Advertising Empirical Generalizations: Implications for Research and Action

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A special conference on empirical generalizations (EGs) in advertising led to this special issue of the *Journal of Advertising Research*. It also generated a representative selection of 23 EGs that give a sense of how strong our scientific knowledge is about advertising, and where the gaps lie. While real advances in knowledge have been achieved, the list highlights significant knowledge gaps, particularly concerning advertising in the new fragmented interactive-media world. We surveyed advertising thought leaders on which of these empirical laws they felt were most important and most certain. Many of our empirical laws suffer from inadequate knowledge concerning the conditions over which they do and do not generalize.

INTRODUCTION

Having reviewed many dozens of potential empirical generalizations (EGs) about advertising from a December 2008 Wharton conference on empirical generalizations,[1] as well as eight other EGs presented in the MSI book on *Empirical Generalizations about Marketing Impact* (Hanssens, 2009) and ten from the study of the U.K.'s IPA Effectiveness Awards (see Binet and Field, p. 130, this issue), the question we face is, *what do we do with this wealth of information and insights?*

For the practitioners among us, we hope that the EGs offer a valuable starting point for the design of advertising strategies. Whether you use the EGs as principles that guide your strategy or as hypotheses to be tested, we are all better off having some initial knowledge of what works and does not work and under what conditions.

Many of our advertising laws are less well developed than we would like. We do not know a great deal about their generalizability, so there may be important boundary conditions where they do not apply or are modified substantially. Yet, even if substantial unknowns exist concerning a law's generalizability, they are of enormous value to management as they offer three practical benefits:

- As a starting point in the development of an advertising strategy. Starting with a truly blank piece of paper is a horrifying (but, still, rather fanciful) prospect.
- As an initial set of tentative rules that management can follow. Or, if they feel the conditions under which the EG holds have changed, they can design their advertising strategy as an experiment to test this theory. These hypotheses can encompass all the relevant advertising decisions including the message, the creative execution, the media mix, the budget, the campaign, the frequency, etc. For example, Wright (p. 164) shows how to employ a well-developed EG concerning advertising elasticity to determine advertising budgets.
- As a benchmark, giving us some sense of how much change to expect (e.g., in sales or sales effects) when the world changes or when we intervene with our advertising. Even partially developed EGs can provide such grounding. For example, the EG offered by Erik du Plessis

[1] *The conference was held in Philadelphia at the Wharton School, University of Pennsylvania, and organized by the SEI Center for Advanced Studies in Management and the Ehrenberg-Bass Institute, University of South Australia.*

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(p. 236)—and supported by the independent studies of Mueller-Lust and Bulgrin (2004) and Bronnenberg, Dubé, and Mela (2009)—challenges the conventional hypotheses that DVR households are not affected by advertising. This then highlights the importance of branding in advertisements, as articulated in the article by Romaniuk (p. 143).

EGs do not restrict one's creativity, but rather inform it at the same time they provide inspiration and motivation that could enhance both the creativity and impact of advertising.

For the academic and industry researchers among us, the current inventory of EGs offers a valuable starting point for the design of our research agenda. In doing so, we suggest focusing on three areas:

- EGs that are important, but in which we have less than full confidence (i.e., EGs based on few studies and/or EGs without verification from independent researchers);
- EGs that are important and in which we do have considerable confidence, but are missing a number of important conditions (product types, market segments, countries, market conditions, etc.) that would more fully determine if the quantitative relationship holds;
- areas that are supported by only a few EGs (i.e., newer advertising strategies) that we know are important, but still underresearched.

To provide initial insights into these three areas, the 100+ invited participants at the Wharton Conference on EGs in Advertising[2] suggested that we conduct a survey on the perceived confidence/validity of the EGs and their importance/relevance. Such a survey was quickly conducted on 23 selected EGs. These EGs are only a subset of all those presented in this issue, but they were all perceived by their authors as representative of their articles. The respondents were asked to rate each description of an EG, or related group of EGs, using a 10-point scale on both confidence/validity and importance/relevance.

The 23 descriptions are presented in Table 1 grouped by four broad topics—ROI, 360-Media Planning, Value of TV, and Creative Quality. While some of the EGs could have been classified in more than one category, the current grouping is helpful in identifying the key focus of the EGs. The results of our analysis of the data for the 80 respondents are presented next.

THE PERCEIVED CONFIDENCE/VALIDITY AND IMPORTANCE/RELEVANCE OF THE 23 EGs

Figure 1 presents the classification of the 23 EGs on the two dimensions of confidence/validity and importance/relevance. To aid interpretation, we divided the 23 EGs into thirds (top, middle, and bottom).

Five EGS are perceived highest on both dimensions:

- value of TV EG22 (continued clout of TV);
- value of TV EG21 (stable TV viewing patterns in spite of social and technological change);
- ROI EG23 (the advertising sales response curve is convex);
- ROI EG7 (advertising's immediate sales effect can be large and largely depends on creative content);
- ROI EG17 (advertising elasticity is 0.1).

Importance/Relevance			
Top 1/3		**Value of TV (EG1)** **ROI (EG4)** **ROI (EG20)**	**Value of TV (EG22)** **ROI (EG23)** **Value of TV (EG21)** **ROI (EG7)** **ROI (EG17)**
Middle 1/3	Value of TV (EG3) 360 Media (EG5) Creative Quality (EG8) ROI (EG6) 360 Media (EG2)	360 Media (EG19) ROI (EG11)	Creative Quality (EG10)
Bottom 1/3	ROI (EG14) 360 Media (EG16)	360 Media (EG15) 360 Media (EG18) 360 Media (EG12)	Creative Quality (EG9) ROI (EG13)
	Bottom 1/3	Middle 1/3	Top 1/3
		Confidence/Validity	

Figure 1 The Perceived Confidence and Importance of the 23 EGs

[2]*The participants included senior advertising executives from advertising agencies, media companies, marketing/advertising research firms, advertisers, others in the advertising industry, and academics.*

TABLE 1
The 23 EGs Included in the Survey

EG No.	Empirical Generalization
ROI	
4	Advertising typically has a half-life of three to four weeks. If advertising is to be sales effective in the long term, it must show immediate sales effects in single-source data. *Kate Newstead, Jennifer Taylor, Rachel Kennedy, Byron Sharp* (p. 207)
6	Based on the established EG that advertising elasticity is approximately 0.1, net profit is optimized by setting the advertising budget to be 10% of gross profit. If the elasticity is 0.15, then the advertising budget should be 15% of gross profit, and so on. *Malcolm Wright* (p. 164)
7	Brand advertising often has a pronounced short-term sales impact (as shown in single-source data). This impact decays over time. The most dramatic influence on short-term effect is creative copy. *Leslie Wood* (p. 186)
11	Even with no clicks or minimal clicks, online display advertisements generate lift in site visitation, trademark search queries, and lift in both online and offline sales. *Gian Fulgoni, Marie Pauline Mörn* (p. 134)
13	In-store digital signage featuring “newsworthy” information (e.g., new items, seasonal offers, promotions) has a markedly favorable impact on sales. This effect is stronger for hedonic (food and entertainment) products. *Raymond R. Burke* (p. 180)
14	TV advertising for consumer services follow a 70:30 rule (70% of the efforts create interest, 30% create action). And, 90% of TV advertising for consumer services dissipates within three months (versus four months for consumer goods). *Venky Shankar*
17	If advertising changes by 1%, sales or market share will change by about 0.1%. (That is, advertising elasticity is 0.1.) The advertising elasticity is higher in Europe relative to the United States, for durables relative to nondurables, in early relative to late stages of the product life cycle, and in print over TV. The advertising elasticity is lower in models that incorporate disaggregate data, advertising carryover, quality, and promotion relative to those that do not. The advertising elasticity is lower in multiplicative models relative to other model forms, such as the additive model. The advertising elasticity is invariant over the measure of the dependent variable or the method of estimation. *Gerard J. Tellis* (p. 240)
20	There is a greater than 50% chance that the typical TV advertising campaign will lose money both short term and long term. The risk of losing money fluctuates over the years, but has been over 50%. The average elasticity of TV advertising has fluctuated between 0.043 and 0.163 over the past 25 years. *Ye Hu, Leonard M. Lodish, Abba M. Krieger, Babak Hayati* (p. 201)
23	The advertising response curve is “convex”—the greatest marginal response is from the first exposures. As the number of cumulative exposures in a period increases, the marginal effect of the advertising drops. *Jennifer Taylor, Rachel Kennedy, Byron Sharp* (p. 198)
360 Media Planning	
2	A retail store layout that makes shopping quicker results in increased shopper spending. *Herb Sorensen* (p. 176)
5	Approximately 20% of word of mouth (WOM) about brands refers to paid advertising in media. The level and effectiveness of WOM are substantially increased when stimulated, encouraged, and/or supported by advertising, increasing the probability by about 20% that a consumer will make a strong recommendation to buy or try a product. *Ed Keller, Brad Fay* (p. 154)
12	If the advertisements recently recalled were on traditional media, they were more likely to have left a positive impression than if they were on digital media. If the consumers had a previous positive impression of the brand or product advertised for advertisements recently recalled, the advertisements were more likely to have left a positive impression, regardless of the media. *Bill Moult, Walker Smith*

(*continued*)

TABLE 1 (cont'd)

EG No.	Empirical Generalization
360 Media Planning (continued)	
15	Doubling the clutter does not halve the number of advertisements recalled. Advertisements recalled in high clutter are more likable on average. *Peter Hammer, Erica Riebe, Rachel Kennedy* (p. 159)
16	Repeat viewing is 38%, and this does not alter when a program changes time. Repeat viewing is lower for comedies than police dramas and for low rating shows, but within these program types or ratings levels repeat viewing remains at a consistent low or high value across time changes. *Tracey Dagger, Peter Danaher*
18	Where TV, radio, and magazines (and even special interest ones) claim to attract a specific audience, the target group is typically less than half of the media's total audience, and rival outlets often outperform them in reaching this subsegment. *Karen Nelson-Field, Erica Riebe*
19	Spaced multiple exposures (distributed) produce greater learning than repeated exposures with short intervals (massed). Longer intervals between exposures result in better learning than shorter intervals. *Alan G. Sawyer, Hayden Noel, Chris Janiszewski* (p. 193)
Value of TV	
1	Over the past 15 years, TV has not declined in its effectiveness at generating sales lift and appears to be more effective than either online or print at generating brand awareness and recognition. *Joel Rubinson* (p. 220)
3	Households with DVRs are similar to non-DVR households in the basic measures of advertising effectiveness (Recall and Recognition). *Erik du Plessis* (p. 236)
21	TV still has very high reach. Declining ratings are due to fragmentation (more channels) not to reduced TV viewing levels that are remarkably resilient to social and technological changes and to the emergence of "new media." Average ratings halve if the number of channels doubles. In addition, the Double Jeopardy law applies to TV channels. Bigger channels have more viewers, and these viewers watch the channel for more hours. *Byron Sharp, Virginia Beal, Martin Collins* (p. 211)
22	Despite increase in TV channels and fragmentation of audience, TV appears to retain its perceived clout among target audiences in Asia, Europe, and North America and holds across recent years. While the influence of digital media has grown, it has not caused a corresponding decrease in TV perceived clout. *Oscar Jamhouri, Marek Winiarz* (p. 227)
Creative Quality	
8	Advertising that communicates a unique selling proposition (USP) outperforms advertising, which does not. Ideally, the USP should be based on an important benefit; alternatively and riskier, it could be based on a feature that clearly implies a benefit. It is effective if it is unique in the minds of consumers even though other brands could make the same claim. However, it is especially effective if it cannot be easily matched by competitors. *J. Scott Armstrong, Patnaik Sandeep*
9	The number of times a brand visually appears in a TV commercial increases the degree of correct brand association with that commercial. *Jenni Romaniuk* (p. 143)
10	Emotional response to a TV advertisement influences both branded engagement (directly) and persuasion (indirectly), and therefore Short-Term Sales Likelihood. This pattern holds for TV advertisements across Argentina, Brazil, and Mexico, but the magnitude of effect is different. *Jorge Alagon, Rogelio Puente*

Three EGs are perceived to be among the top third in terms of importance/relevance, but with perceived lower confidence/validity:

- Value of TV EG1 (TV more effective than online or print advertising in generating brand awareness and recognition);
- ROI EG4 (advertising half life of three to four weeks);
- ROI EG20 (greater than 50 percent chance that typical TV advertising will lose money in both the short and long term).

Not surprisingly, all of the highly important/relevant EGs belong to the categories of ROI and Value of TV. Two EGs—Creative EG9 (the association between number of times a brand appears in a TV advertisement and correct recall of the brand) and ROI EG13 (in-store signage)—were perceived among the lowest in terms of importance/relevance, but among the highest in confidence/validity.

While informative, these surveyed perceptions should not serve as the only guide to the value of an EG as input to a particular advertising decisions. One has also to note that the perception of the important EGs varied by segment of respondents. Figure 2 presents the results of a joint space analysis of the perceived importance of the EGs and the ideal points for the various respondent segments as well as the outcome of a hierarchical clustering of these data embedded in the map.

An examination of these results suggests significant heterogeneity among the respondents. Each industry segment has its own "most important" EGs. Perhaps not surprisingly *academics* were more likely to view EGs that were well established in the academic literature as important (EG1, EG11, and EG23). *Advertising agencies* were more similar in their perceived importance of the EGs to the academics than the other advertising industry segments. *Advertisers* favored EGs that focus on ROI (EG14 and EG36) and 360 Media (EG18, EG5, and EG12). *Media executives* perceived

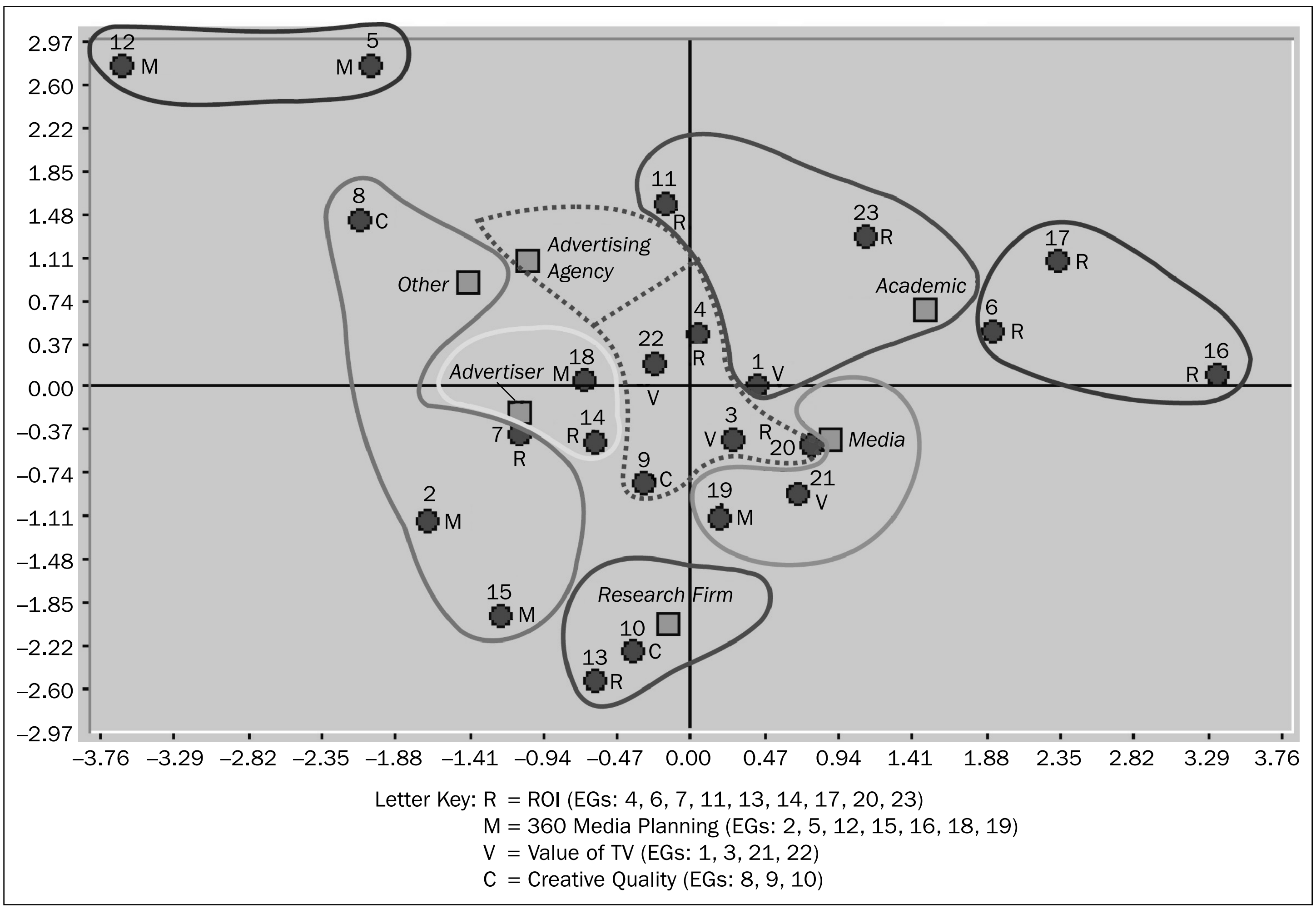

Figure 2 Joint Space Map and Cluster of the 23 EGs and Six Respondent Segments

the Value of TV (EG21) and 360 Media (EG18) as most important and were quite similar to executives of *research firms*, who also perceived ROI (EG13) and Creative (EG10) as important. Generally, however, it is hard to stereotype the groups because there was considerable heterogeneity within each.

GAPS BETWEEN THE CURRENT EGs AND AREA FOR WHICH THE PARTICIPANTS WISH THERE WERE EGs

When we hosted the Wharton "Empirical Generalizations in Advertising" in late 2008, we were struck that even though we had a large number of very diverse presentations covering a wide variety of topics, there were obvious gaps. And even in the areas that received strong coverage (e.g., TV advertising sales effects), it was very clear that more research is needed to uncover where our existing empirical laws apply and where they do not discover EGs regarding the new advertising approaches that address empowered consumers and market fragmentation, media proliferation, technological advances, and the current global economic recession.

The last question on our survey of advertising thought leaders (invited participants at the Wharton conference) asked, "To guide our research agenda, reflecting on the 23 EGs and the evolving needs of advertisers, what one or two EG would you like to see developed." Content analysis of the "wish list" of our respondents, augmented by some of the discussions at the conference, and some of our own views and initial conclusions from the Future of Advertising Project (http://seicenter.wharton.upenn.edu/project_detail.aspx?keyindex=15&archived=0&pagebase=0&pageno=0) suggest three major gaps between the industry needs and what we currently know about advertising as reflected in the inventory of EGs:

The context/conditions

Despite the importance of specifying for each EG the conditions under which it holds, most EGs do not provide this needed information. In particular, participants in the survey found information lacking concerning the following *conditions* under which EGs might or might not hold:

- competitive context;
- different product and service categories;
- type of media;
- the message of its creative execution (both verbal and nonverbal);
- the countries and especially emerging countries;
- DVR households;
- economic climate;
- EGs that reflect the changes in consumer behavior and social interaction within advertising media, or as one executive stated: "It is no longer tenable to consider advertising and marketing as something we do to people; most of the effect is not a direct results of that initial interaction."
- How do consumers react to advertising, and how does it vary in different contexts, moods?

Advertising portfolios

Consistent with the findings of the Future of Advertising Project, many of the respondents recognized the important shift from single media effects to 360 media and to portfolios of media and message. While much of today's focus is on individual or limited number of media, one of the major needed breakthroughs in advertising is a change in a mental model of advertising to a portfolio of advertising approaches. Such an approach requires

- integrating all media (including traditional media, the new media such as social networks and mobiles and nontraditional advertising vehicles such as product and store designs and experiences);
- creative messages;
- addressing the advertiser's specific objectives (e.g., growth, launch of new products, crisis, and transformation);
- addressing other portfolio decisions such as required timing and sequencing of advertising initiatives.

Illustrative respondents' responses include:

- "the interaction between TV brand advertising ad click through rates";
- "the synergy among different media";
- "the focus on how to influence people through total integrated communication efforts";
- "comparison and synergy between different media and multimedia combinations";
- "WOM and traditional media";
- "understanding how combining media such as TV, radio, print, online, and social can improve the effectiveness of a campaign";
- "timing and sequencing of advertising by media/message";
- "incorporating 'nonadvertising' brand building effects relating to products designs and retail experience";
- "understanding the place of online and offline";
- "importance of continuity of effort";
- new media: "The store is the next big frontier"; "Which online video ad appeal is most effective and under what circumstances?"; "Mobile."

The measurement

Despite the enormous progress in measuring advertising effectiveness, measurement still is one of the major challenges facing advertising. This is especially critical as one recognizes the expanded definition of advertising that includes all touchpoints of a company/organization with its customers and other stakeholders, including their interaction among themselves (C2C). The importance of new measurement needs is reflected in respondents' quotes such as:

- "The obsession with recall as an indication is a real blind spot."
- "What are the leading indications that an ad is having an effect?"
- How to measure "trustworthy relationships"?
- "Better balance between short term sales effects and long term brand building effects"
- "Advertising response within a broader framework"
- "The relative role of emotional versus rational responses"
- "Advertising effect without engagement"
- "What is real in neuromarketing?"

This list offers the initial building blocks for an agenda for future research on EGs in advertising. To fully capture, however, the new business environment—including the empowered consumers and their interaction with the advertisers and other consumers and other stakeholders—we have to develop new mental models of advertising. These models should include an expanded definition of advertising, a greater focus on creative messages and executions, and undertaking a portfolio perspective based on the metaphor of investment portfolio analysis.

CONCLUSIONS

We hope that the rich inventory of EGs presented in this issue will lead all those concerned with advertising to:

- pay more attention to the current EGs, evaluate them carefully as to their relevance, and initiate and support the ongoing testing of EGs;
- initiate and support the development of new EGs in tune with the changing business environment, empowered consumers, advances in technology, measurement capabilities, and a research philosophy consistent with continuous adaptive experimentation. JAR

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