simultaneously and synaesthetically during intermittent activities of daily life. Therefore, media advertising should be examined not only in terms of its flow but also as to which is foreground and background media. (See figure 1.)

Figure 1
FOREGROUND/BACKGROUND MEDIA USE IN
TV, RADIO, ONLINE, NEWSPAPER, EMAIL, ETC.

<i>Foreground (F)</i>	←→	<i>Background (B)</i>
<i>Audial (A)</i>	←→	<i>Audial (A)</i>
<i>Visual (V)</i>	←→	<i>Visual (V)</i>
<i>Tactile (T)</i>	←→	<i>Tactile (T)</i>

Or, combination of the above media switching background and foreground e.g. foreground media and background = newspaper (V)/radio (A)

Figure 1 refers to media’s ability to operate simultaneously with one media foreground (F) and another media background (B). While media can be the foreground or background, foregrounds are typically media to which consumers attend. The medium itself causes consumers to attend to it. Any combination of Audial-Visual-Tactile (AVT) can be foreground or background thereby creating distraction or transparency.

When evaluating media exposures and attempting to connect them to media advertising effects, major questions about the manner in which consumers cognitively process information while engaged in various multi-tasking endeavors arise. Some of that flow is illustrated in figure 2 (see figure 2).

Figure 2 illustrates the fact that day/part in correlation to dominant activities during a period of simultaneous media participation is impacted by the mobility or pace of the activity in which the consumer is engaged. Therefore, media if used in relationship to foreground/background is affected by those intermittent activities. These must be accounted for if there is to be any understanding of how media advertising can be intensified or how competitive messages can detract from attention.

From our SIMM studies, we have developed a number of concepts, approaches and concerns about “how media advertising works” today in the interactive, pervasive, over-communicated society, which makes up the 21st century marketplace. What we have described in this section should provide a sample of what has been learned. That is what causes us to question the assumptions and approaches presently being used in “how we believe media advertising works” today. Part of that is tied to the new understanding of how consumers process information. That follows next as our second observation.

Figure 2

<i>Day Part</i>	<i>High Intensity Media Activities</i>		<i>Activity</i>
5:00AM - 9:00AM	TV (Foreground) (AV)	↔ Newspaper (Background) (V)	Driving
9:00AM - 1:00PM	TV (B) (AV)	↔ Surf Internet & Email (F) (VTA)	Telephone, Child Care, School/Work Cooking, Household,
3:30PM - 6:00PM	Radio (BF) (A)	↔ Surf Internet & Email (BF) (VTA)	Telephone, Household, Driving, Shopping, School Cooking, Family, Sports,
6:00PM - 7:00PM	Radio (B) (A)	↔ Mail (F) (V)	Telephone, Child Care, Family, Entertainment Cooking, Household, Sports,
7:00PM - 11:00PM	Surf Internet (VTA)	↔ Email (WT)	Telephone, Family, Entertainment Household,
11:00PM - 1:00AM	No Dominant Media Use		
1:00AM - 5:00AM	No Dominant Media Use		
<i>Low Intensity Media Activities</i>			
1:00PM - 3:30PM	Radio (A)		Telephone, Household, Driving, Shopping

*BIGresearch March 2003 SIMM – Total number of respondents=12,322.
Actual profile of women 35-44 years of age.*

Developments in Cognitive Psychology

As above, many of the concepts of “how media advertising works” are based on a behaviorist psychological view of the world. Starting in the late 1890s with the experiments of Ebbinghaus on human memory²⁶⁾ to Pavlov’s work on salivating dogs²⁷⁾ to Skinner’s focus on conditioned response with pigeons,²⁸⁾ most advertising concepts and theories have been based on some type of behaviorist psychological model where external stimulus creates an internal mental response.²⁹⁾ In the behaviorist view, it was not necessary to investigate what went on inside the mind or brain of the consumer. The stimulus, advertising messages, could be identified and controlled; all that was needed was some measure of impact.

In the mid-1950s as media systems evolved, particularly with the rise of television as the primary advertising carrier, theorists and researchers began to modify their views on the stimulus->response model. They argued, as above, there were a number of “intervening variables” between advertising exposure and consumer purchase behavior. So, the view of how “media advertising works” was modified to focus only on communication effects, not actual consumer behaviors. That produced the “hierarchy-of-effects models” that are still in use today.³⁰⁾

The underlying premise is that media advertising, delivered to consumers or prospects, creates some type of awareness or attitude that can be measured through various forms of survey research, e.g., asking people to identify levels of awareness of the advertising, knowledge of the advertising content, preference for the advertised product or service, intent to purchase and so on. Further, it has been assumed these effects occur in a measurable sequence. Thus, media advertising should be able to move a prospective customer through the hierarchy on a progressive basis, depending on the number of messages delivered. In short, the advertising industry has created a tonnage model that argues for advertising frequency, repetition and the like. Clearly, it is a model that leaves the marketer in control of the system and consumers as almost helpless pawns to the marketer’s wiles.³¹⁾

The hierarchy model has been unsuccessfully challenged a number of times, but never overturned. Media love the model because it almost always calls for more advertising frequency and therefore more income. Advertising agencies, particularly when they were paid a commission, loved it because it suggested more advertising and more income to them as well. Researchers loved the hierarchy because it made possible a whole series of measurement and evaluation tools, all tied to tracking consumer-stated awareness and understanding of the advertising messages over time. In short, an annuity model for those conducting the tracking of media advertising effects.

So, the basic beliefs of “how media advertising works” are still with us.

The problem is, most of the fundamental concepts supporting the behaviorist view of psychological effects have been either overturned or discounted. We now know, for example, that the human mind is not structured like a computer memory board with software applications slots, niches, and pull-down menus. Instead, humans process incredible amounts of information on an on-going basis. Much of this new cognitive psychology view is new knowledge, developed in the 1990s. Zaltman³²⁾ quotes Antonio Damasio as saying:

“More may have been learned about the brain and the mind in the 1990s ... than during the entire previous history of psychology and neuroscience.”³³⁾

And, that is the problem. We have learned a lot about how the brain works and most of that learning directly contradicts the concepts that support current thinking about “how media advertising works.” But, we continue to buy into these old-line models and concepts. Zaltman, for example, goes on to say:

“... neurological research revealed people don’t think in linear, hierarchical ways. Figuratively speaking, they don’t experience a cake by sampling a sequence of raw ingredients. They experience fully baked cakes”.³⁴⁾

In short, it is now believed that the human mind operates from a base of neural networks, driven by electrical impulses and chemical change. Most importantly, these neuron networks work continuously, interacting with each other, often at the unconscious level. Thus, mental networks are continuously being changed, re-arranged and re-constituted based on new information, new experiences, new relationships and new situations. Many of these exist and occur at the unconscious level, below the consumer’s level of recall or awareness.³⁵⁾ Thus, the mechanistic view of the human mind and the advertiser’s ability to influence or impact what is contained therein is on rather shaky ground. We suggest the “hierarchy of effects” models, on which much current advertising and media theory are based may not just be suspect, they may be downright wrong.

But, even if there were an acceptable basis for the hierarchy, the basic approach to “how media advertising works” would still be suspect. For example, the premise of media advertising is that messages are delivered individually, processed individually, stored individually and then called back up by consumers for use in decision-making. This singular medium approach provides a base for the individual media planning and buying methods that exist today. The model assumes one media impression at a time. Yet, we know from the SIMM research above, over half the “identified media audience” is multi-tasking or using multiple media at the same time. That raises the question of “foreground and background media” which we found in the SIMM

studies. As a rebuttal, the challenging current advertising professional might say: “That can’t be so. People can’t process multiple messages simultaneously. They have to focus, pay attention, look and listen to things that catch their eye or ear or whatever. That’s what the creative does for advertising.”

Weilbacher, who has challenged the entire concept of a hierarchy-of-effects, suggests that multi-processing or multi-tasking is not abnormal, it is common practice among humans. In the June 2003 issue of the *Journal of Advertising Research* he wrote:

“ It is generally acknowledged that the mind simultaneously processes a wide variety of incoming information. One way to think about this is to visualize a man driving a car down a superhighway in heavy traffic, conversing with his wife, drinking coffee, listening to the radio, monitoring the possibility of incoming calls on his cell phone and worrying about the pain in his left shoulder rotator cup.”³⁶⁾

So, from a current cognitive psychology viewpoint, what we found in the SIMM research is not only valid but likely much more representative of “how media advertising works” than are the models and concepts currently being used.

It is important to note that multi-tasking works in a non-linear fashion regarding selectivity of relevance from the environment. Relevance refers to a temporal dimension, which includes a “future” horizon of expectations consisting of relevant possibilities. The relevant possibilities, belonging to the present speaking, are part of the speech in the mode of “future” horizon. The “past” horizon does not vanish into oblivion since it is required and retained for the comprehension of the future horizon. The present is thus a time dimension consisting of active “past and future” horizons constituting a field of orientations of human action and experience. Hence each action occurs within a time dimension where the coming “future” and retained “past” are co-present and manifest in the action. For instance, what has been said in a speech is retained for the understanding of what is being said now and is about to be said. Moreover, what is about to be said is a condition for the understanding of what is and was said. Time of action is dimensional.

Not all events play a role in human activity; they are selected in accordance with the significances they have in the context of a particular activity and its horizons. Conversely, the horizons are also given selectivity: significant possibilities are selected and insignificant rejected. The selectivity of events and horizons suggests a way to account for historical unity and continuity without the assumption of linear, causal succession. Although our process of selectivity may leap over events, their historical continuity consists of their significance within the dimensional time. Even if the events are past and

causally no longer efficient, their significance is still present. This does not mean that the significance of events follows a linear succession; rather the significance of the past event belongs to the present time dimension and its horizons of possibilities. It either expands or contracts the horizons by permitting the selectivity of more or less remote events as relevant within the present dimension of action.

A preliminary model would attend to the background/foreground experience of media during the *time of day* of concrete human behavior. Additionally, we must be cognitive of the role of individual selection and relevance of media/message as such requires a conceptual clarification, which creates a powerful dynamic. Relevance³⁷⁾ is a point of conditioning, re: regulated relations between elements or a condition of possibility – realized if something is or is not present. Successful conditions act as enablers or constraints of expectations of what is made *possible*. But, the questioning advertising practitioner will likely challenge our premise by saying: “If simultaneous media exposure exists, and it likely does, and if consumers can multi-process information and it appears they can, that doesn’t obviate the current “how advertising works” model. Even if we accept your first two points, it will have little impact on how we plan, develop and implement advertising programs simply because we can’t measure the interaction of various media by medium. Therefore, our current planning and measurement systems are still valid.”

That brings us to the third leg of our triangulation.

Measuring Media Synergy

Advertisers have long suspected that combinations of various forms and types of media, when used together in the marketplace, likely have or had some interaction. That is, one medium either reinforces another or supports the other or perhaps even distracts from the other. But, because the advertising media planning assumptions have always been to treat each medium separately, these synergistic effects have been impossible to determine. Indeed, it is quite difficult to measure the impact and effect of various media in combination when they aren’t planned, bought or measured together or in combination. Media integration, media neutrality or cross-media platform approaches have been a hoped for dream of the advertiser. But, that dream has seldom been realized.

While some progress has been made in this area through the use of computer algorithms, all approaches suffer from the same problem: they start with outbound distribution of advertising messages. Thus, the emphasis is on how to combine what are basically believed to be separate elements. Commonly, these approaches do not focus on the real value of media advertising which are the “outcomes” among consumers that come as a result of consumer actions.

So, while media integration has been the goal, most of the approaches are and continue to be based on intuitive approaches developed by “media professionals” in either the advertiser companies or their agencies. It is this “supply-chain” approach to media advertising that limits the potential for any identification or estimation of cross-media effects or impacts.

Over the past few years, two academic researchers, Naik and Raman³⁸⁾ have published articles moving us much closer to a methodology to measure the synergy developed between and among media in an advertising schedule. Their most recent work, “Understanding the Impact of Synergy in Multimedia Communications”, November 2003, *Journal of Marketing Research*, describes a method to estimate or calculate the interactions and synergistic effects that occur in a multi-media advertising situation.

The two researchers have investigated the theoretical and empirical effects of media synergy by extending a commonly used dynamic advertising model and adding some adaptations of their own. Thus, they have developed an analytical technique to determine the synergy between two media forms appearing on behalf of the same product during the same time period. To avoid the statistical elegance of their approach, we paraphrase their work below.

They start with Palda’s 1964 first order autoregressive advertising model.³⁹⁾ They then extend it using the 1972 work of Montgomery and Silk.⁴⁰⁾ That allows them to incorporate the effects of multimedia advertising with each medium having a different marketplace effect. They then introduce an interaction term to capture the joint effect of multimedia activities⁴¹⁾ along with additional work by Gopalakrishna and Chatterjee 1992.⁴²⁾

The critical element in the development of this approach relies on the use of Kalman filters,⁴³⁾ a statistical technique that allows them to model dynamic results over time. The end result is a model that has been calibrated using “real world” sales data. Naik and Raman show that the model can demonstrate media advertising (in their calibrated example they used television and newspaper advertising) that can a) increase sales and b) enhance media effectiveness. The result is the combined sales effect of the mix of the two media is greater than the sum of the independent media effects alone.

With this methodology, Naik and Raman demonstrate it is possible and practical today to determine the synergy that occurs between various media forms, thus removing one of the major stumbling blocks of understanding “how media advertising works”. The authors are currently experimenting with the Naik and Raman model. We believe it has great potential for the future.

This new work on the identification and estimation of the inter-media synergy between media forms provides the third leg of our new “how media advertising works” approach. When combined with the other two marketplace

observations, i.e., multi-tasking media consumers as demonstrated through the SIMM data and the new understanding of human cognitive psychology, that provides a different concept of how advertising is received and managed in the human mind, we have the necessary elements to develop a new model of “how media advertising works”. That follows in the next section.

CONVERTING TO A CONSUMER MEDIA CONSUMPTION MODEL

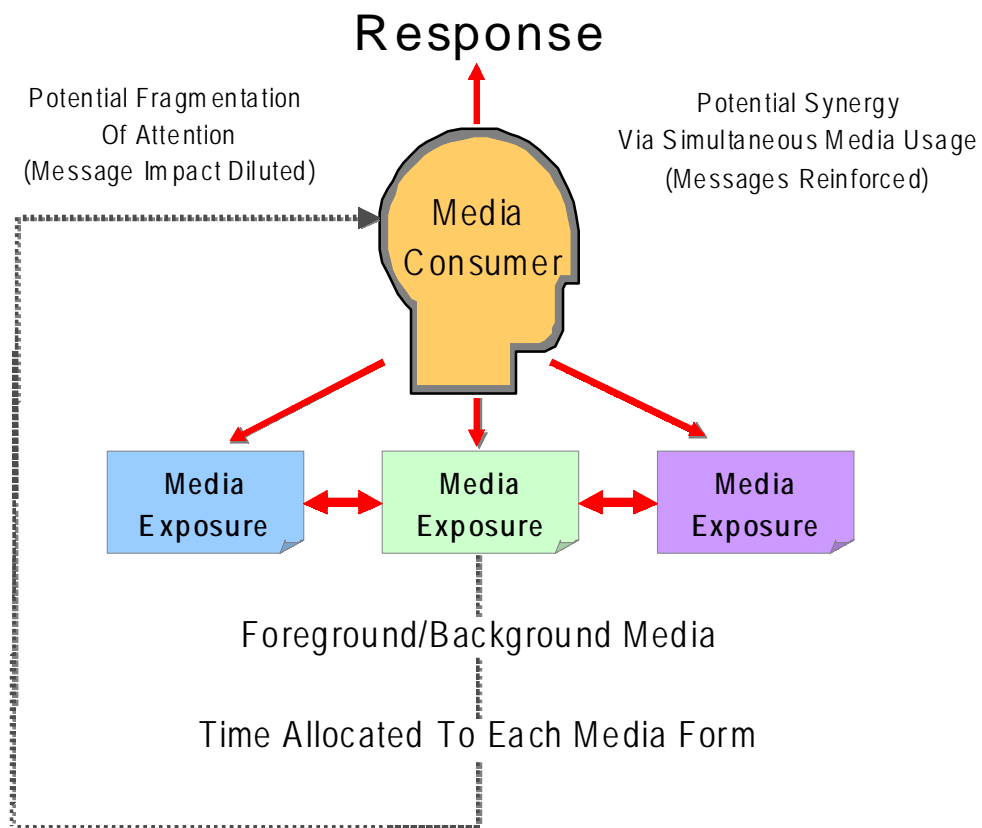
Based on our three marketplace observations discussed above, i.e., SIMM, cognitive psychology and media synergy estimation/calculation, we suggest a better model to understand “how media advertising works” in the 21st century marketplace. That starts with the idea of consumer media consumption rather than from an advertiser message distribution approach.

Clearly, the way consumers take in, process and use media advertising is the key element in any marketplace success. That suggests an “outcome” based model, i.e. how consumers respond to media advertising, rather than an “output” view which is based primarily on how or in what way or how often the advertiser sends the messages out. It would seem obvious that great numbers of advertising messages are sent out that are never accessed, recognized or received by consumers. Thus, our model starts with what advertising messages customers receive or have the opportunity to receive. We then build a model of how they might respond. That concept is illustrated below. It is our initial draft of “how media advertising works” in an interactive, media rich, networked marketplace. (See figure 3.)

As shown, our explanation of “how media advertising works” starts with the media consumer as the centerpiece of the model. This recognizes that a large percentage of consumers who are supposedly “exposed” to media advertising are processing that or those messages while they are in a simultaneous media usage mode. (SIMM). This is based on our SIMM research previously described.

From that base, the first step is to determine which media are providing the advertising exposure. That comes from the amount of time being devoted to that medium or media combination. Obviously, if those combinations change, the key question becomes when that change occurred. Thus, we argue that media consumption in each form or by media form is the key ingredient in understanding “how media advertising works” today. If we accept the cognitive psychology approach that people are continuously taking in, processing and creating or adapting mental networks, primarily at an unconscious level, then media exposure, rather than the number of messages distributed is likely the more relevant measure of advertising impact or value.

Figure 3



Following from that, in a simultaneous media exposure situation, the question then becomes which medium becomes the “foreground” medium or media and which become the “background” medium. This question is critical since it may well be that consumers move back and forth among various media forms in a simultaneous media situation, i.e., one medium is “foreground” now and the others “background” and then the reverse occurs. The reason for this change in importance is critical to the advertiser, particularly if the organization is trying to understand media advertising in a historical way. We have developed the concepts of “foreground” and “background” sufficiently so that we know they exist and can be identified. There is still much work to be done to understand how consumers make these choices, the sequencing of the choices and the impact on how advertising messages are processed as a result of those consumer behaviors.

As shown in the model, we suggest that the media exposure and the development of the “background” and “foreground” media forms have an impact on consumer behavior. While we subscribe to the cognitive psychological concepts that networks exist, information and experiences are continuously being adapted and adjusted and that much of that occurs at the

unconscious level in the brain. Based on this, we posit that two factors can and likely do impact the media advertising consumer.

The first is the potential impact in the synergy that may occur when the consumer is exposed to the same messages in various forms of media. This, we suggest, can occur either simultaneously or perhaps sequentially in a relatively short period of time. For example, assume a consumer is on-line and viewing television at the same time. A pop-up message from the on-line system could conceivably occur at the same time as a commercial for the product appears on television. Alternatively, it might be that television advertising for a product might be supported by a newspaper advertisement (as was the case in the validation model developed by Naik and Raman). While the two messages did not appear simultaneously, they were close enough together to be considered as occurring simultaneously.

The second mitigating factor could be just the opposite. There is also the potential fragmentation of attention or contact in a simultaneous media usage situation. For example, the newspaper may be “foreground” for a consumer and television “background”. Suddenly, some activity occurs on television that pushes television to the “foreground” and the newspaper to the “background”. This could have an impact on message processing or intake. Similarly, in a multi-media, simultaneous exposure situation, conflicting messages might well occur at the same time, for example, a Pepsi advertisement may be present in the newspaper while a Coke ad is on the television. Thus, there is the potential for message dilution or reduction in consumer processing.

In our work, we have not specifically investigated these potential enhancements and detractors but we can easily see them occurring. The simple recognition that they may exist creates the need to understand the synergy that occurs between media. This is where the work of Naik and Raman becomes so critical. Even if we cannot estimate the interaction and/or detractor of the messages or media forms, if we have a way to estimate or calculate media synergy, models can likely be developed to accommodate this part of the concept.

The final part of this initial model is the consumer response to the media advertising for that really defines “how media advertising works”. Clearly, the understanding of how the brain works is still evolving but the work of Zaltman, Weilberger, Ambler⁴⁴⁾ and others clearly point the way. Since we have attempted to develop a total conceptual model of “how media advertising works”, the development of the individual elements will, we are confident, emerge in the near future.

In summary, we argue for a consumer media consumption model to define how we believe media advertising works in the 21st century. We argue that

starting with consumers and their media habits and exposures is much more relevant than how the advertiser distributes advertising messages or through what media form that is done, no matter how efficiently.

WHERE DO WE GO FROM HERE?

Clearly, adjustments and adaptations will need to be made to our first attempt to create a more relevant model of “how media advertising works” in the 21st century. We have only laid out the basic playing field; we have not written how the game will be played. We believe the details of how the model can and should be developed will come over the next few months and years. We do believe we have identified the basic parts of the model and the general flow of how we might move forward in understanding and modeling “how media advertising works” in today’s marketplace.

We feel confident of the approach we are taking. There is clear evidence of the three marketplace observations that support our approach.

Simultaneous media exposure is a fact of life for a large number of consumers, certainly in the United States. There is clear and growing evidence of this phenomenon elsewhere. We continue to add additional information and detail through our current research stream. Further, there is undisputed evidence that consumers are increasingly using media in various combinations and ways. This fact alone creates serious doubts about our present system of individual media measurement and evaluation. Synergy occurs. The question is how to measure it and evaluate it.

Clearly, cognitive psychology provides a much better explanation of how the human brain works and how commercial information and material is processed by consumers than the more mechanistic concepts of behaviorist psychology. Much work is being done in this area and the various streams of investigation are starting to come together. They put serious doubt on the existing “hierarchy-of-effects” models currently in place.

The initial work of Naik and Raman provide evidence that it is possible and will become increasingly practical to estimate and calculate the synergistic effects and impact of various media combinations. While historical data is presently being used to validate the model, we believe there is potential to develop probability models of how the various media forms might interact in the future and the level of impact that might provide the advertiser. If that can be done, then we will have made great strides in developing various new methods and techniques for integrated media planning, buying and implementation in the future.

We hope this paper and this presentation will achieve the goals we have set for it. That is, to call attention to the changes that have occurred in the marketplace, the media and among consumers which challenge the traditional ways of thinking about “how media advertising works”. We have presented the concepts, research and observations that support our call for a new model. We have provided the basic framework for a new way to consider “how media advertising works” and we have presented our views at the premier gathering of media professionals. We hope it generates sufficient debate that others will join us in trying to improve and enhance our current initial model. If so, our goals will have been achieved.

FOOTNOTES

1. Frith, Katherine Toland, *Advertising in Asia: Communication, Culture and Consumption* (Iowa: Iowa State University Press, 1996).
2. Media Center Conference, 2004, “Media Morphosis”, March 10-13, Newport Beach, CA.
3. Johnson, Bradley, “*Crack in the Foundation*”, Advertising Age, December 2003.
4. Peskin, D., “*Make Way for the Mobiles*” in Synapse, The Media Center API, Washington D.C., 2004.
5. Media Center Conference, 2004, “Media Morphosis”, March 10-13, Newport Beach, CA.
6. Coen, Robert, “*Presentation on Advertising Expenditures*”, Insiders Report, Universal McCann, June 2003.
7. Elkin, Tobi, “*Malcontent is King at Agency Media Fest*”, Media Post’s Media Daily News, February 13, 2004.
8. McCarthy, Jerome E., *Basic Marketing: A Managerial Approach*, Fifth Edition (Homewood, IL: Richard D. Irwin, Inc., 1975)
9. Kotler, Philip, *Marketing Management*, Eleventh Edition (Upper Saddle River, NJ: Pearson Education, Inc., 2003)
10. Sissors, Jack Z. and Lincoln Bumba, *Advertising Media Planning*, Fifth Edition (Lincolnwood, IL: NTC Business Books, 1996),pp. 82-84
11. Weilbacher, William M., “*Point of View: Does Advertising Cause a ‘Hierarchy of Effects’?*”, Journal of Advertising Research, November-December 2001, pp. 19-26.
12. Lavidge, Robert J and Gary A. Steiner, “*A Model of Predictive Measurements of Advertising Effectiveness*”, Journal of Marketing, Volume 25, October 1961, pp. 59-62.
13. Op.cit., Colley, Russell H., *Defining Advertising Goals*, Seventh Edition (New York, NY: Association of National Advertisers, Inc., 1973)

14. Rossiter, John R. and Peter J. Danaher, *Advanced Media Planning*, (Norwell, MA: Kluwer Academic Publishers, 1998)
15. Lavidge, Robert J. and Gary A. Steiner, "A Model of Predictive Measurements of Advertising Effectiveness", *Journal of Marketing*, Volume 25, October 1961, pp. 59-62.
Colley, Russell H., *Defining Advertising Goals*, Seventh Edition (New York, NY: Association of National Advertisers, Inc., 1973)
16. Sissors, Jack Z. and Lincoln Bumba, *Advertising Media Planning*, Fifth Edition (Lincolnwood, IL: NTC Business Books, 1996), pp. 69-71
17. Porter, Michael E., *Competitive Advantage: Creating and Sustaining Superior Performance*, (New York, NY: Free Press, 1985)
18. Sissors, Jack Z. and Lincoln Bumba, *Advertising Media Planning*, Fifth Edition (Lincolnwood, IL: NTC Business Books, 1996), pp. 100-105
19. Schultz, Don E., Joseph Pilotta, Gary Drenik and Phil Rist "Simultaneous Media Usage: A Critical Consumer Orientation to Media Planning", *Journal of Consumer Behaviour*, Volume 3, Issue 3, March 2004, pp. 285-292
20. Weilbacher, William M., "How Advertising Affects Consumers", *Journal of Advertising Research*, June 2003, pp. 230-234.
Zaltman, Gerald, *How Customers Think: Essential Insights into the Mind of the Market*, (Boston, MA: Harvard Business School Press, 2003)
21. Naik, Prasad A. and Kalyan Raman, "Understanding the Impact of Synergy in Multimedia Communications," *Journal of Marketing Research*, November 2003, Volume 40, Issue 4, pp.375-389
22. Pilotta, Joseph J. and Algis Mickunas, "*Life-World: Computer Logic and Values as a Self-Generating System*". Vol. 8, No. 2, Fall 2000, pp. 105-128.
23. Merleau-Ponty, Maurice, *Phenomenology of Perception*, First Edition, (New York, NY: Routledge, July 1992)
24. Op.cit.
25. McLuhan, Marshall, *The Medium is the Message*, (New York, NY: Random House, 1967).
26. Ebbinghaus, Hermann, "*Memory: A Contribution to Experimental Psychology*", (New York, NY: Teacher's College, Columbia University, 1885. English Translation, 1913)
27. Pavlov, Ivan P., *Lectures on Conditioned Reflexes: An Investigation of the Physiological Activity of the Cerebral Cortex*, 1927.
28. Skinner, B.F., "Are Theories of Learning Necessary?", 1950, *Psychological Review*, Volume 57, pp. 193-216

29. Zaltman, Gerald, *How Customers Think: Essential Insights into the Mind of the Market*, (Boston, MA: Harvard Business School Press, 2003), pp.1-25
30. Lavidge, Robert J. and Gary A. Steiner, "A Model of Predictive Measurements of Advertising Effectiveness", *Journal of Marketing*, Volume 25, October 1961, pp. 59-62.
Colley, Russell H., *Defining Advertising Goals*, Seventh Edition (New York, NY: Association of National Advertisers, Inc., 1973)
31. Op.cit.
32. Zaltman, Gerald, *How Customers Think: Essential Insights into the Mind of the Market*, (Boston, MA: Harvard Business School Press, 2003), pp.1-25
33. Ibid., pp. 291
34. Ibid., pp. 5
35. Ibid., pp.1-25
36. Weilbacher, William M., "How Advertising Affects Consumers", *Journal of Advertising Research*, June 2003, pp. 232
37. Luhman, Niklas, *Differentiation of Society* (New York: Columbia University Press, 1982)
38. Naik, Prasad A. and Kalyan Raman "Understanding the Impact of Synergy in Multimedia Communications," *Journal of Marketing Research*, November 2003, Volume 40, Issue 4, pp.375-389
39. Palda, Kristian S., *The Measurement of Cumulative Advertising Effects*, (Englewood Cliffs, NJ: Prentice Hall, 1964)
40. Montgomery, David B. and Alvin Silk, "Estimating Dynamic Effects of Marketing Communications Expenditures," *Management Science*, 1972, Volume 18, Issue 10, pp.485-501
41. Jagpal, Sharan, *Marketing Strategy and Uncertainty*, (New York, NY: Oxford University Press, 1999)
42. Gopalakrishna, Srinath and Rabikar Chatterjee, "A Communications Response Model for A Mature Industrial Product: Application and Implications," *Journal of Marketing Research*, May 1992, Volume 29, pp. 189-200.
43. Jazwinski, A. H., *Stochastic Processes and Filtering Theory*, (New York, NY: Academic Press, 1970). For small sample properties of Kalman Filtering, see Oud, Jansen, and Haughton (1999)
44. Ambler, Tim, *Marketing and the Bottom Line*, Second Edition, (London, UK: Pearson Education, Ltd., 2003)

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