

# A NEW PARADIGM FOR MEASURING ENGAGEMENT

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## Background & Purpose

Most approaches designed to measure engagement focus on the characteristics of the medium carrying the advertising (e.g., entertaining, trusted source, makes me think), and/or on the characteristics of the embedded advertisement (e.g., captures my attention, is persuasive). Although such approaches have merit, they typically do not explain how the “engagement” information can be used to select media vehicles, and they typically ignore important factors that are key to understanding the interaction between engagement, the medium, and receptivity to the embedded advertising. These “ignored” factors include the brand and product usage behavior of the users of the medium carrying the advertising, and the degree to which users of the medium are receptive to ads for the target brand. If these factors are not taken into account, it is possible that a very “engaging” ad placed in a very “engaging” media vehicle will have less than average impact if users of the vehicle:

- Consume the category at a disproportionately low rate,
- Are not favorably predisposed to the advertised brand,
- Are relatively unreceptive to advertising, and/or
- Have a disproportionately low brand-switching rate within the advertised product category.

The present paper discusses a multi-faceted approach for measuring engagement that is particularly suited for magazines. This approach simultaneously takes into account receptivity to (a) advertising, (b) the advertised brand, and (c) the media vehicle carrying the advertisement. Additionally, the present paper outlines methods and guidelines for using this information collectively for media selection.

## Data Sources

The data sources used for the current analyses were the 2002 MRI Doublebase Study, the 2006 MRI Fall National Study, and the 2006 Fall Omnibus Study. The sample sizes for the 2002 Doublebase and 2006 Fall Studies were 52,125 and 25,294, respectively. In each of these two studies, all respondents resided in the continental United States, all were 18 years of age or older, all were initially interviewed in person for about 60 to 90 minutes, and all were asked to fill out a product booklet which would be collected at a latter date. In the in-person interview, respondents were asked questions to determine their demography and their usage of newspapers, magazines, radio, television and the Internet. In the product booklet, respondents were asked questions to determine their usage of over 500 product categories and services.

The 2006 Fall Omnibus Study consisted of 6,242 respondents who initially participated in the 2006 Fall MRI National Study. Each of these respondents who participated in the “Omnibus” Study was asked questions to determine, for each of 30 product categories:

- Whether they used the category in the past 6 months and, if they did,
- The number of different brands they used during this time frame,
- The number of times they used the category in the past 30 days, and
- How likely they would be to use a new or different brand within the next 6 months.

Additionally, respondents were asked to use a 5-point verbally anchored scale to indicate, in general:

- Their willingness to try new brands and products,
- The attention they pay to advertising, and
- The degree to which advertising influences the brands that they use or buy.

## The Approach

Conceptually, the approach discussed in the present paper has the following three components:

1. An ad receptivity component,
2. A product component, and
3. A media component.

Each of these components will be discussed, in turn, with respect to its theoretical importance, and various operational definitions for measuring the component will be reviewed. Also, when possible,

- The inter-relationships of these operational definitions (i.e., measures) will be examined using respondent-level data from MRI's National and "Omnibus" studies, and
- Each operation definition will be analyzed with respect to age.

### **Approach - Uniquely Suited For Print Vehicles**

Although the approach discussed in the current paper can be applied to any medium, it is particularly suited for print vehicles (i.e., magazines and newspapers), as opposed to broadcast vehicles (i.e., television and radio). This is true for the following three reasons:

1. At least in the United States, the leading providers of television and radio data (Nielsen and Arbitron, respectively) provide little or no information as it relates to product behavior and programs viewed.
2. Even if Nielsen provided this information for television, it would be outdated almost immediately upon release. This is because many of the television programs are new, many programs get cancelled, and many have their time slots changed. Taken collectively, these marketplace "vagaries" make it difficult to develop accurate demographic and behavioral profiles that stand up over time.
3. In contrast, in the United States, sources exist (Mediamark Research, Monroe Mendelsohn, Scarborough, Simmons) that enable one to cross-reference consumer behavior with individual print vehicles.<sup>1</sup> The reason why these sources exist is because print vehicles are much less subject to "marketplace vagaries" such as "time slot changes" and, particularly, cancellation. For example, of the top 200 magazines reported by Mediamark Research in the fall of 2005, all but one (99.5%) was still in business in the fall of 2006. In contrast, of the 683 television programs measured by Mediamark Research in the fall of 2005, 32.8% were off the air the following year.

In addition to not being subject to "time slot changes" and less subject to cancellation, magazines have a fairly constant audience base. Evidence to support this claim comes from an examination of the 226 magazines reported by Mediamark Research in the fall of 2006 which showed that, on average 51.2% of the readers of a publication indicated that they read the publication at least 3 out of every 4 issues. Because of the relative stability of print vehicles, a behavioral profile of users of a given print vehicle at a given point in time is fairly predictive of the behavioral profile at a later date.

Given this preamble, let's now review each of the three components of the multi-faceted approach for measuring engagement.

### **Ad Receptivity Component**

The impact an ad will have on consumers is, in part, a function of:

- Their willingness to try new brands and products,
- The degree to which they pay attention to advertising, and
- The degree to which advertising influences the brand that they use or buy.

This is because, even good advertising, will have little impact if people are not willing to try or switch brands, do not pay attention to advertising, and/or are unresponsive to advertising as it relates to brand selection.

In order to determine the inter-relationships of the above measures, data from the 2006 Fall Omnibus Study were examined on a respondent level basis. Exhibit A shows the results for these three measures, each of which was measured using a verbally anchored, 5-point scale. Exhibit B shows the inter-correlations of these three measures, and Exhibit C shows the cross-tabulation of these measures, after each measure was dichotomized on the basis of top 2-box ratings.

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<sup>1</sup> Many of these print sources provide product information for broadcast vehicles. However, data from these sources are often outdated, do not correspond with the "currency" (Nielsen and Arbitron), and/or, for the reasons outlined in Point 2, may not currently be reflective of a given vehicle's product profile.

As can be seen by examining Exhibit A:

- 23.8% indicated that they are frequently or almost always willing to try new brands or products,
- 25.7% indicated that they frequently or almost always pay attention to advertising, and
- 15.9% indicated that advertising influences the brands that they use and buy.

<b>Exhibit A</b>						
<b>Results For Three Measures of Ad Receptivity</b>						
	<b>Almost Never</b>	<b>Seldom</b>	<b>Some- times</b>	<b>Frequently</b>	<b>Almost Always</b>	<b>Top 2- Box</b>
Willingness To Try New Brands And Products	5.8%	13.8%	56.6%	19.9%	3.8%	23.8%
Pay Attention To Advertising	7.6%	16.6%	50.1%	21.3%	4.4%	25.7%
	<b>No Influence</b>	<b>Very Little</b>	<b>Some</b>	<b>Fair Degree</b>	<b>Great degree</b>	<b>Top 2- Box</b>
Influence Of Advertising On Brand Used/Bought	12.2%	26.1%	45.8%	13.0%	2.9%	15.9%

Examination of Exhibit B reveals that the three measures are mildly to moderately related. Specifically, examination of this exhibit shows that:

- The willingness to try new brands and products is mildly correlated with (a) paying attention to advertising ( $r=.31$ ), and (b) the degree to which advertising influences brand selection ( $r=.32$ ); and
- Paying attention to advertising is moderately correlated with the degree to which advertising influences brand selection ( $r=.61$ ).

<b>Exhibit B</b>			
<b>Correlations Among Three Measures of Ad Receptivity</b>			
	<b>Willingness To Try New Brands And Products</b>	<b>Pay Attention To Advertising</b>	<b>Influence Of Advertising On Brand Used/Bought</b>
Willingness To Try New Brands And Products	1.00	0.31	0.32
Pay Attention To Advertising	0.31	1.00	0.61
Influence Of Advertising On Brand Used/Bought	0.32	0.61	1.00

Although the above correlations are not overwhelmingly strong, Exhibit C shows that, if you rated one of three measures using a 4 or a 5 on a 5-point scale (top 2- box), the likelihood of rating the other two measures in a similar manner was much greater. For example, if respondents indicated that they frequently or almost always pay attention to advertising, they were 2.3 times more likely to be willing to try new products, and 6.2 times more likely to indicate that advertising influences the brands that they use or buy.

<b>Exhibit C</b>			
<b>Analysis of Top 2-Box Ratings For Three Measures of Ad Receptivity</b>			
	<b>Top 2-Box Willingness To Try New Brands And Products</b>	<b>Top 2-Box Pay Attention To Advertising</b>	<b>Top 2-Box Influence of Advertising On Brands Used/Bought</b>
<b><u>Willingness To Try New Brands And Products</u></b>			
Bottom 3-Box - Never to Sometimes Try New Brands/Products	0.0%	20.0%	11.7%
Top 2-Box - Frequently to Almost Always Try New Brands/Products	100.0%	43.9%	29.3%
Relative Probability	-----	2.2	2.5
<b><u>Pay Attention To Advertising</u></b>			
Bottom 3-Box - Never Pay To Sometimes Pay Attention	18.0%	0.0%	6.8%
Top 2-Box - Frequently Pay To Almost Always Pay Attention	40.6%	100.0%	42.0%
Relative Probability	2.3	-----	6.2
<b><u>Influence of Advertising On Brands Used/Bought</u></b>			
Bottom 3-Box -Almost None To Some Influence	20.0%	17.7%	0.0%
Top 2-Box - Fair Degree to Great Degree of Influence	43.8%	68.1%	100.0%
Relative Probability	2.2	3.8	-----

As can be seen in Exhibit D, an analysis of ad receptivity measures by age reveals that those in the youngest (18-34) age group are:

- Somewhat more willing to try new brands and products,
- Somewhat more likely to attend to advertising, and
- Somewhat more likely to have advertising influence their brand choices.

<b>Exhibit D</b>						
<b>Top 2-Box Levels By Age For Ad Receptivity Measures</b>						
	<b>Top 2-Box Levels</b>			<b>Top 2-Box Indices</b>		
	<b>Willingness To Try New Brands And Products</b>	<b>Pay Attention To Advertising</b>	<b>Influence of Advertising On Brands Used/Bought</b>	<b>Willingness To Try New Brands And Products</b>	<b>Pay Attention To Advertising</b>	<b>Influence of Advertising On Brands Used/Bought</b>
All	23.8%	25.7%	15.9%	100	100	100
Age 18-34	29.1%	26.9%	20.3%	123	105	126
Age 35-49	27.2%	24.2%	14.4%	115	94	90
Age 50+	20.6%	26.1%	15.8%	87	102	98

As can be seen in Exhibit E, the inter-correlations between the three ad receptivity measures were virtually identical for the three age groups.

<b>Exhibit E</b>			
<b>Correlations Among Three Measures of Ad Receptivity By Age</b>			
	<b>Willingness To Try New Brands And Products</b>	<b>Pay Attention To Advertising</b>	<b>Influence Of Advertising On Brand Used/Bought</b>
<b>Total Adults</b>			
Willingness To Try New Brands And Products	1.00	0.31	0.32
Pay Attention To Advertising	0.31	1.00	0.61
Influence Of Advertising On Brand Used/Bought	0.32	0.61	1.00
<b>Age 18-34</b>			
Willingness To Try New Brands And Products	1.00	0.32	0.35
Pay Attention To Advertising	0.32	1.00	0.60
Influence Of Advertising On Brand Used/Bought	0.35	0.60	1.00
<b>Age 35-49</b>			
Willingness To Try New Brands And Products	1.00	0.32	0.26
Pay Attention To Advertising	0.32	1.00	0.60
Influence Of Advertising On Brand Used/Bought	0.26	0.60	1.00
<b>Age 50+</b>			
Willingness To Try New Brands And Products	1.00	0.31	0.34
Pay Attention To Advertising	0.31	1.00	0.61
Influence Of Advertising On Brand Used/Bought	0.34	0.61	1.00

### **Product Component**

In almost every case, even if an ad were memorable, persuasive, and engaging, it will have no impact on the bottom line if the people receiving the ad do not use the product category. The reason this factor is often ignored in the media selection process is because most target audiences are not defined on the basis of product behavior, but on the basis of demography (e.g., men 21-34). Moreover, when demography is used as a surrogate for behavior, it is typically assumed that every individual within the demographic target is a potential user of the advertised product category, and everyone outside the target is not. Not only is this not true in almost all instances, the use of a demographic target for selecting media vehicles is extremely questionable, especially when it comes to magazines and newspapers. The reasons for this are two-fold:

1. Demography is almost always a terrible predictor of consumer behavior. Evidence to support this claim comes from a paper published in the Journal of Advertising Research that directly assessed how well demographic target membership predicts consumer behavior (D'Amico, 1999). In this paper, the predictive ability of each of 42 demographic target segments was examined with respect to each of 1,777 consumer behaviors. This is tantamount to asking the question "If we know that a person belongs to a specific demographic group, how much better are we able to predict whether he or she engages in the behavior under investigation?" For example, if we know that a person is a male, how well does this help us predict whether he owns a Chevrolet? Similarly, how well is Chevrolet ownership predicted on the basis of having a household income in excess of \$50,000 per year? Being between the ages of 25 and 49? Owning a home? Graduating college? The results of the examination clearly showed that target audience membership does an extremely poor job at predicting behavior. On average, the amount of variance explained across the 1,777 measures was only 1.6%, and this was when the demographic segment that was selected from the 42 that were analyzed was the one that best predicted the behavior under investigation. Moreover, an additional analysis presented in this same paper showed that many magazines selected on their cost-efficiency of reaching a behaviorally defined target would not have been selected on the basis of a demographically defined target – demonstrating that media selection on the basis of demography can lead to cost-inefficiencies.

Still other evidence to support the contention that demography is almost always a poor predictor of consumer behavior comes from an unpublished analysis that examined the collective importance of sex and age and 20 other demographic variables in predicting usage and volume consumption in each of 412 product categories. Sex and age were selected because almost all broadcast vehicles are selected on the basis of their efficiency of reaching a target defined on the basis of one or both of these two variables. The results of the usage analysis (that focused on whether people use or do not use a category) revealed that, on average:

- Sex and age collectively accounted for only 1.7% of the variance, and
- The other 20 demographic variables in combination with sex and age accounted for only 6.2% of the variance

The results of the volume analysis (that focused on predicting consumption rates by category) were even more depressing. On average, across the 412 categories,

- Sex and age collectively accounted for only 1.1% of the variance, and
  - Sex and age in combination with the other 20 demographic variables accounted for only 4.0% of the variance.
2. As mentioned previously, because of the stability of their audiences over time, there are sources that enable one to cross-reference consumer behavior with individual print vehicles. Instead of selecting print vehicles on the basis of behavior, print vehicles are generally selected on the basis of a demographically defined target. The only possible reason to explain this “insanity” is that because broadcast vehicles (which generally represent the lion’s share of most advertising campaigns) are selected on the basis of demography, it assumed that this is a reasonable approach that should be applied to print vehicles. What is ironic about this sorry state of affairs is that, for more than 25 years, tens of millions of dollars have been spent in trying to link consumer behavior with television viewing, and print vehicles have had this ability for more than the past quarter century and have failed to capitalize on it.

Given the above preamble (or should I say, tirade), we are now ready to enumerate the other product factors that should be considered in an engagement model. In addition to whether people use or do not use the advertised category, other factors that should be considered include:

- Is the brand within a person’s consideration set, i.e., would the person consider purchasing the brand?
- How much category volume does the person consume?
- How much brand volume does the person consume?
- To what degree does multiple brand usage or “switching” occur in the category?

Let’s examine these factors, collectively.

### Other Product Factors

By definition, if a brand is not within one’s consideration set, there is little to no likelihood that it will be purchased. Moreover, research conducted by AIG has shown that, if a brand is not in a person’s consideration set, advertising for that brand has a much lower likelihood of being attended to and recalled (Zack, 2006). The question is “how does a brand become part of one’s consideration set?” Certainly, advertising could be helpful, especially if the brand is new, and/or it has relatively low awareness and trial levels. However, the likelihood of advertising having an impact drastically diminishes as the brand matures. This is because, with maturity, brand awareness and trial generally increase, and the number of total ad messages that a person has been exposed to for the advertised brand also generally increases. Consequently, when an ad or ads are superimposed upon a reservoir of prior ads, the likelihood of changing behavior is relatively small. Thus, for mature brands, the primary target should consist of people who would consider purchasing the brand. The question we must now answer is “how do we know if the advertised brand is within one’s consideration set?” One way to determine this is to ask people if they would consider purchasing the advertised brand within some future period of time (e.g., the next six months). Alternatively, one can ask people how many times they would buy the advertised brand over the next “x” (e.g., 100) purchase occasions. Because this type of information is not typically available, one must seek an alternative measure. One such measure is to examine past brand purchase behavior to determine if the advertised brand was bought or used by the person within the recent past. With MRI data, or data from some other sources, this can be done for most products using a six- month time frame. Specifically, with some of these sources, one can answer the following questions about the advertised brand and category on a respondent-by-respondent basis:

- Was the advertised brand used in the past six months?
- How much brand and category volume (e.g., quarts, cans, etc.) was consumed during this period of time?
- Was the advertised brand the only brand that was used during the past 6 months? If not:
  - Was it the one that was used most often, or was it used on a secondary basis?
  - Of all the category volume consumed by the respondent, what percentage was accounted for (i.e., fulfilled) by the advertised brand

Given the above information, a brand's consideration set could be defined in one of the following ways:

- A person is in a brand's consideration set if he or she used the brand within the past six months
- A person is in a brand's consideration if a brand accounts (i.e., fulfills) at least 'x' (e.g., 20%) percent of a person's category requirements
- A person is in a brand's consideration set if he or she used the brand within the past six months on a sole or most often basis.

A problem with the above three definitions is that they do not make a distinction between brand users based on how much brand or category volume they consume. Therefore, a preferred alternative to the above three definitions, is to differentially weight people based on the amount of brand volume that they consumed during the recent past, or on the amount of category volume that they consumed during this time period. It is to be noted that, if the brand users are weighted on the basis of the category volume they consume, it is assumed that advertising/marketing efforts will increase the share of requirements fulfilled by the advertised brand to 100% among all users of the brand, even those who use the brand on a secondary basis.

### **Alternative Approach To Defining A Consideration Set Based On Brand Switching**

A brand's consideration set could also be defined on the basis of brand switching within the target category. For example,

- A person is in a brand's consideration set if he or she is willing to try new brands within the target category, and/or
- A person is in a brand's consideration set if he or she used or bought more than one brand in the target category within the recent past.

These two definitions are less desirable than the ones enumerated above because they are not brand specific. Therefore, it is possible that a person would never consider using the advertised brand, even though he or she uses multiple brands in the advertised category and is willing to try new and different brands.

In the Omnibus Study, these two measures were examined for 30 product categories and their inter-correlations were determined. As can be seen in Exhibit F, on average across the 30 categories, 38.5% said that they definitely or probably would use a different brand than they are currently using within the next 6 months. The percentages for definitely/probably would use ranged from a low of 30.3% for deodorants, to 51.7% for cookies. As can also be seen in Exhibit F, the number of different brands used in the past 6 months averaged 1.83 across the 30 categories, ranging from a low of 1.30 for ketchup, to a high of 2.93 for cookies.

In order to determine the relationship between these two measures and among other measures that were collected in the Omnibus Study, a series of correlation coefficients were computed. As can be seen in Exhibit G:

- There was virtually no relationship between the willingness to use a new or different brand in the next 6 months and (a) the number of brands used in a category in the past 6 months ( $r=.03$ ), and (b) the number of times the category was used within this time frame ( $r=.12$ )
- There was also virtually no relationship between the number of new or different brands used within the past 6 months and the amount of times the category was used during this time frame ( $r=.06$ )
- There was, however, a mild relationship seen across all 30 categories in terms of their willingness to try a new brand in a the category and the willingness to try new brands in general

<b>Exhibit F</b>				
<b>Other Product Measures Collected In Omnibus Study</b>				
	<b>% Using Past 6 Months</b>	<b>% Definitely/ Probably Would Use New/Diff. Brand</b>	<b>Average Number of Brands Used In Pas 6 Mos.</b>	<b>Average Times Used Past 6 Mos.</b>
<b>Average</b>	<b>75.4%</b>	<b>38.5%</b>	<b>1.83</b>	<b>14.07</b>
Bottled Water	79.3%	50.1%	2.35	16.46
Bread	91.3%	42.1%	2.37	16.62
Canned Tuna	60.8%	35.9%	1.42	4.30
Cereal	82.0%	44.4%	2.92	13.06
Cold Cuts	63.5%	41.9%	2.38	8.93
Cookies	70.4%	51.7%	2.93	8.99
Deodorant	89.6%	30.3%	1.46	23.96
Eggs	89.0%	37.1%	1.52	9.09
Facial Tissue	73.0%	37.6%	1.51	22.79
Frankfurters	51.5%	36.6%	1.52	3.55
Ground Coffee	60.5%	36.9%	1.73	20.37
Ice Cream	75.4%	46.5%	2.24	6.77
Ketchup	79.1%	31.5%	1.30	7.23
Margarine	62.6%	35.7%	1.43	14.17
Milk	88.6%	34.9%	1.73	20.77
Mouthwash	62.1%	35.6%	1.44	20.98
Mustard	73.7%	35.7%	1.39	6.65
Orange Juice	69.6%	39.4%	1.60	12.93
Pain Reliever	78.1%	30.7%	1.66	9.16
Peanut Butter	71.2%	32.4%	1.31	7.91
Potato Chips	69.2%	44.5%	2.37	7.35
Regular Tea	49.2%	39.6%	1.68	13.42
Rice	70.7%	39.0%	1.51	5.75
Salad Dressing	76.0%	43.2%	2.21	10.42
Shampoo	90.7%	38.2%	1.84	17.61
Soap	93.1%	34.3%	1.80	29.93
Soup	79.2%	40.7%	2.24	6.61
Spaghetti Sauce	72.6%	41.7%	1.73	2.60
Toilet Paper	95.4%	35.0%	1.76	40.76
Toothpaste	93.6%	32.6%	1.53	32.82



<b>Exhibit G</b>				
<b>Correlations Among Other Product Measures Collected In Omnibus Study</b>				
	<b>Willingness To Use New Brand in Category/ # Of Brands Used Past 6 Mos.</b>	<b>Willingness To Use New Brand In Category/ # Of Times Used Past 6 Mos.</b>	<b># Of Brands Used/ # Of Times Used Past 6 Mos.</b>	<b>Willingness To Use New Brand In Category/ Willingness Tor Try New Brands In General</b>
<b>Average</b>	<b>0.03</b>	<b>0.12</b>	<b>0.06</b>	<b>0.34</b>
Bottled Water	0.07	0.14	0.02	0.31
Bread	0.01	0.17	0.05	0.40
Canned Tuna	0.00	0.09	0.09	0.29
Cereal	0.05	0.21	0.11	0.43
Cold Cuts	0.01	0.11	0.11	0.28
Cookies	-0.03	0.16	0.16	0.37
Deodorant	0.05	0.09	0.00	0.31
Eggs	0.00	0.10	0.05	0.32
Facial Tissue	0.08	0.09	0.00	0.37
Frankfurters	0.00	0.14	0.13	0.30
Ground Coffee	0.08	0.09	0.02	0.26
Ice Cream	0.05	0.14	0.08	0.41
Ketchup	0.02	0.10	0.06	0.38
Margarine	0.08	0.10	-0.01	0.38
Milk	0.03	0.10	0.01	0.41
Mouthwash	0.08	0.04	-0.01	0.42
Mustard	0.02	0.07	0.05	0.34
Orange Juice	0.11	0.10	0.04	0.35
Pain Reliever	0.04	0.08	0.11	0.24
Peanut Butter	0.07	0.10	0.05	0.34
Potato Chips	0.02	0.11	0.14	0.30
Regular Tea	0.09	0.13	0.05	0.19
Rice	0.00	0.11	0.12	0.20
Salad Dressing	0.01	0.14	0.08	0.37
Shampoo	0.01	0.15	0.02	0.30
Soap	0.00	0.11	0.02	0.36
Soup	0.00	0.15	0.22	0.28
Spaghetti Sauce	0.00	0.19	0.07	0.36
Toilet Paper	0.06	0.11	0.00	0.49
Toothpaste	0.05	0.09	-0.01	0.41

### Age Considerations

Before discussing the third component of the multi-faceted engagement approach (i.e., the media component), a few words are in order regarding the relationship between brand/category receptivity and age. Exhibit H shows, for each of three age groups, the top 2-box levels for willingness to use new or different brands in the next 6 months and the number of different brands used in the past 6 months. For each of these measures, data were derived from the 2006 Fall Omnibus Study, and were averaged across the 30 product categories shown in Exhibits F and G. As can be seen by examining Exhibit H, there was an inverse relationship between age and each of these measures. That is, as age increased, the willingness to try new or different brands decreased, and the number of different brands used also decreased. Again, although age is inversely correlated with both measures, this is not an "all or none" proposition, as evidenced by the fact that, compared to the youngest (18-34) age segment, the older age segment was (a) only 21.6% less willing to use new/different brands, and (b) used only 13.1% less brands in the past 6 months.

<b>Exhibit H</b>				
<b>Willingness to Use New Or Different Brands &amp; Number of Different Brands Used As A Function of Age</b>				
	<b>Definitely/ Probably Will Use New/Different Brand Next 6 Months</b>	<b>Average Number Of Different Brands Used In Past 6 Months</b>	<b>Definitely/ Probably Will Use New/Different Brand Next 6 Months</b>	<b>Average Number Of Different Brands Used In Past 6 Months</b>
All	38.5%	1.83	100	100
Age 18-34	43.2%	1.97	112	108
Age 35-49	42.3%	1.94	110	106
Age 50+	35.5%	1.74	92	95

**Media Component**

If a media vehicle is engaging, it should increase the attention paid to the embedded advertising. The question is “how do I know if a media vehicle is engaging?” Some suggested surrogates for engagement as it relates to magazines include:

- Contains ads that I can trust
- Contains attention getting ads
- Contains useful ads
- Differs from others of the same type
- Entertains and absorbs me
- Fun to read
- Has articles/Information you can't find elsewhere
- Has eye-catching covers
- Has quality photos/illustrations
- Is authoritative
- Is cutting edge
- Is enjoyable to read
- Is entertaining
- Is high quality and sophisticated
- Is informative
- Is one of my favorites
- It's my personal time-out
- It's part of my routine
- Keeps me informed and up to date
- Makes me think
- Provides a good escape
- Provides me with something to talk about
- Regular part of my day
- Shows me how to approach problems
- The magazine is relevant to me
- Touches me and expands my views
- Trusted source of information

Although the above measures may have some merit, logic would suggest that the best predictor of whether an ad is read in a given magazine is based on how thoroughly the publication is read. This is because, the more thoroughly a publication is read, the greater the likelihood that a given ad page will be seen. There have been several suggested surrogates for thoroughness of reading. These include:

- Average time spent reading,
- Average reading days, and
- Average page exposure (APX).

In a previous paper delivered as the Worldwide Readership Research Symposium delivered in Cambridge (D’Amico, 2003), it was found that each of these three measures are mildly to moderately correlated, and each:

- Shows a fair degree of discrimination,
- Is strongly related to frequency of reading,
- Is predictive of which of two similar publications is read more often, and
- Is very stable over time.

Let’s review each of these findings, all of which were based on data from MRI’s 2002 Doublebase Study.

**Correlations**

Exhibit I shows the inter-correlations of the three measures of thoroughness of reading. Examination of this exhibit shows that:

- The correlations between average reading days and (a) average minutes read and (b) average page exposures are .51 and .63, respectively, and
- The correlation between average page exposures and average minutes read is .37

<b>Exhibit I</b>			
<b>Correlations Among MRI's Three Measures of Reading Thoroughness</b>			
	<b>Average Reading Days</b>	<b>Average Minutes Read</b>	<b>Average Page Exposures</b>
Average Reading Days	1.00	<b>0.51</b>	<b>0.63</b>
Average Minutes Read	0.51	1.00	0.37
Average Page Exposures	<b>0.63</b>	0.37	1.00

**Discrimination**

In order to determine if these three measures discriminate among magazines, two approaches were used. In the first approach, the range of scores for each of these measures was examined for the 193 magazines reported in MRI’s 2002 Doublebase Study. In the second approach, a coefficient of variation was computed for each of the three measures using these same 193 publications. A coefficient of variation is a statistic that measures dispersion, and is calculated by dividing the standard deviation by the mean. As can be seen by examining Exhibit J,

- The maximum-to-minimum ratio was 3.3 or greater for all three measures of thoroughness – i.e., the value for the highest scoring magazine was more than 3.3 times greater than that of the lowest scoring magazine for each of the three measures.
- The coefficient of variation was 17% or higher for all three measures. As a basis of comparison, the coefficient of variation is 16.7% for the Scholastic Aptitude Test (SAT), and 15 or 16 for most IQ tests.

<b>Exhibit J</b>			
<b>MRI's Three Measures of Reading Thoroughness -Measures of Discrimination-</b>			
	<b>Average Reading Days</b>	<b>Average Minutes Read</b>	<b>Average Page Exposures</b>
Mean	2.14	45.11	1.9
Minimum	0.70	25	0.75
Maximum	4.10	84	5.82
Range	3.40	59	5.07
Standard Deviation	0.38	8.35	0.65
Maximum/Minimum Ratio	5.86	3.36	7.76
Coefficient Of Variation (SD/Mean)	17.8%	18.5%	34.2%

### Relationship With Frequency of Reading

In order to determine if these three measures were related to frequency of reading, two approaches were also used. In the first approach, each of the three measures was correlated with frequency of reading using respondent-level data. The second approach, also using respondent-level data, consisted of focusing on 27 ‘competing’ magazine pairs (e.g., Time & Newsweek, Better Homes & Gardens & Ladies Home Journal) and identifying respondents who read both magazines within a given pair. After the people were identified, the two “competing” magazines were compared for each of three measures of “thoroughness” as a function of frequency of reading each magazine within the pair.

The results of the first approach showed that all three measures were somewhat related to frequency of reading. Specifically, the correlations ranged from .31 for average reading days, to .23 for average page exposures. As can be seen by examining Exhibit K, when averaged over the 27 magazine pairs, the ratings for all three measures were much higher for the magazine that was read most often. Specifically, on average, for the magazine that was read more frequently,

- Average reading days was 34.5% higher,
- Average minutes read was 48.7% higher, and
- Average page exposure was 74.4% higher.

Moreover, these results were seen in over 94% of the 27 pairings for each measure.

<b>Exhibit K</b>					
<b>Qualitative Measures Among Dual Readers As A Function of Reading One Magazine More Than The Other</b>					
	<b>Magazine Read:</b>				<b>% Times More &gt; Less</b>
	<b>More Often</b>	<b>Less Often</b>	<b>Diff.</b>	<b>% Diff.</b>	
Average Reading Days	2.33	1.73	0.60	34.5%	94.4%
Average Minutes Read	51.23	34.45	16.78	48.7%	98.1%
Page Exposures	2.24	1.29	0.96	74.4%	94.4%

### Stability

In order to determine the stability of each of these three “thoroughness” measures over a one- and five-year period, the 200 magazines that were measured and reported in Fall 1997, Fall 2001 and Fall 2002 were examined with respect to each of these three measures. As can be seen by examining Exhibit L, the results of this analysis showed that the correlation coefficients were .82 or higher for each measure when the time frame was one year, and .64 or higher when the time frame was five years.

<b>Exhibit L</b>				
<b>An Analysis of the Stability of Three Measures of Thoroughness</b>				
	<b>Correlation Coefficient</b>		<b>Variance Explained</b>	
	<b>F2002/ F2001</b>	<b>F2002/ F1997</b>	<b>F2002/ F2001</b>	<b>F2002/ F1997</b>
Average Reading Days	0.90	0.78	81.6%	60.6%
Average Minutes Read	0.83	0.64	68.1%	40.9%
Average Page Exposures	0.82	0.66	66.5%	43.1%

### Other Media/Ad Receptivity Factors

In addition to the above three measures of thoroughness of reading, another factor that appears to be related to magazine ad exposure is the whether a publication is read for its ad content. According to Starch research, out the 12 attribute statements evaluated, only the following two showed a relationship with ad recall (Sawyer, 2006):

- Read the publication as much for the ad content as for the articles
- When I am going to make a purchase decision, the ads in this publication help me make my decisions,

Attribute statements that did not appear to be related to ad recall included:

- I trust the articles in this publication
- The articles in this publications are valuable sources of new information
- I frequently discuss with others what I have read in this publication
- The contents of this publications are appropriate for me and my lifestyle
- The ads in this publication are a valuable sources of new information
- The publication is a must read for me
- The ads in this publication are trustworthy
- I would really miss this publication it were no longer available
- I read articles in this publication from start to finish
- There is a meaningful difference between this publication and others

### Putting It All Together – Suggestions & Guidelines

Now that we have reviewed each of the three components of the new, a multi-faceted engagement approach, the question we must answer is “how do we use this approach to select magazines?” Although there is not sufficient knowledge to specify a definitive model, several suggestions can be made. Please note that these suggestions are tentative and need to be modified and elaborated upon based on additional research.

#### General Suggestions

1. The model should try to simultaneously take into account each of the three components of engagement using a multiplicative model (e.g., product component x media component x ad receptivity component)
2. Each component should have a different weight based on its perceived importance for the target brand. If all components are perceived as equally important, then all would receive the same weight of 1.
3. Ideally, the model should be computed on a respondent-level basis. However, as will be shown later, it could be computed using aggregate-level data.

#### Category/Brand Component Suggestions

4. The most important component in the model is the product component.
5. The product component is comprised of two aspects – a category aspect and a brand aspect.
6. In all established categories, if a person uses/buys the category, he should receive a weight of 1 - if not, “0”. (By doing this, a non-category user is eliminated from the analysis because, in a multiplicative model, anything times zero is zero).
7. If the category is new and growing quickly (i.e., it is attracting new users at a rapid rate), non-category users could be assigned a probability of using based on prior “growth” trends seen for similar categories. For example, for a new technology category, one could determine the demographic, psychographic and product usage patterns of category users for a similar category at a given point of time. Based on the importance of these factors in predicting usage of this “similar” category, respondents could be assigned a probability of using the new category in the near future.
8. Unless a direct measure of brand consideration is available by magazine (which is rarely or never the case), the best surrogate to use is usage of the brand in the recent past (e.g., past 6 months).
9. For a brand that has high awareness and has been backed by a considerable amount of prior advertising, people should receive a weight of “0” if they did not use the brand in the recent past, and a weight of “1” if they did.

10. Alternatively, “recent” pas brand users could be weighted based on how much brand or category volume they consumed during a particular time frame (e.g., past 30 days), In calculating these weights, one would calculate the average brand or category volume consumed per brand user, and divide this amount into the brand or category volume consumed by the individual.
11. For a brand that has low awareness, has not been backed by a considerable amount of prior advertising, and has a relatively few users, people should receive a weight of “1” if they used a brand that is known to be competitive to the brand in the recent past, and a weight of “0” if they did not.
12. Alternatively, brand usage of the product component could be eliminated from the calculation.

### **Media Component Suggestions**

13. Logic would suggest that the most important engagement factor with regard to the media component is “thoroughness of reading”.
14. Of the three “thoroughness” measures reviewed in this paper, “average page exposures” appears to most accurately capture the meaning of thoroughness. This is because “average time spent reading” and “average reading days” are, in part, a function of the thickness of the publication and the nature and content of the articles. Thus, it is possible to spend many more days and time with a “thick” publication filled with many detailed articles, as opposed to a “thin” publication filled with few detailed articles, and yet, on a percentage basis, read less of the thick publication.
15. An acceptable, and perhaps preferable, alternative to average page exposure is percent of pages read across all reading occasions.
16. Regardless of whether “average page exposures” or “percent of total pages read” is used as the measure of thoroughness of reading, a person’s score on this measure should be determined by dividing his or her score by the average across all the magazines measured. Thus, if a person’s score were average, he or she would receive a weight of 1.

### **Ad Receptivity Component Suggestions**

17. The three measures of ad receptivity reviewed in this paper (“willingness to try new brands and products”, “the degree to which people pay attention to advertising” and “the degree to which advertising influences brand selection”) are related (especially the latter two), and each seems to provide a plausible measure of advertising receptivity. However, each of these measures is not magazine specific. Thus, it is possible for a person to ignore ads in a given publication, even though he or she is “brand flexible”, pays attention to advertising, and is influenced by it. This because it is possible for people to read certain publications for their ads, and others for their editorial content.
18. If this is true, then it appears that a better measure of ad receptivity is one that is magazine title specific. Based on research conducted by Starch, two candidates include (a) “read the publication as much for the ad content as for the articles” and (b) “when I am going to make a purchase decision, the ads in this publication help me make my decisions.”
19. It is recommended that the above two candidates not be measured using a 2-point “yes” or “no” scale. Rather, they should be measured using a 5- or 10-point scale that has verbal anchors. By doing this, people could be assigned a weight for a given magazine based on the number they used on the scale, and how it compares to average score across all publications.

### **Example of Approach Using Aggregate Level Data**

As mentioned previously, if possible, the multi-faceted engagement model should be computed using respondent-level data. Admittedly, however, this is complicated and difficult to do without the development of software specifically designed for this purpose. If it is assumed that, except for category and brand usage, all components of the model are independent, then one could use an aggregate-level data for selecting magazines. Following is an example to show how this is done. In this example, two magazines (Magazine A & Magazine B) are evaluated on three measures using a multiplicative model. It is to be noted that the preferred measures for the advertising receptivity component (“read the publication as much for the ad content as for the articles” and/or “when I am going to make a purchase decision, the ads in this publication help me make my decisions”), and the preferred measure for the media component (“percent of page read across all reading occasions”) were not used because they are not currently available in MRI’s National Studies. In stead, the “ad receptivity component” was based on the measure “I like to look at advertising”, and the “media component” was based on “average page exposures”. It is also to be noted that, in the example below, each component is equally weighted, which, need not be the case.

**Example 1****Target Information**

Category = Spaghetti Sauce

Brand = Ragu

Target = any past 6 month user of brand

Average page exposures (All reported magazines) = 1.94

Average on 10 –point scale (I like to look at advertising) = 4.80

**Magazine A**

Number of past 6 month users of Ragu = 11,431,000 (Index =552)

Average page exposures = 1.72 (Index = 89)

Average on 10 –point scale (I like to look at advertising) = 4.93 (Index = 103)

Cost = \$404,600 (4cb)

**Magazine B**

Number of past 6 month users of Ragu = 2,837,000 (Index = 378)

Average page exposures = 1.48 (Index = 76)

Average on 10 –point scale (I like to look at advertising) = 5.10 (Index = 106)

Cost = \$225,800 (4cb)

**Reach Calculations (Taking Into Account Ad receptivity & Media Engagement)**

Magazine A =  $(1 \times 11,431,000) \times (1 \times .89) \times (1 \times 1.03) = 10,393$

Magazine B =  $(1 \times 2,837,000) \times (1 \times .76) \times (1 \times 1.06) = 2,293$

**CPM Calculations**

Magazine A =  $\$404,600/10,393 = \$38.93$

Magazine B =  $\$225,800/2,293 = \$98.47$

**References**

D'Amico, T. (1999). "Magazines' Secret Weapon: Media Selection on the Basis of Behavior, as Opposed to Demography." *Journal of Advertising Research* 39, 6 (1999); 53-60.

D'Amico, T. (2003). "MRI's Qualitative Measures." *Proceedings of the Worldwide Readership Symposium, Cambridge*, 269-284.

Sawyer, P. (2006). "The Myth of Readership Engagement." *Starch Tested Copy*, May, 1-8.

Zack, B. (2006). "Accounting for Engagement." *Admap*, February, 1-4.

