

# How Do Direct Response Advertising and Branding Advertising Impact Firm Performance and Valuation?

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# **How Do Direct Response Advertising and Branding Advertising Impact Firm Performance and Valuation**

## *ABSTRACT*

Firms spend billions of dollars on advertising every year, managers therefore place an understandable priority on determining the return on advertising. The two broad categories for advertising are direct response advertising (DRA) and branding advertising. Surprisingly, little is known about their relative impact on firm performance and valuation. This paper compares their impact, exploiting a proprietary panel data set of annual observations of direct response and branding advertising spending for 1,817 firms from all 10 SIC segments over 2010-2014. First, it demonstrates that both types of advertising expenditures are positively related to sales and firm valuation. Second, it documents a stronger positive association for DRA on both sales and firm valuation relative to branding advertising. Third, it provides evidence that the more positive effects of DRA relative to branding advertising are stronger for cost leader relative to differentiator firms. This result confirms that the stronger short-term and long-term effectiveness of DRA occurs for those firms, for which branding is least likely to be effective: that is, firms with limited ability to differentiate their products. Overall, the results suggest substantial strategic benefits to investors from more detailed reporting of firms' advertising spending.

## *INTRODUCTION*

Industry frequently distinguishes between direct response advertising and non-direct response advertising, and usually labels the latter as branding advertising (Fulgoni 2009; Pauwels and Hanssens 2016). Direct response advertising (DRA) is advertising that aims at getting an immediate response from the contacted consumer, such as through the use of a toll-free phone number or the click on an Internet advertisement. In contrast, branding advertising serves to build up a brand in the minds of consumers, which should ultimately also yield purchases of the brand. However, this purchase is unlikely to occur as an immediate (i.e., “direct”) response to the ad. Industry experts speculate that online advertising spending primarily relate to DRA, while the reverse is true for traditional media (Fulgoni 2009).

Despite this popular distinction between DRA and branding advertising, little research exists examining the differential impact of these two types of advertising upon firm performance or valuation. One reason is that previous research primarily focuses on either the effect of aggregate advertising spending on financial metrics such as firm valuation (as typically employed data sources—such as Compustat—provide only aggregate advertising; see, for example, McAlister et al. 2016), or on the effect that advertising spending in one media has on short-term metrics such as sales. An exception is Sridhar et al. (2016); however, the latter paper distinguishes between national, regional and online advertising.

However, more detailed knowledge about differences in the effects of these two types of advertising – DRA and branding advertising – is useful for advertisers, investors, and regulators. Advertiser would benefit because it allows for better targeting of their advertising spending. Investors could better evaluate the effectiveness and value-relevance (and thus implications, such as pricing) of various advertising expenditures. Given the size of advertising spending in many firms, it is rather surprising that the majority of firms does not provide information about its

overall advertising spending, nor details on the types of advertising employed. In addition to these insights, regulators as well as financial standard setters might learn more about the long-term effects of direct response advertising. The long-term effects identified in this manuscript provide a rationale for re-visiting the current financial reporting treatment of advertising, which (generally) leads to expensing of the vast majority of advertising expenditures. Of note, direct response advertising appears to already fulfill two key characteristics supporting potential capitalization: attribution and conversion. The existence of long-term effects is the third key characteristics that is required for capitalizing advertising spending.

Accordingly, this paper analyzes whether direct response advertising or branding advertising has a stronger impact on firm performance and firm valuation. We exploit a proprietary panel data set of annual observations of direct response and branding advertising spending for 1,817 firms from all 10 SIC segments over 2010-2014 to answer the following research questions:

- (i) Are both types of advertising (direct response and branding) positively related to firm performance and valuation?
- (ii) Is the differential impact greater for firms that are cost leaders relative to differentiators? Is the differential role of DRA versus branding advertising greater for technology versus non-technology firms?
- (iii) Does branding advertising act as an antecedent to the observed positive effects of DRA?

Our empirical analyses provide several key insights. First, it documents that direct response advertising (DRA) and branding advertising each exhibit a positive association with short-term performance (proxied via sales) and longer-term valuation (proxied via Tobin's q). Collectively, the latter results confirm that both types of advertising increase sales and market perceptions of longer-term value. Second, DRA exhibits significantly larger effects on both

sales and firm valuation relative to branding advertising. Third, it provides some evidence that the more positive effects of DRA relative to branding advertising are stronger for cost leader relative to differentiator firms. This result supports the face validity of the analysis because stronger short-term and longer-term effectiveness of DRA occurs for those firms, for which branding is least likely to be effective: that is, firms with limited ability to differentiate their products. Finally, it presents preliminary evidence of a predicted moderator effect: in particular, it documents that the effects of branding advertising are strongest for differentiated technology firms, while the effects of DRA are strongest for cost leader technology firms. In addition, it provides empirical evidence that the relatively strong effects of DRA decrease once the regressions control for lagged branding advertising. This latter suggests that branding advertising may be a necessary antecedent for DRA to be effective.

This study's insights have implications for managers and users of financial statements. Our findings are relevant to managers as they suggest that DRA and branding advertising differ in their effectiveness on firm performance and valuation. Critically, our findings further suggest that the firm's source of competitive advantage - cost leader or differentiator- has a significant impact on the relative effectiveness of advertising. This finding has implications for how managers make advertising investment decisions, as it confirms that firms should match the type of advertising to the ability to differentiate (or not).

Our findings also offer some insights for regulators, including financial standard setters. Currently, most advertising spending receives homogeneous reporting treatment: it is expensed as incurred. However, our evidence suggests that advertising is *heterogeneous* in its impact on firm performance and valuation, with DRA exhibiting the stronger effects. Such long-term effectiveness of DRA occurs for those firms, for which branding is least likely to be effective:

that is, firms with limited ability to differentiate their products. This finding suggests that users of financial statements would benefit from information that allows them to understand how firms are making advertising investments. Two potential regulatory implications thus arise from our findings. First, regulators can mandate increased disclosures by firms of their advertising spending. Second (and perhaps more radically), regulators can reconsider the general reporting framework for advertising; in particular, they can explore potential expansion of advertising that qualifies for capitalization.

The remainder of the paper is organized as follows. We first provide the theory and hypothesis development. We next discuss the data used in our analyses, followed by the research design. We then provide the descriptive statistics and primary empirical results. Finally, we overview the implications and conclusions.

### *THEORY AND HYPOTHESES*

Marketers have long argued that firms allocate resources to particular advertising to generate both short-term (e.g., improved product awareness, immediate sales increases) and long-term (e.g., brand enhancement, increased customer loyalty) impact (Lodish et al. 1995; Tellis 2004). The first effect occurs directly on current sales (e.g., McAlister et al. 2016), and the second occurs through both immediate and carryover effects on current and future sales (e.g., Joshi and Hanssens 2010). The short-term effects of advertising on sales have been extensively documented in the marketing literature (see e.g., Clarke 1976; Assmus, Farley and Lehmann 1984; Vakratsas and Ambler 1999; Hanssens 2015). Because the effect on future sales is reflected in the expected future cash flows, an interpretation of the long-term effect of advertising is that it influences firm value.

Several studies document the effect of firm's advertising on stock returns (e.g., Freider and Subrahmanyam 2005; Joshi and Hanssens 2010; Srinivasan et al. 2009; McAlister et al. 2016; Sridhar et al. 2016); these findings have been used as a basis to confirm that advertising influences both short-term and expected future sales. However, several studies fail to find an effect of advertising on firm value (Erickson and Jacobson 1992; Aaker and Jacobson 1994; and Tuli, Mukherjee and Dekimpe 2012). Critically, these latter studies link aggregate COMPUSTAT advertising data obtained from firms' financial reports to firm valuation measures; a notable exception is Sridhar et al. (2016), who use the Kantar AdSpender database to investigate the impact of media mix across online, regional, and national advertising.

With regard to the mechanisms through which advertising influences sales, the marketing literature takes the view that advertising informs, persuades, and reminds customers about the brand (Keller 2007). Advertising can result in acquisition of new customers, increased purchase quantities, and higher retention of current customers (Dekimpe and Hanssens 2007, p. 248). Overall, the findings of prior research strongly confirm that advertising positively affects both sales and firm value. However, these findings have generally been shown in the context of aggregate COMPUSTAT data. We extend the literature by using an alternative data source (Kantar AdSpender) to confirm previous findings regarding aggregate advertising data, and more importantly by exploiting the availability of more granular data within Kantar to understand the effects of two key types of advertising expenditures: direct response and brand advertising.

### *Direct Response Advertising (DRA) and Branding Advertising*

Advertising broadly is categorized into direct response and branding advertising (Fulgoni 2009; Pauwels and Hanssens 2016). Direct response advertising (DRA) directly aims at closing a sale to result in purchase conversion. A key feature of DRA is that a prospective customer is

urged to respond immediately and directly to the advertiser, through the use of a “device” provided in the advertisement (such as a toll-free phone number). To elicit a behavioral response from the customer from such advertising, the firm provides (i) a solicitation of a specific action(s), (ii) supporting information to encourage a decision, and (iii) a response device or mechanism to facilitate action (Bush and Bush 1990; Danaher and Green 1997). In contrast, for non-direct response advertising, usually labeled as branding advertising, it is typically difficult to establish who was exposed to the advertising, and whether the advertising led to an immediate sale. Branding advertising serves to differentiate a brand from its competitors in the minds of consumers by building brand awareness, consideration, liking, etc. and eventually (also indirectly) to purchase.

Table 1 outlines the key differences between DRA and branding advertising, including an assessment of their short-term versus long-term impact, which we will refer in our discussion below. Table 2 compares our study with previous research linking advertising to firm value.

[Insert Tables 1 & 2 About Here]

### *The Effects of Direct Response Advertising on Sales and Firm Value*

A growing body of literature shows that DRA is effective at eliciting immediate responses—that is, short-term effects. Tellis, Chandy, and Thainvanich (2000) find that DRA, where consumers see the ads for a service and call the toll-free number highlighted in the ads, stimulates direct response but its effects dissipate rapidly. Haans, Raassens, and van Hout (2013) show that some claims in text search ads are more effective for generating click-through (promoting the site), while others generate less traffic but are better at increasing conversions (persuading to buy). Internet advertising, a specific version of DRA, brings new visitors to the

web site via customer acquisition, encourages direct means of visitation over indirect means (Joo et al. 2014; Liaukonyte, Teixeira, and Wilbur 2014), and leads to a higher purchase probability among those who visit the website.

With regard to the long-term effects, we begin by outlining the findings from several studies, which examine online advertising's long-term sales effect. In a study of 1.6 million users, Lewis and Reiley (2014) find positive, sizeable, and significant persistent effects of online advertising on sales of a retailer with incremental revenues that are more than seven times the cost of the ads (via increased profit streams). Online DRA—measured in the number of exposures, Web sites, or pages—has also been shown to have a positive effect on customer retention and, thus repeat purchases (Manchanda et al. 2006). Recent evidence suggests that online advertising also positively impacts revenues and profits (e.g., Agarwal, Athey and Yang 2009; Agarwal, Hosanagar and Smith 2011). Sridhar et al. (2016) documents that online advertising has a stronger effect on firm value relative to national advertising. Since online advertising is a specific type of DRA, we expect DRA in general to have similar positive effects on future expected sales and hence firm value.

In terms of the mechanism, advertising spending through DRA could help acquire new customers, who are potentially retained with the firm for future periods, contributing to future revenue streams. Tracing the long-term benefit of advertising involves an assessment of customer lifetime value (CLV) and customer equity (Villanueva, Yoo, and Hanssens 2008; Wiesel, Skiera, and Villanueva 2008), i.e., the net present value of the discounted cash flows from the firm's customers. Collectively, we therefore predict:

*H1: Direct response advertising is positively related to current sales and firm value.*

## *The Effects of Branding Advertising on Sales and Firm Value*

There are at least three mechanisms by which branding advertising can influence sales. First, central to brand-building advertising is the notion that each advertising exposure moves the consumer through a sequence of events including cognition (awareness, knowledge), affect (liking) and behavior (sales). Recent literature documents that including the customer attitudinal metrics of awareness, consideration, and liking provides improved explanatory power in understanding the short- and long-term effects of branding advertising on sales (e.g., Srinivasan et al. 2010; Hanssens et al. 2014). Second, branding advertising can differentiate a brand from its competitors, and thus enhance product market performance (Aaker 1991; Lehmann and Keller 2006; Lodish et al. 1995). Finally, advertising can build intangible asset value (Joshi and Hanssens 2010; Madden, Fehle and Fournier 2006). McAlister et al. (2016) note that advertising by building a network of strong, positive, and unique brand associations can cause consumers to be less price sensitive, more responsive to the brand's marketing efforts, and thus increase short-term sales as well as the investors' expectations of future sales and hence firm value.

Since branding advertising is expected to be more effective at building such associations (Keller 2008) relative to other types of advertising, we expect this effect to hold for branding advertising. Recent research based on regional and national advertising, both of which tend to be more branding related (Fulgioni 2009), shows that both have positive effects on the market value of a firm (Sridhar et al. 2016). In addition, branding advertising acts as a signal of the firm's financial well-being (Gifford 1997; Mathur, Mathur, and Rangan 1997; Mathur and Mathur 2000). Thus, investments in branding advertising can lead to enhanced brand equity (Barth et al. 1998; Rao et al. 2004), and thus expectations of both increased current sales, as well as longer term effects on future sales and cash flows, and thus firm value. We therefore hypothesize:

*H2: Branding advertising is positively related to current sales and firm value.*

### *The Moderating Role of Firm Strategy*

To explore the differential impact of DRA and branding advertising for firms with different strategies, we begin by understanding the fundamental distinction between differentiators and cost leaders. We argue that differentiators are focused on meeting specific customer needs through products (and brands) that uniquely meet these needs and with their unique benefits being communicated to target customers (e.g., McAlister et al. 2016). Branding advertising essentially serves to differentiate the firm's offering in consumers' minds. The network of positive associations enhances the brand's evaluation in the consumer's mind, which in turn engenders brand loyalty and wards off competitive inroads into future sales. In addition, for differentiators, branding advertising serves to build intangible assets that have been linked to firm value (Barth et al. 1998; Rao, Agarwal and Dalhoff 2004). Consequently, we expect that branding advertising outperforms DRA in terms of current sales and firm value *for differentiators*.

In contrast, for cost leaders, who produce standard, undifferentiated products, cost efficiency in all aspects of operations is the source of competitive advantage, such as through production, supply chain, advertising, and/or sales force. Since cost leaders tend to have undifferentiated products, branding advertising—which emphasizes building of strong, positive and unique brand associations—should be less effective both in terms of current sales and long-term future sales. Critically, the link between branding advertising to firm value through the creation of intangible brand assets (Barth et al. 1998) should matter less for firms with undifferentiated products.

In contrast, we expect that DRA—which is an efficient way to acquire, increase purchase probabilities, and retain customers, even for undifferentiated commodity products—is more effective for cost leaders. Cost leaders seek to drive a high volume of conversions as efficiently as possible.<sup>1</sup> Thus, we expect that DRA outperforms branding advertising in terms of current sales and expected sales impact *for cost leaders*. Overall, we expect that the differential impact of DRA versus branding advertising for cost leaders is greater than it is for differentiators.

Therefore we propose:

*H3: The differential impact of DRA versus branding advertising on sales and firm value is greater for cost leaders than it is differentiators.*

[Insert Figure 1 About Here]

## DATA DESCRIPTION

We source the advertising data from Kantar Media’s Ad\$ponder database, and the financial performance data from Compustat. Kantar collects firm-level advertising expenditures across twelve media vehicles: TV, including cable, network, spot, and syndicated; radio, including national spot, network; print, including magazines, Sunday magazines, newspapers, national newspapers; Internet display; and outdoor. For each of these twelve media vehicles, Kantar breaks out the portion spent on direct-response advertising (DRA). Thus, we aggregate this measure across the twelve media vehicles, to derive a measure of total firm DRA. Related, we assign the portion of total Kantar advertising spending that is not designated as DRA to be

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<sup>1</sup> See the following: <https://support.google.com/partners/answer/2740627?hl=en>

branding advertising—that is, any advertising not specifically attributed as DRA is classified as branding.

Kantar provides a data set with 641,312 firms, covering the period 2010-2014; most of these firms are smaller, private firms. We identify those that are publicly-listed on a US stock exchange; this yields a sample of 2,589 firms. We then merge the Kantar advertising data with the related Compustat data on financial performance and control variables used in our models.

[Insert Table 3 About Here]

Finally, we exclude firms not having December 31 fiscal year ends. We justify this latter sample selection criteria, as Kantar’s data corresponds to calendar years; thus, our selection ensures that all sample firms are subject to the same (temporal) industry conditions (e.g., Jones 2007; Dao, Raghunandan, and Rama 2012; Bayer, Tuli, and Skiera 2017). Our final unbalanced panel data set comprises 8,237 firm-year observations for 1,817 firms over 2010-2014, and covers all 10 SIC segments.<sup>2</sup>

#### *Dependent Variables: Tobin’s q and Sales*

*Sales.* We use current-period sales ( $t$ ) to measure firm performance. This variable allows us to assess the immediate effects of advertising expenditures (e.g., Lodish et al. 1995).

*Tobin’s q.* Following prior research, we use Tobin’s  $q$  as a measure of firm valuation, as it captures both a firm’s market value and possible effects of changes in intangible assets resulting from advertising expenditures (McAlister et al. 2016; Sridhar et al. 2016).

Furthermore, Tobin’s  $q$  is a forward-looking, risk-adjusted, and cumulative measure that incorporates short- and long-term effects of firms’ advertising expenditures (e.g., Mittal et al.

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<sup>2</sup> Not restricting our analyses to a selection of economic sectors allows us to make general statements about the differential effects of direct-response and branding advertising in the economy.

2005). In addition (and of particular relevance for this multi-industry study), Tobin's  $q$  is unaffected by accounting conventions, industry specifics, or differences in firms' organizational goals (Montgomery and Wernerfelt 1988).

### *Advertising Expenditures*

*Compustat's Advertising Expenditures.* To benchmark our more granular Kantar advertising data, we first use the commonly-employed total reported advertising expenditures (Compustat data item: XAD) per year.

*Kantar's Advertising Expenditures.* Kantar collects annual advertising expenditures for a large array of firms by monitoring the firms' advertising activities. Thus, the key difference between Kantar's Ad\$penders data and Compustat's advertising expenditures is that the former is obtained through a systematic monitoring of firms' advertising activities in different media vehicles, while the latter is obtained from the firm's financial reporting statements.

*Kantar's Direct-Response Advertising (DRA) Expenditures.* From a firm's total advertising expenditures, Kantar breaks out the portion designated as direct-response advertising (DRA). To qualify as direct-response advertising, the respective commercial (i) must be actively selling something, (ii) the product or service must be sold directly from the advertiser to the consumer by way of a telephone number, mail order address, business reply card, web site (hotspot to click), or coupon to cut and mail, and (iii) the consumer does not have to go to a store to purchase the product or service. Our measure of direct-response advertising considers complete internet display advertising expenditures, because of its inherent "call to action" (i.e., to click), which leads the consumer to a landing page on which the advertiser's products or services can be purchased. This characteristic makes all internet display advertisements direct-response ads in one way or the other.

*Kantar's Branding Advertising Expenditures*. We designate the difference between Kantar's total advertising expenditures and Kantar's DRA expenditures as Kantar's branding advertising expenditures. This procedure follows both research (Pauwels and Hanssens 2016) and practice (e.g., Bergen 2014).

## RESEARCH METHODOLOGY

To test the proposed hypotheses, we estimate three models for each of our two dependent variables of sales and Tobin's q: (i) the effect of Compustat's (total) advertising expenditures; (ii) the effect of Kantar's (total) advertising expenditures; and (iii) the effects of Kantar's disaggregated DRA and branding advertising expenditures (which is the primary focus of our analyses). Comparison of (i) and (ii) allows us to assess the mapping of the Kantar's advertising expenditures to sales and Tobin's q by benchmarking the Kantar data to the more commonly-employed Compustat's advertising expenditures, and (iii) allows us to assess the relative effects of DRA versus branding advertising.

We require models to make inferences about the wide population of firms in our sample. Since we do not expect a common effect of the size of advertising expenditures across all firms of our multi-industry sample, we use a random-effects model to estimate the mean of the effects across firms (Borenstein et al. 2009). In addition, our models need to address two critical concerns. First, we wish to isolate the effect of advertising expenditures on the dependent variables beyond variables previously shown to influence firms' valuation and sales. Accordingly, we use multiple control variables established in prior literature, as well as year-specific indicator variables to account for time trends in each of our models. Table 3 outlines all the control variables, their measures, data sources and supporting literature.

Second, the choice of advertising spending is endogenous, and likely depends on observable factors like current performance (i.e., profit), as well as unobservable factors potentially correlated with the error term; that is, firms' decisions about advertising expenditures may be endogenous to firm valuation and sales (Sridhar et al. 2016). Accordingly, we follow Sridhar et al. (2016) and employ a control function approach with exclusion restrictions to correct for a potential endogeneity bias. In particular, we include the predicted residuals from auxiliary regressions as controls in the main models.

Thus, our three models for which current period sales is the dependent variable are (the focal independent variables are bolded):

- (1)  $Sales_{i,t} = \alpha_{0i} + \beta_1 \mathbf{XAD}_{i,t} + \beta_2 Lev_{i,t} + \beta_3 Size_{i,t} + \beta_4 IndGrow_{i,t} + \beta_5 IndConc_{i,t} + \beta_6 IndTurb_{i,t} + \beta_7 XAD\_Resid_{i,t} + \beta_8 Year_t + u_{i,t}$
- (2)  $Sales_{i,t} = \alpha_{0i} + \beta_1 \mathbf{KantarAdv}_{i,t} + \beta_2 Lev_{i,t} + \beta_3 Size_{i,t} + \beta_4 IndGrow_{i,t} + \beta_5 IndConc_{i,t} + \beta_6 IndTurb_{i,t} + \beta_7 KantarAdv\_Resid_{i,t} + \beta_8 Year_t + u_{i,t}$
- (3)  $Sales_{i,t} = \alpha_{0i} + \beta_1 \mathbf{DRA}_{i,t} + \beta_2 \mathbf{Branding}_{i,t} + \beta_3 Lev_{i,t} + \beta_4 Size_{i,t} + \beta_5 IndGrow_{i,t} + \beta_6 IndConc_{i,t} + \beta_7 IndTurb_{i,t} + \beta_8 DRA\_Resid_{i,t} + \beta_9 Branding\_Resid_{i,t} + \beta_{10} Year_t + u_{i,t}$

The three models for which Tobin's q is the dependent variable follow; again the experimental variables are bolded. These are similar to the Sales models; however, they include profit as an independent variable, which is not viewed as a predictor of current sales (McAlister et al. 2016):

- (4) Tobin's  $q_{i,t} = \alpha_{0i} + \beta_1 \mathbf{XAD}_{i,t} + \beta_2 \text{Lev}_{i,t} + \beta_3 \text{Profit}_{i,t} + \beta_4 \text{Size}_{i,t} + \beta_5 \text{IndGrow}_{i,t} + \beta_6 \text{IndConc}_{i,t} + \beta_7 \text{IndTurb}_{i,t} + \beta_8 \text{XAD\_Resid}_{i,t} + \beta_9 \text{Year}_t + u_{i,t}$
- (5) Tobin's  $q_{i,t} = \alpha_{0i} + \beta_1 \mathbf{KantarAdv}_{i,t} + \beta_2 \text{Lev}_{i,t} + \beta_3 \text{Profit}_{i,t} + \beta_4 \text{Size}_{i,t} + \beta_5 \text{IndGrow}_{i,t} + \beta_6 \text{IndConc}_{i,t} + \beta_7 \text{IndTurb}_{i,t} + \beta_8 \text{KantarAdv\_Resid}_{i,t} + \beta_9 \text{Year}_t + u_{i,t}$
- (6) Tobin's  $q_{i,t} = \alpha_{0i} + \beta_1 \mathbf{DRA}_{i,t} + \beta_2 \mathbf{Branding}_{i,t} + \beta_3 \text{Lev}_{i,t} + \beta_4 \text{Profit}_{i,t} + \beta_5 \text{Size}_{i,t} + \beta_6 \text{IndGrow}_{i,t} + \beta_7 \text{IndConc}_{i,t} + \beta_8 \text{IndTurb}_{i,t} + \beta_9 \text{DRA\_Resid}_{i,t} + \beta_{10} \text{Branding\_Resid}_{i,t} + \beta_{11} \text{Year}_t + u_{i,t}$

For Equations (1) – (6), the variables are defined as:

$\text{Sales}_{i,t}$	= Sales of firm $i$ for the year $t$
Tobin's $q_{i,t+1}$	= Tobin's $q$ of firm $i$ for the year $t$
$\text{XAD}_{i,t}$	= Compustat's advertising expenditures (Compustat Data Item XAD) of firm $i$ for the year $t$
$\text{KantarAdv}_{i,t}$	= Kantar's advertising expenditures of firm $i$ for year $t$
$\text{DRA}_{i,t}$	= Kantar's direct-response advertising expenditures of firm $i$ for year $t$
$\text{Branding}_{i,t}$	= Kantar's branding advertising expenditures of firm $i$ for year $t$
$\text{Lev}_{i,t}$	= Financial leverage of firm $i$ at the end of year $t$
$\text{Size}_{i,t}$	= Size of firm $i$ at the end of year $t$
$\text{IndGrow}_{i,t}$	= Sales growth in industry indicated by firm $i$ 's four-digit SIC code in year $t$
$\text{IndConc}_{i,t}$	= Concentration in industry indicated by firm $i$ 's four-digit SIC code in year $t$
$\text{IndTurb}_{i,t}$	= Turbulence in industry indicated by firm $i$ 's four-digit SIC code in year $t$
$\text{XAD\_Resid}_{i,t}$	= Residual from the auxiliary regression pertaining to Compustat's advertising expenditures of firm $i$ for the year $t$
$\text{KantarAdv\_Resid}_{i,t}$	= Residual from the auxiliary regression pertaining to Kantar's advertising expenditures of firm $i$ for the year $t$
$\text{DRA\_Resid}_{i,t}$	= Residual from the auxiliary regression pertaining to Kantar's direct-response advertising expenditures of firm $i$ for the year $t$
$\text{Branding\_Resid}_{i,t}$	= Residual from the auxiliary regression pertaining to Kantar's branding advertising expenditures of firm $i$ for the year $t$
$\text{Year}_t$	= Indicator variable for year $t$
$u_{i,t}$	= Random error term of firm $i$ for the year $t$

Finally, we split our sample into two groups: differentiators and cost leaders (see McAlister et al. 2016). We classify as “differentiators” those firms, which disclose its advertising expenditures in Compustat (Compustat data item: XAD); those firms, which do not disclose their advertising on Compustat are designated as “cost leaders.” This logic relies on the accounting regulation FRR44 (Securities and Exchange Commission 1994), which requires those

firms, for which advertising is “material”<sup>3</sup>, to disclose their advertising expenditures. Thus, we infer that firms which consider advertising to be material to their strategy to be differentiators, whereas firms which do not consider advertising to be material to be cost leaders (McAlister et al. 2016).

We use Equations (1) and (4) to confirm the findings of prior research using aggregate Compustat advertising: we expect positive coefficients on XAD in both regressions. We use Equations (2) and (5) to validate that the aggregate Kantar advertising data provides similar associations to the aggregate Compustat advertising data: that is, we use these regressions to validate the Kantar advertising data as consistent with the Compustat advertising data.

Under H<sub>1</sub>, we predict in Equations (3) and (6) a positive coefficient on DRA (i.e.  $\beta_1 > 0$ ); that is, DRA should have a positive association with both performance (sales) and valuation (Tobin’s q). Under H<sub>2</sub>, we also predict positive coefficients on Branding (i.e.,  $\beta_2 > 0$ ) for both equations; that is, Branding advertising should also have a positive association with both future sales and firm valuation. Finally, under H<sub>3</sub>, we predict that any differential impact of DRA versus branding advertising on sales and firm value is greater for cost leaders than for differentiators.

In addition, the above Equations (1) – (6) include auxiliary regressions, which are used to correct for a potential endogeneity bias. In particular, the auxiliary regressions use the advertising variables as dependent variables, and require a new variable which correlates with each of our four advertising variables, but does not directly correlate with unobserved determinants of sales and Tobin’s q (for detailed description of our approach see Petrin and Train

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<sup>3</sup> An item is material if there is “substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the ‘total mix’ of information made available.” (Securities and Exchange Commission (1999, pp. 2–4).

2010). Following Sridhar et al. (2016), we use the average advertising expenditures by other firms in the same four-digit SIC code as the excluded variable (see also Lev and Sougiannis 1996).

The identifying assumption is that the industry's overall average advertising expenditures do not correlate with firm-specific performance shocks, but are highly correlated with our four advertising variables (Sridhar et al. 2016).<sup>4</sup> Adding the predicted residuals from the auxiliary regressions mitigates potential endogeneity, as the retained independent variables should no longer correlate with the error terms in Equations (1) – (6). The following shows the auxiliary regressions, where the suffix *\_IndAvg* identifies the industry average of the respective advertising variable (for results see Web Appendix A):

$$(7) \quad XAD_{i,t} = \alpha_{0i} + \beta_1 XAD\_IndAvg_{i,t} + \beta_2 Lev_{i,t} + \beta_3 Profit_{i,t} + \beta_4 Size_{i,t} + \beta_5 IndGrow_{i,t} + \beta_6 IndConc_{i,t} + \beta_7 IndTurb_{i,t} + \beta_8 Year_t + u_{i,t}$$

$$(8) \quad KantarAdv_{i,t} = \alpha_{0i} + \beta_1 KantarAdv\_IndAvg_{i,t} + \beta_2 Lev_{i,t} + \beta_3 Profit_{i,t} + \beta_4 Size_{i,t} + \beta_5 IndGrow_{i,t} + \beta_6 IndConc_{i,t} + \beta_7 IndTurb_{i,t} + \beta_8 Year_t + u_{i,t}$$

$$(9) \quad DRA_{i,t} = \alpha_{0i} + \beta_1 DRA\_IndAvg_{i,t} + \beta_2 Lev_{i,t} + \beta_3 Profit_{i,t} + \beta_4 Size_{i,t} + \beta_5 IndGrow_{i,t} + \beta_6 IndConc_{i,t} + \beta_7 IndTurb_{i,t} + \beta_8 Year_t + u_{i,t}$$

$$(10) \quad Branding_{i,t} = \alpha_{0i} + \beta_1 Branding\_IndAvg_{i,t} + \beta_2 Lev_{i,t} + \beta_3 Profit_{i,t} + \beta_4 Size_{i,t} + \beta_5 IndGrow_{i,t} + \beta_6 IndConc_{i,t} + \beta_7 IndTurb_{i,t} + \beta_8 Year_t + u_{i,t}$$

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<sup>4</sup> For an extensive discussion of the industry's overall average advertising expenditures as excluded variable, see Sridhar et al. (2016).

## RESULTS

### *Descriptive Statistics*

Table 4 shows the number of firms in each economic sector for both the total sample and disclosers only, revealing a wide representation across all sectors, with the exception of the Utilities sector. Table 5 presents descriptive statistics for all variables used in our models, presented separately for the full sample and the differentiator sub-sample (i.e., those firms that disclose their advertising expenditures). On average, the sample firms have moderate leverage (*Financial Leverage* = 0.201) are profitable (*Profit* = 0.036), and moderately sized (*Firm Size* = 7.391, or approximately \$25 billion in total assets). Figure 2 shows expenditures on advertising, in \$ billions. It reveals that Kantar's advertising expenditures capture slightly less than half of advertising expenditures reported by firms in their business reports. The share of Kantar's direct-response advertising expenditures at total Kantar advertising expenditures varies between 11.5% to 14%. More precisely, the share of direct response at total advertising expenditures is in 2010: 12.4%; 2011: 14.0%; 2012: 12.8%; 2013: 13.2%; 2014: 11.5%.

Table 6 presents the Pearson correlations for the regression variables. All four advertising variables (Compustat aggregate advertising, Kantar aggregate advertising, and Kantar DRA and branding advertising) have significantly positive univariate associations with Tobin's q.

[Insert Tables 4, 5 and 6 and Figure 2 About Here]

### *Primary Empirical Results*

Table 7 presents the results of our regressions examining the effect of advertising on sales in Columns (1) – (3) and on firm valuation using Tobin's q in Columns (4) – (6). First, we

confirm the findings of prior research. In particular, we document that Compustat advertising (XAD) is significantly positively associated with sales in Column (1) (coefficient = 0.722,  $p < 0.01$ ), as well as with firm valuation in Column (4) (coefficient = 0.339,  $p < 0.01$ ). Next, we validate the aggregate Kantar advertising data. In particular, we find that—similar to the Compustat advertising—total Kantar advertising (KantarAdv) has significantly positive associations with both sales in Column (2) (coefficient = 1.073,  $p < 0.01$ ), and firm valuation in Column (5) (coefficient = 0.511,  $p < 0.01$ ).

We next turn to the tests of our hypotheses. First, we assess  $H_1$ : whether direct-response advertising (DRA) is positively associated with firm sales and valuation. In Column (4), we find a significantly positive coefficient on DRA (coefficient = 4.088,  $p < 0.01$ ), confirming DRA has a positive association with sales. In Column (6), we also find that the coefficient on DRA is significantly positive (coefficient = 2.723,  $p < 0.01$ ), confirming DRA has a positive association with firm valuation, as measured by Tobin's  $q$ . Overall, these findings provide support for  $H_1$ .

Next, we assess  $H_2$ : whether branding advertising is positively associated with firm sales and valuation. Again in Column (4), we find that the coefficient on Branding is significantly positive (coefficient = 1.020,  $p < 0.01$ ), suggesting branding advertising has a positive association with sales. In Column (6), we further find a significantly positive coefficient on Branding (coefficient = 0.469,  $p < 0.05$ ), consistent with branding advertising also having a positive effect on firm valuation. Overall, these findings support  $H_2$ .

As an additional analysis, we also examine whether DRA exhibits a differential effect relative to branding advertising on sales and firm valuation. We first examine this relation for sales. At the bottom of Column (3), we find that the coefficient on DRA (4.088,  $p < 0.01$ ) is significantly larger than that for Branding (1.020,  $p < 0.01$ ) with  $\chi^2(1) = 17.51$  ( $p < 0.01$ ); this

finding suggests DRA has relatively larger effects on sales compared to branding advertising. Next, we examine this relation for Tobin's q. At the bottom of Column (6), we find that the coefficient on DRA (2.723,  $p < 0.01$ ) is also significantly larger than that for Branding (0.469,  $p < 0.05$ ) with  $\chi^2(1) = 5.65$ ,  $p < 0.05$ ; this suggests that DRA also exhibits larger effects on firm valuation (i.e., Tobin's q) than branding advertising.

Finally, we assess H<sub>3</sub>: whether any relative effects of DRA versus branding are larger for cost leaders than for differentiators. Table 8 Panel A presents the results using sales as the dependent variable. Of note, we find the difference in the effect of DRA versus branding for cost leaders in Column (5) ( $6.442 - 0.612 = 5.830$ ) is significantly larger than the same difference for differentiators in Column (3) ( $2.830 - 1.331 = 1.449$ ); this relative difference is marginally significant ( $\chi^2(1) = 2.86$ ,  $p < 0.10$ ). This finding suggests that the positive effects of DRA on sales are relatively larger than the positive effects of branding advertising for cost leaders, relative to differentiators. This finding is intuitive: since cost leaders are unable to differentiate themselves, DRA is more effective at generating sales.

Table 8 Panel B presents similar results, now using Tobin's q as the dependent variable. As above, we continue to find that the difference in the effect of DRA versus branding for cost leaders in Column (5) ( $3.065 - 0.444 = 2.621$ ) is significantly larger than the same difference for differentiators in Column (3) ( $2.427 - 0.461 = 1.966$ ); however, this relative difference is insignificant ( $\chi^2(1) = 0.10$ , n.s.). Overall, the findings of Table 8 provide some evidence that DRA is more effective than branding advertising for cost leaders relative to differentiators; this finding provides limited support for H<sub>4</sub>.

[Insert Tables 7 & 8 About Here]

### *Control Variables*

We next confirm that the control variables operate as expected from the prior literature. We first examine the effects of firm characteristics on sales (Table 7). Consistent with economics of scope and scale (Panzar and Willig 1977), we find that size has a positive effect on sales for all three models. We further find that leverage also is positively associated with sales, consistent with it acting as a source of capital to fund growth (McAlister et al. 2016). Regarding industry characteristics, industry growth has the predicted positive effect on sales (McDougall et al. 1994), as firm sales are expected to grow in such markets. Similarly, industry concentration also has a positive effect on sales, which is consistent with concentrated markets being characterized by greater market power.

We next turn to the valuation model using Tobin's  $q$ . With respect to firm characteristics, profit has the predicted positive impact on firm value (Kothari 2001; Srinivasan et al. 2009). Leverage, which should positively influence firm valuation through signaling and/or lower cost of capital also attains the predicted positive effect. Size has a negative impact on firm value, consistent with "size" effects documented in both finance (Schwert 1983) and marketing (McAlister et al. 2016). Industry growth is positively associated with firm value, since such industries offer superior opportunities to the firm (McDougall 1994). Finally, industry concentration is positively related to firm value, given the greater market power (Hirschey and Weygandt 1985).

Overall, the results on the control variables for both sales and firm valuation confirm expectations based on previous research.

## ADDITIONAL ANALYSES

We next conduct analyses to understand the differential effects of DRA and branding advertising. Specifically, we examine (i) whether a likely moderator—technology firms—helps to explain this differential effect, and (ii) whether branding may provide a necessary antecedent for DRA to be effective. While there is economic intuition underlying both analyses, we view them as exploratory in nature.

### *Technology Firms as a Moderator*

We first examine whether our previous findings can be attributed, in part, by firms being within the technology sector. In particular, prior research suggests that investors' valuation of technology firms may differ from that of non-technology firms (Pastor and Veronesi 2007; Jacobson and Mizik 2009). Accordingly, we re-estimate our Table 8 analyses examining the role of differentiators versus cost leaders by introducing an additional and interacted moderator: technology. We designate firms as technology (Tech) if the firms are in the Information technology sector, as defined by Global Industry Classification Standard (GICS),<sup>5</sup> otherwise, they are designated as non-technology firms (Non-Tech). We then assess the differential role of DRA versus branding advertising within firms designated as technology versus those designated as non-technology.

Table 9 presents the results. We focus first on differentiators in Columns (1) (dependent variable of sales) and (3) (dependent variable of Tobin's q). In Column (1), we find that DRA is significant for both technology and non-technology firms; the effect of branding is insignificant.

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<sup>5</sup> This includes 1) Software and Services, 2) Technology Hardware and Equipment, and 3) Semiconductors and Semiconductor Equipment.

In Column (3), we find that the effect of DRA is significant only for non-technology firms; while the effect of branding is significant only for technology firms. This finding suggests that branding advertising plays a major role in firm valuation primarily for the technology firms. We next focus on cost leaders in Columns (2) (dependent variable of sales) and (4) (dependent variable of Tobin's q). In both columns, we find that DRA is significant only for technology firms; the effect of DRA for the non-technology firms is positive, though not statistically significant.

Overall, these analyses provide evidence that the larger effect of DRA on firm valuation relative to branding appears driven (at least in part) by cost leader *technology* firms.

#### *Branding as an Antecedent to DRA Effectiveness*

Our final analyses examine whether branding advertising acts as an antecedent to the observed positive effects of DRA. That is, we conduct analyses to assess whether branding advertising is a necessary condition for DRA effectiveness on firm sales and valuation.<sup>6</sup> This approach follows from prior research that brand awareness and/or brand familiarity, created through branding advertising, are necessary conditions for driving DRA effectiveness in the form of purchase conversions (Ilfeld and Winer 2002; Ghose and Yang 2010; Pauwels et al. 2016). Accordingly, we again re-estimate our Table 7 analyses examining the effect of advertising on sales and on firm valuation using Tobin's q, now controlling for firms' previous investment in branding advertising. To proxy for the previous investment in branding, we include two lags of branding advertising.

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<sup>6</sup> We also tested for the presence of synergy between DRA and branding advertising by including an interaction term between them but did not find a significant interaction effect.

Our choice of two lags to capture the investment in branding trades off allowing for sufficient time for the branding to be effective, and the loss of data that arises from including the lagged effects (which reduces power in our regressions, and is noteworthy due to a short time series of observations). If branding is a necessary condition for DRA effectiveness, then we expect that the positive effects of DRA will be mitigated (or even subsumed) by firms' previous branding advertising.

Table 10 presents the results, with a structure similar to Table 7. We first discuss results for the effect of DRA on sales and Tobin's q in Columns (1) and (2). Of note, once we include lagged branding, we find evidence that DRA has a smaller effect on both sales and Tobin's q. Specifically, in Column (1) the significantly positive effect (3.358) of DRA on sales is smaller than that of DRA (4.088) previously reported in Table 7. In Column (2), the effect of DRA (2.210) on Tobin's q is also smaller than the coefficient for DRA (2.723) reported in Table 7. In Columns 1 and 2, both DRA and branding are significantly positive; of note, the effect of DRA is significantly larger than branding only for sales; this difference is not significant for valuation.

Overall, these results provide some evidence that controlling for firms' previous branding advertising decreases the magnitude of the relatively strong effects of DRA on sales and valuation. This finding is consistent with branding acting as a likely antecedent for DRA effectiveness for many firms—particularly differentiators.

#### *GENERAL DISCUSSION, CONCLUSION, AND FUTURE RESEARCH*

In 2016, advertising expenditures worldwide are expected to be around \$ 600 billion, driven by growth in (digital) direct response advertising (eMarketer 2016). With so much money spent on advertising every year, managers place an understandable priority on determining the return for their advertising dollars. This paper provides several key empirical insights on this important

managerial problem. First, it documents that direct response advertising (DRA) and branding advertising each exhibit a positive association with short-term sales performance and longer-term valuation (proxied via Tobin's q). Collectively, the latter results confirm that both types of advertising increase sales and market perceptions of longer-term value. Second, the paper also documents a stronger positive association for DRA on both sales and Tobin's q relative to branding advertising. Third, the paper provides evidence that the more positive effects of DRA relative to branding advertising are stronger for cost leader relative to differentiator firms. This finding provides useful intuition, by confirming that the stronger short-term and longer-term effectiveness of DRA occurs for those firms, for which branding is least likely to be effective: that is, firms with limited ability to differentiate their products. Additional analyses provide further clarification: in particular, we provide evidence that the stronger effects of DRA relative to branding are concentrated in technology firms, and more importantly, that branding advertising appears to act as an antecedent for DRA to be effective.

These findings have implications for managers and users of financial statements. Our findings are relevant to managers as they suggest that DRA and branding advertising differ in their effectiveness on firm performance and valuation. Critically, our findings further suggest that the firm's source of competitive advantage - cost leader or differentiator- has a significant impact on the relative effectiveness of advertising. This finding has implications for how managers make advertising investment decisions, as it confirms that firms should match the type of advertising to the ability to differentiate (or not). Similarly, these findings suggest that users should be cognizant of the considerable variation in how advertising maps into firm performance and valuation. Because there is a general lack of information from firms on the type or extent of

their advertising activities, this finding suggests potential benefits from efforts to obtain and analyze firm advertising categories.

Our findings also offer some insights for regulators, including financial standard setters. Currently, most advertising spending receives homogeneous reporting treatment: it is expensed as incurred. In addition, firms (generally) provide only limited disclosures on how total advertising spending is allocated across various categories: in fact, the majority of firms provide *no* information. This suggests that voluntary disclosure—an information channel that is always available to firms—has not been widely embraced as a means to provide this information. However, our evidence suggests that advertising is *heterogeneous* in its impact on firm performance and valuation, with DRA exhibiting the stronger effects. Such long-term effectiveness of DRA occurs for those firms, for which branding is least likely to be effective: that is, firms with limited ability to differentiate their products.

It also appears to be the case that branding advertising builds firm value only for differentiator firms (i.e. disclosers). That is, it appears that differentiator firms strategically disclose their advertising if their branding advertising works. Our findings suggest that users of financial statements would benefit from information that allows them to understand how firms are making advertising investments. Two potential regulatory implications thus arise from our findings. First, regulators can mandate increased disclosures by firms of their advertising spending. Second (and perhaps more radically), regulators can reconsider the general reporting framework for advertising; in particular, they can explore potential expansion of advertising that qualifies for capitalization. Currently, while limited mechanisms allow for capitalization of advertising, the vast majority of reported advertising is expensed as incurred.

Of note, DRA is precisely the type of advertising, which increases the firm's ability to identify and measure three key characteristics that support the case for capitalization: attribution, conversion, and longer-term effects. This support for capitalization, coupled with the recent dramatic shift towards of aggregate advertising towards DRA-type media (such as the rise of online advertising), suggests an increasing portion of firms' advertising expenditures may satisfy the criteria for capitalization. We further contend that moving DRA and branding advertising (in particular for differentiators) from an income statement to a balance sheet would allow for a better representation of the firm's asset base. This move would help reinforce the C-suite executive view of DRA and branding advertising in creating intangible value; when these two expenditures are cut back, it can result in negative effects on shareholder value creation.

We note that these findings are subject to several limitations. Of primary consideration, the Kantar advertising data is derived from advertising outlets, as opposed to from company-sourced disclosures. This paper provides some validation of the Kantar data, by demonstrating that the aggregated Kantar advertising performs similarly to the Compustat advertising (which is also an aggregated amount). However, future research can consider other ways to further validate the Kantar data.

Another key consideration is that our designations of the granular Kantar fields as DRA versus branding reasonably capture the economic distinction of these two broad categories of advertising expenditures. Future research can consider alternative methods to partition the data into these groupings, as well as to examine how the individual advertising media affect firm performance and valuation. Finally, our paper provides only limited evidence regarding the joint effects of DRA and branding advertising. However, it does suggest that there are (i) potential

joint effects of DRA and branding and (ii) that branding may be a necessary antecedent for DRA to be effective. Future work can further explore these possibilities.

In conclusion, we show that DRA and brand advertising expenditures are positively related to sales and firm valuation and provide evidence that the more positive effects of DRA relative to branding advertising are stronger for cost leader relative to differentiator firms and in technology firms. We hope this work stimulates further research relating the types of advertising to shareholder value creation and in identifying the moderators and mechanisms by which advertising influences firm value.

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Table 1  
DESCRIPTION OF DIRECT RESPONSE ADVERTISING  
AND BRANDING ADVERTISING

<b>Features</b>	<b>Direct Response Advertising</b>	<b>Branding Advertising</b>
<i>Key Features</i>	<p>Firm provides</p> <ul style="list-style-type: none"> <li>(i) a solicitation of a specific action(s)</li> <li>(ii) supporting information to encourage a decision</li> <li>(iii) a response device or mechanism to facilitate action (Bush and Bush 1990; Danaher and Green 1997)</li> </ul> <p>Direct response advertising <i>directly</i> aims at closing a sale, resulting in <i>conversion</i></p>	<p>Firm does <i>not</i> provide</p> <ul style="list-style-type: none"> <li>(i) a solicitation of a specific action(s),</li> <li>(ii) supporting information to encourage a decision</li> <li>(iii) a response device or mechanism to facilitate action</li> </ul> <p>Branding advertising is an investment in a brand's value proposition in the minds of consumers, and potentially indirectly leading to sales</p>
<i>Nature of Targeting</i>	Individual targeting of addressable customers (Hanssens 2003)	Typically mass targeting of nonaddressable customers (Hanssens 2003)
<i>Attribution</i>	Responses can be attributed to specific advertising	Inability to link particular advertising to a customer
<i>Short-term Impact Assessment</i>	Short-run impact is straightforward to assess with conversion. Individual metrics include click-through, online purchase conversion, telephone conversions, toll-free inquiries, etc.	Short-term impact is difficult to assess due to lack of one-to-one link between exposure and purchases. Aggregate metrics (sales, revenues, and market share) may be used
<i>Long-term Impact Assessment</i>	Long-term impact is measured using acquisition rates, retention rates, customer lifetime value, and customer equity (the discounted sum of profits generated over the lifetime of customers, net of costs)	Long-term impact is measured through long-term revenue and intermediate customer mindset metrics such as awareness, stated preference purchase intention, etc. (provided the link with subsequent revenue can be established)

Table 2  
COMPARISON WITH RESEARCH LINKING ADVERTISING TO FIRM VALUE

<i>Advertising Source</i>	<i>Advertising Characteristics</i>	<i>Illustrative Studies</i>	<i>Substantive Insights</i>
Compustat	Aggregate Advertising Spending	<ul style="list-style-type: none"> <li>- Frieder and Subrahmanyam (2005)</li> <li>- Grullon et al. (2004)</li> <li>- Joshi and Hanssens (2010)</li> <li>- Barth et al. (1998)</li> <li>- Luo and Donthu (2006)</li> <li>- Mathur, Mathur and Rangan (1997)</li> <li>- Gifford (1997)</li> <li>- Grullon, Kanatas, and Weston (2006)</li> <li>- McAlister et al. (2007)</li> <li>- McAlister et al. (2016)</li> </ul>	<ul style="list-style-type: none"> <li>- Advertising directly affects stock returns beyond the indirect effect of lifting sales revenues and profits. Advertising will have a direct effect on firm value through two mechanisms: spillover and signaling.</li> <li>- Investors, cognizant of the benefits of increased advertising through enhanced brand equity, look beyond a firm's current cash flows and translate the long-term effects of advertising into firm valuation.</li> <li>- Advertising signals the firm's financial well-being or competitive viability.</li> <li>- Firms that raise significant amounts of equity capital increase their advertising relative to firms with higher financial leverage.</li> <li>- Advertising lowers systematic market risk.</li> <li>- Advertising impact is moderated by firm strategy; the impact of advertising varies across differentiators versus cost leaders.</li> </ul>
Scott Levin/IMS	Pharma DTCA	<ul style="list-style-type: none"> <li>- Osinga et al. (2011)</li> </ul>	<ul style="list-style-type: none"> <li>- Advertising lowers systematic market risk while increasing idiosyncratic risk.</li> </ul>
Kantar Ad\$Spender	Brand advertising data (TNS)  Media advertising by firm (online, regional, national)	<ul style="list-style-type: none"> <li>- Srinivasan et al. (2009)</li> <li>- Sridhar et al. (2016)</li> </ul>	<ul style="list-style-type: none"> <li>- Communicating the differentiated added value created by product innovation yields higher firm value effects of these innovations, especially for pioneering innovations.</li> <li>- Online, regional and national advertising are positively related to firm value.</li> </ul>
Compustat  Kantar Ad\$Spender	Aggregate Advertising  DRA and Branding Advertising	<ul style="list-style-type: none"> <li>- Present Study</li> </ul>	<ul style="list-style-type: none"> <li>- Firm performance of Kantar vs. Compustat aggregate advertising.</li> <li>- Differential value relevance of DRA and branding advertising; moderating effects of firm strategy</li> <li>- Capitalization versus expensing of advertising</li> </ul>

Table 3  
MEASURES, SOURCES, AND SUPPORTING LITERATURE OF VARIABLES USED IN THE MODEL

Variable	Measure	Source	Supporting Literature
ln(Tobin's q)	Log of share price (PRCC_F) times number of common shares outstanding (CSHO) plus preferred stock (PSTK) plus short-term liabilities (LCT) minus short-term assets (ACT) plus long-term debt (DLTT), divided by total assets (AT)	Compustat	McAlister, Srinivasan, Jindal, and Cannella 2016; Sridhar, Germann, Kang, and Grewal 2016
ln(Sales)	Log of total revenues (REVT)	Compustat	McAlister, Srinivasan, Jindal, and Cannella 2016
Compustat's Advertising Spending	Ratio of total advertising expenditures (XAD) and total assets (AT)	Compustat	
Kantar's Total Advertising Spending	Cumulative dollars spent on TV, radio, print, outdoors, and internet display advertising, scaled by total assets (AT)	Kantar Media's Ad\$ponder	Lamey, Deleersnyder, Steenkamp, and Dekimpe 2012; Sridhar, Germann, Kang, and Grewal 2016
Kantar's Direct Response Advertising Spending	Cumulative dollars spent on internet display advertising plus dollars spent on direct response advertising in other media categories, scaled by total assets (AT)	Kantar Media's Ad\$ponder	Current Study
Kantar's Branding Advertising Spending	Cumulative dollars spent on branding advertising across all media categories, scaled by total assets (AT)	Kantar Media's Ad\$ponder	Current Study
Differentiator vs. Cost Leader	"Differentiator" is a firm that discloses its advertising expenditures in Compustat (data item: XAD) and as "cost leader" does not disclose its advertising.	Compustat	McAlister, Srinivasan, Jindal, and Cannella 2016
Financial Leverage	Ratio of total long-term debt (DLTT) and total assets (AT)	Compustat	McAlister, Srinivasan, Jindal, and Cannella 2016; Sridhar, Germann, Kang, and Grewal 2016
Profit	Earnings before interest and taxes (EBIT) with advertising expenditures (XAD) added back, scaled by total assets (AT)	Compustat	McAlister, Srinivasan, Jindal, and Cannella 2016
Firm Size	Log of total assets (AT)	Compustat	McAlister, Srinivasan, Jindal, and Cannella 2016
Industry Growth	Log of total revenues (REVT) in year t minus log of total revenues (REVT) in year t-1, for each four-digit SIC code	Compustat	McAlister, Srinivasan, Jindal, and Cannella 2016
Industry Concentration	Herfindahl–Hirschman Index for the industry indicated by the four-digit SIC code	Compustat	McAlister, Srinivasan, Jindal, and Cannella 2016
Industry Turbulence	Square root of summations of the squared deviations from industry revenue (REVT) average divided by number of years-1, divided by industry revenue (REVT) average; industry indicated by four-digit SIC code	Compustat	Cannella, Park, and Lee 2008; McAlister, Srinivasan, Jindal, and Cannella 2016

Table 4  
ECONOMIC SECTOR REPRESENTATION

	Total Sample	Disclosers Only
Energy	136	8
Materials	95	12
Industrials	248	77
Consumer Discretionary	241	173
Consumer Staples	50	34
Health Care	267	96
Financials	390	191
Information Technology	357	208
Telecommunication Services	33	23
<b>Total</b>	<b>1817</b>	<b>822</b>

Notes: No firms from the Utilities sector.

Table 5  
DESCRIPTIVE STATISTICS

	Total Sample					Disclosers Only				
	Mean	Median	SD	Min	Max	Mean	Median	SD	Min	Max
1 In(Tobin's q)	-0.159	-0.028	1.047	-2.992	2.161	-0.163	0.015	1.128	-2.992	2.161
2 In(Sales)	6.641	6.705	2.175	0.627	11.530	6.349	6.241	2.012	0.627	11.530
3 Compustat's Advertising Spending	0.105	0.000	0.317	0.000	2.049	0.249	0.064	0.450	0.000	2.049
4 Kantar's Total Advertising Spending	0.042	0.000	0.187	0.000	1.449	0.078	0.001	0.250	0.000	1.449
5 Kantar's DRA Spending	0.006	0.000	0.031	0.000	0.253	0.012	0.000	0.041	0.000	0.253
6 Kantar's Branding Advertising Spending	0.028	0.000	0.124	0.000	0.948	0.053	0.000	0.168	0.000	0.948
7 Financial Leverage	0.201	0.144	0.210	0.000	0.931	0.178	0.097	0.211	0.000	0.931
8 Profit	0.036	0.054	0.179	-0.995	0.455	0.064	0.061	0.159	-0.995	0.455
9 Firm Size	7.391	7.365	2.148	2.455	12.903	7.097	6.988	2.035	2.455	12.903
10 Industry Growth	0.068	0.059	0.135	-0.557	1.223	0.065	0.056	0.125	-0.557	1.223
11 Industry Concentration	0.337	0.245	0.265	0.030	1.000	0.335	0.238	0.276	0.030	1.000
12 Industry Turbulence	0.163	0.116	0.156	0.023	1.370	0.166	0.111	0.167	0.023	1.370

Table 6  
CORRELATION MATRIX

	1	2	3	4	5	6	7	8	9	10	11	12
1 ln(Tobin's q)	1.00											
2 ln(Sales)	-0.07	1.00										
3 Compustat's Advertising	0.17	-0.04	1.00									
4 Kantar's Total Advertising	0.15	-0.04	0.62	1.00								
5 Kantar's DRA	0.13	-0.07	0.50	0.69	1.00							
6 Kantar's Branding Advertising	0.14	-0.01	0.58	0.89	0.44	1.00						
7 Financial Leverage	0.17	0.22	-0.07	-0.02	-0.07	0.00	1.00					
8 Profit	0.03	0.48	0.27	0.18	0.12	0.18	0.05	1.00				
9 Firm Size	-0.28	0.86	-0.16	-0.13	-0.14	-0.10	0.21	0.31	1.00			
10 Industry Growth	0.14	-0.03	0.03	0.01	0.03	0.00	0.04	0.03	-0.12	1.00		
11 Industry Concentration	0.07	0.15	0.07	0.04	-0.01	0.07	0.07	0.14	-0.04	0.07	1.00	
12 Industry Turbulence	0.08	-0.09	0.11	0.06	0.10	0.02	0.09	0.01	-0.15	0.25	0.20	1.00

Table 7  
THE IMPACT OF DIRECT RESPONSE ADVERTISING AND BRANDING ADVERTISING  
ON FIRM PERFORMANCE AND VALUATION

Dependent Variable:	LN(Sales)						LN(Tobin's q)					
	Coef		S.E.		Coef		S.E.		Coef		S.E.	
	(1)		(2)		(3)	(4)		(5)		(6)		
<b>Advertising Variables</b>												
<b>XAD</b>	<b>0.722</b>	<b>0.061 ***</b>										
<b>KantarAdv</b>			<b>1.073</b>	<b>0.102 ***</b>				<b>0.511</b>	<b>0.105 ***</b>			
<b>DRA</b>					<b>4.088</b>	<b>0.666 ***</b>				<b>2.723</b>	<b>0.816 ***</b>	
<b>Branding</b>					<b>1.020</b>	<b>0.161 ***</b>				<b>0.469</b>	<b>0.201 **</b>	
<b>Control Variables</b>												
Lev	0.169	0.070 **	0.177	0.070 **	0.176	0.070 **	0.295	0.081 ***	0.292	0.081 ***	0.297	0.081 ***
Profit							0.476	0.118 ***	0.529	0.115 ***	0.514	0.115 ***
Size	0.788	0.015 ***	0.783	0.015 ***	0.784	0.015 ***	-0.119	0.013 ***	-0.121	0.013 ***	-0.119	0.013 ***
IndGrow	0.139	0.032 ***	0.148	0.032 ***	0.151	0.032 ***	0.168	0.046 ***	0.168	0.046 ***	0.172	0.046 ***
IndConc	0.498	0.096 ***	0.503	0.097 ***	0.518	0.097 ***	0.113	0.075	0.116	0.076	0.127	0.076 *
IndTurb	0.149	0.156	0.204	0.160	0.178	0.161	0.003	0.126	0.030	0.125	0.003	0.125
XAD_Resid	-0.467	0.108 ***					-0.333	0.128 ***				
KantarAdv_Resid			-1.143	0.159 ***					-0.019	0.208		
DRA_Resid					-4.331	0.756 ***					-2.507	1.005 **
Branding_Resid					-1.085	0.259 ***					0.224	0.384
Constant	0.495	0.127 ***	0.550	0.128 ***	0.536	0.128 ***	0.688	0.108 ***	0.713	0.106 ***	0.693	0.106 ***
Fixed Effects	Year		Year		Year		Year		Year		Year	
Firm-Year Observations	8,237		8,237		8,237		8,237		8,237		8,237	
R <sup>2</sup>	0.77		0.76		0.76		0.15		0.15		0.15	
Overall test of significance	3239.6 (Wald)		3231.9 (Wald)		3266.67 (Wald)		849.39 (Wald)		843.42 (Wald)		866.26 (Wald)	
Wald test of significance	<.001		<.001		<.001		<.001		<.001		<.001	
<b>DRA versus Branding, Chi<sup>2</sup> (1) =</b>					<b>17.51 ***</b>						<b>5.65 **</b>	

Notes: Variables and key tests are in bold. Each model contains firm-random effects. The residuals are obtained from the auxiliary regressions. All variables are winsorized at the 1% level. Coeff = Coefficient; SE = Robust Standard Error. \* = p < .10; \*\* = p < .05; \*\*\* = p < .01.

Table 8  
THE IMPACT OF DIRECT RESPONSE ADVERTISING AND BRANDING ADVERTISING:  
A COMPARISON OF DIFFERENTIATORS VERSUS COST LEADERS

**Panel A.** Dependent Variable of Sales

	Differentiators Only						Cost Leaders Only				
	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	
	(1)		(2)		(3)		(4)		(5)		
<b><u>Advertising Variables</u></b>											
<b>XAD</b>	<b>0.779</b>	<b>0.071 ***</b>									
<b>KantarAdv</b>			<b>1.112</b>	<b>0.123 ***</b>			<b>1.154</b>	<b>0.214 ***</b>			
<b>DRA</b>					<b>2.830</b>	<b>0.715 ***</b>			<b>6.442</b>	<b>1.627 ***</b>	
<b>Branding</b>					<b>1.331</b>	<b>0.187 ***</b>			<b>0.612</b>	<b>0.426</b>	
<b><u>Control Variables</u></b>											
Lev	0.178	0.092 *	0.189	0.091 **	0.184	0.091 **	0.158	0.098	0.159	0.098	
Profit											
Size	0.730	0.021 ***	0.716	0.022 ***	0.715	0.021 ***	0.823	0.019 ***	0.824	0.020 ***	
IndGrow	0.144	0.034 ***	0.157	0.035 ***	0.159	0.035 ***	0.147	0.045 ***	0.153	0.045 ***	
IndConc	0.445	0.114 ***	0.447	0.118 ***	0.453	0.118 ***	0.574	0.140 ***	0.593	0.139 ***	
IndTurb	0.676	0.207 ***	0.881	0.217 ***	0.852	0.218 ***	-0.179	0.214	-0.205	0.215	
XAD_Resid	-0.438	0.095 ***									
KantarAdv_Resid			-1.007	0.138 ***			-1.543	0.326 ***			
DRA_Resid					-2.848	0.766 ***			-7.271	1.994 ***	
Branding_Resid					-1.084	0.213 ***			-1.059	0.573 *	
Constant	0.649	0.172 ***	0.822	0.173 ***	0.817	0.174 ***	0.316	0.170 *	0.309	0.170 *	
Fixed Effects	Year		Year		Year		Year		Year		
Firm-Year Observations	3,491		3,491		3,491		4,746		4,746		
R <sup>2</sup>	0.73		0.72		0.72		0.79		0.79		
Overall test of significance	1968.59 (Wald)		1861.74 (Wald)		1935.3 (Wald)		2066.20 (Wald)		2026.13 (Wald)		
Wald test of significance	<.001		<.001		<.001		<.001		<.001		
<b>DRA versus Branding, Chi<sup>2</sup> (1) =</b>					<b>3.63 *</b>		<b>10.14 ***</b>				

**Panel B.** Dependent Variable of Tobin's Q

	Differentiators Only				Cost Leaders Only							
	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.				
<b><u>Advertising Variables</u></b>												
<b>XAD</b>	<b>0.422</b>	<b>0.089 ***</b>										
<b>KantarAdv</b>			<b>0.442</b>	<b>0.137 ***</b>			<b>0.596</b>	<b>0.153 ***</b>				
<b>DRA</b>					<b>2.427</b>	<b>0.994 **</b>			<b>3.065</b>	<b>1.434 **</b>		
<b>Branding</b>					<b>0.461</b>	<b>0.249 *</b>			<b>0.444</b>	<b>0.248 *</b>		
<b><u>Control Variables</u></b>												
Lev	0.207	0.125 *	0.191	0.127	0.197	0.127	0.377	0.107 ***	0.377	0.107 ***		
Profit	0.920	0.246 ***	0.989	0.240 ***	0.980	0.241 ***	0.374	0.131 ***	0.364	0.131 ***		
Size	-0.085	0.024 ***	-0.093	0.024 ***	-0.092	0.024 ***	-0.156	0.014 ***	-0.155	0.014 ***		
IndGrow	0.175	0.083 **	0.176	0.083 **	0.181	0.084 **	0.182	0.056 ***	0.184	0.056 ***		
IndConc	0.141	0.109	0.157	0.111	0.167	0.111	0.126	0.099	0.132	0.099		
IndTurb	0.262	0.219	0.380	0.221 *	0.336	0.220	-0.165	0.140	-0.171	0.141		
XAD_Resid	-0.391	0.146 ***										
KantarAdv_Resid			-0.001	0.237			-0.258	0.347				
DRA_Resid					-1.930	1.186			-3.002	1.939		
Branding_Resid					-0.044	0.428			0.189	0.662		
Constant	0.292	0.189	0.387	0.187 **	0.369	0.186 **	0.987	0.119 ***	0.973	0.120 ***		
Fixed Effects	YES		YES		YES		YES		YES			
Firm-Year Observations	3,491		3,491		3,491		4,746		4,746			
R <sup>2</sup>	0.17		0.16		0.17		0.16		0.16			
Overall test of significance	529.26 (Wald)		477.15 (Wald)		506.21 (Wald)		492.37 (Wald)		484.44 (Wald)			
Wald test of significance	<.001		<.001		<.001		<.001		<.001			
<b>DRA versus Branding, Chi<sup>2</sup> (1) =</b>					<b>2.94 *</b>				<b>2.79 *</b>			

Notes: Variables and key tests are in bold. Each model contains firm-random effects. The residuals are obtained from the auxiliary regressions. All variables are winsorized at the 1% level. Coeff = Coefficient; SE = Robust Standard Error. \* = p < .10; \*\* = p < .05; \*\*\* = p < .01.

Table 9  
 ADDITIONAL ANALYSES: TECHNOLOGY FIRMS AS A MODERATOR

Dependent Variable:	LN(Sales)				LN(Tobin's q)			
	Differentiators		Cost Leaders		Differentiators		Cost Leaders	
	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.
	(1)		(2)		(3)		(4)	
<b><u>Advertising Variables</u></b>								
DRA (Tech)	<b>2.379</b>	<b>1.227 *</b>	<b>4.557</b>	<b>2.186 **</b>	<b>1.480</b>	<b>1.216</b>	<b>4.569</b>	<b>2.265 **</b>
DRA (Non-Tech)	<b>3.453</b>	<b>1.076 ***</b>	<b>2.132</b>	<b>1.828</b>	<b>2.546</b>	<b>1.078 ***</b>	<b>2.117</b>	<b>1.838</b>
Branding (Tech)	<b>1.746</b>	<b>0.510</b>	<b>0.326</b>	<b>0.580</b>	<b>1.597</b>	<b>0.476 ***</b>	<b>0.348</b>	<b>0.618</b>
Branding (Non-Tech)	<b>0.569</b>	<b>0.279</b>	<b>0.442</b>	<b>0.287 ***</b>	<b>0.295</b>	<b>0.284</b>	<b>0.431</b>	<b>0.290</b>
<b><u>Control Variables</u></b>								
Lev	0.146	0.129	0.332	0.104 ***	0.200	0.126	0.376	0.107 ***
Profit					0.996	0.242 ***	0.367	0.131 ***
Size	-0.065	0.024 ***	-0.137	0.013 ***	-0.093	0.024 ***	-0.155	0.014 ***
IndGrow	0.237	0.082 ***	0.200	0.057 ***	0.180	0.083 **	0.181	0.056 ***
IndConc	0.274	0.115 ***	0.165	0.098 *	0.182	0.112	0.137	0.100
IndTurb	0.316	0.217	-0.128	0.141	0.315	0.220	-0.171	0.141
DRA_Resid	-2.481	1.186 **	-2.816	2.019	-1.668	1.185	-2.587	1.991
Branding_Resid	-0.416	0.416	0.136	0.615	-0.238	0.387	0.188	0.620
Constant	0.182	0.189	0.826	0.111 ***	0.375	0.186 **	0.973	0.120 ***
Fixed Effects	Year		Year		Year		Year	
Firm-Year Observations	3,491		4,746		3,491		4,746	
R <sup>2</sup>	0.13		0.16		0.17		0.16	
Overall test of significance	465.22 (Wald)		581.78 (Wald)		518.69 (Wald)		544.32 (Wald)	
Wald test of significance	<.001		<.001		<.001		<.001	

Notes: Each model contains firm-random effects. The residuals are obtained from the auxiliary regressions. All variables were winsorized (1%). Coeff = Coefficient; SE = Robust Standard Error. \* = p < .10; \*\* = p < .05; \*\*\* = p < .01.

Table 10  
 ADDITIONAL ANALYSES: BRANDING AS AN ANTECEDENT FOR DRA EFFECTIVENESS

	Dependent Variable:		Tobin's q	
	Sales	Tobin's q	Sales	Tobin's q
	Coeff	S.E.	Coeff	S.E.
<b><u>Advertising Variables</u></b>				
<b>DRA</b>	<b>3.358</b>	<b>0.667 ***</b>	<b>2.210</b>	<b>0.850 ***</b>
<b>Branding</b>	<b>1.497</b>	<b>0.319 ***</b>	<b>1.045</b>	<b>0.555 *</b>
<b>Lag 1_Branding</b>	<b>-0.470</b>	<b>0.267 *</b>	<b>-0.262</b>	<b>0.339</b>
<b>Lag 2_Branding</b>	<b>-0.119</b>	<b>0.084</b>	<b>0.009</b>	<b>0.274</b>
<b><u>Control Variables</u></b>				
Lev	0.035	0.103	0.588	0.090 ***
Profit			0.549	0.184 ***
Size	0.796	0.019 ***	-0.177	0.012 ***
IndGrow	0.148	0.043 ***	0.148	0.060 **
IndConc	0.969	0.086 ***	0.004	0.105
IndTurb	-0.031	0.178	0.204	0.147
DRA_Resid	-3.670	0.722 ***	-2.204	1.031 **
Branding_Resid	-1.168	0.328 ***	-0.563	0.636
Constant	0.405	0.156 ***	1.090	0.105 ***
Fixed Effects	Year		Year	
Firm-Year Observations	4,628		4,628	
R <sup>2</sup>	0.76		0.19	
Overall test of significance	2250.04 (Wald)		870.92 (Wald)	
Wald test of significance	<.001		<.001	
<b>Difference: DRA versus Branding, Chi<sup>2</sup> (1) =</b>	<b>5.45 **</b>		<b>1.22</b>	

Notes: Each model contains firm-random effects. The residuals are obtained from the auxiliary regressions. All variables were winsorized (1%). Coeff = Coefficient; SE = Robust Standard Error. \* = p < .10; \*\* = p < .05; \*\*\* = p < .01.

Figure 1  
IMPACT OF DIRECT RESPONSE ADVERTISING AND BRANDING ADVERTISING ON SALES AND FIRM VALUE

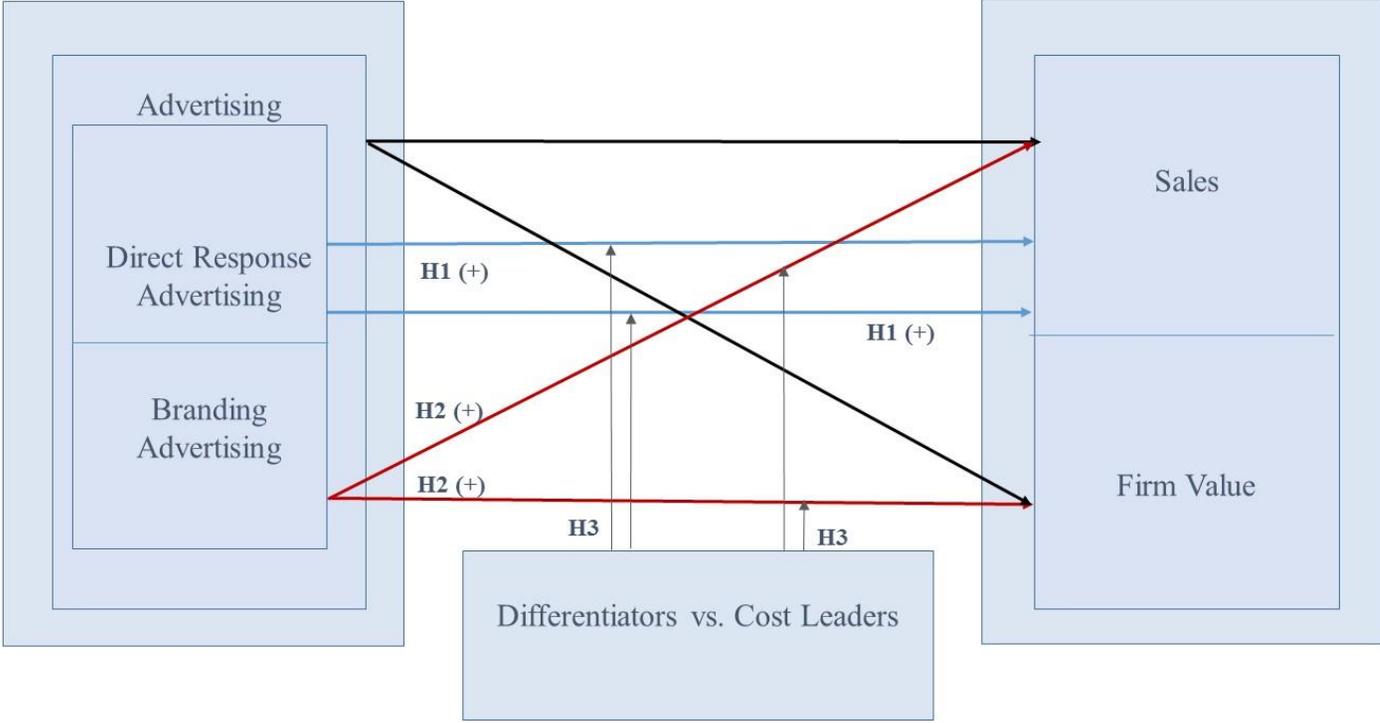
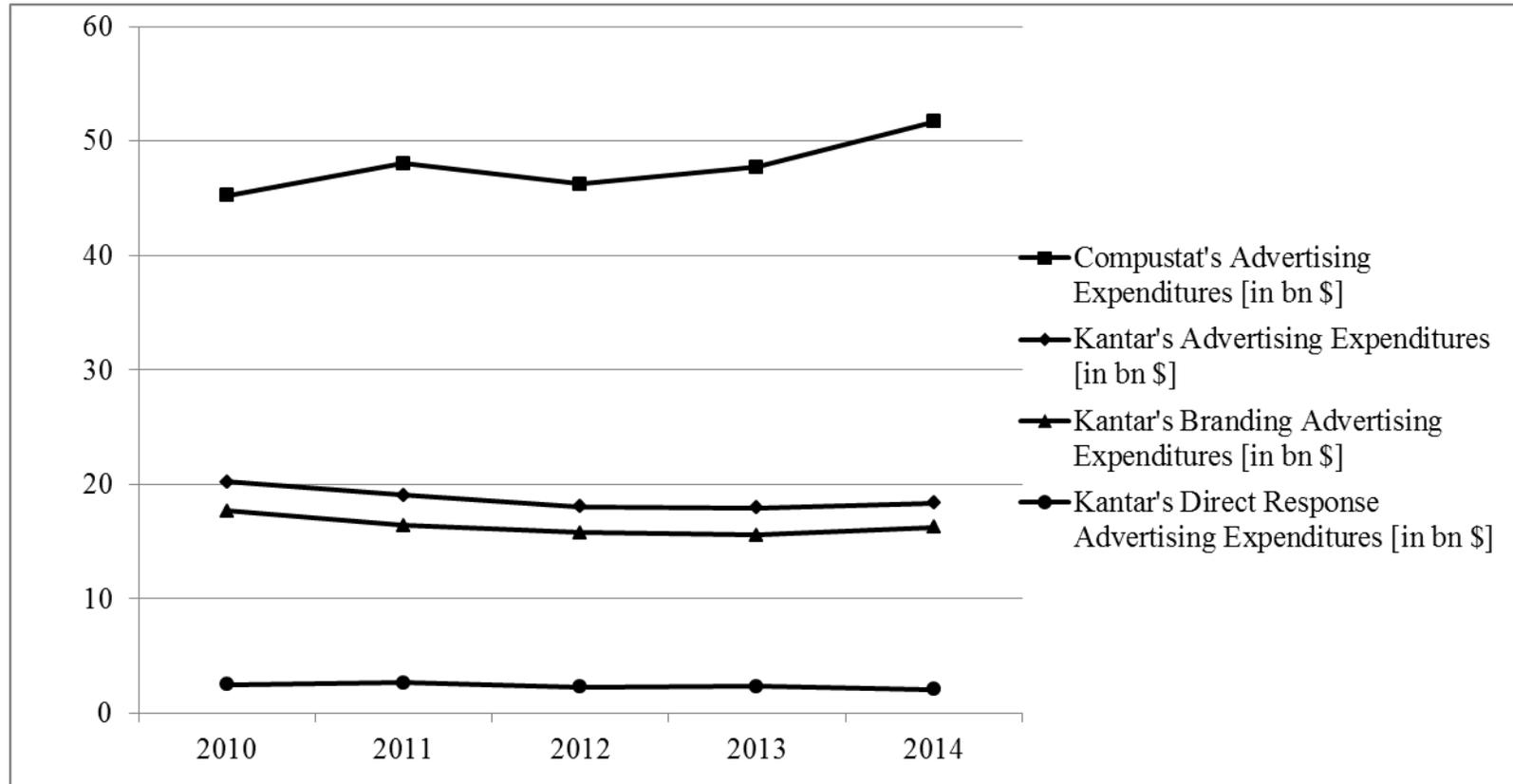


Figure 2  
DEVELOPMENT OF ADVERTISING VARIABLES OVER TIME



Web Appendix A  
EXCLUDED VARIABLES REGRESSION

	Compustat's Advertising Spending Auxiliary Regression			Kantar's Total Advertising Spending Auxiliary Regression			Kantar's Direct Response Advertising Spending Auxiliary Regression			Kantar's Branding Advertising Spending Auxiliary Regression		
	Coeff	S.E.		Coeff	S.E.		Coeff	S.E.		Coeff	S.E.	
Industry Average Spending	0.039	0.004	***	0.023	0.003	***	0.003	0.001	***	0.016	0.002	***
Financial Leverage	0.008	0.011		-0.012	0.009		-0.002	0.002		-0.001	0.006	
Profit	0.107	0.012	***	0.016	0.010		0.005	0.002	**	0.007	0.006	
Firm Size	-0.025	0.002	***	-0.013	0.002	***	-0.002	0.000	***	-0.006	0.001	***
Industry Growth	0.000	0.008		-0.006	0.007		-0.002	0.001		-0.002	0.004	
Industry Concentration	0.004	0.018		-0.003	0.013		-0.006	0.002	***	0.005	0.008	
Industry Turbulence	0.113	0.041	***	0.030	0.025		0.015	0.004	***	-0.009	0.017	
Constant	0.383	0.024	***	0.201	0.016	***	0.028	0.003	***	0.123	0.010	***
Year Fixed Effects	YES			YES			YES			YES		
Firm-Year Observations	8,237			8,237			8,237			8,237		
R-square	0.12			0.06			0.05			0.06		
Overall test of significance	293.24 (Wald)			174.24 (Wald)			139.45 (Wald)			145.46 (Wald)		
Wald test of significance	<.001			<.001			<.001			<.001		

Notes: Each model contains firm-random effects. All variables were winsorized (1%). Coeff = Coefficient; SE = Robust Standard Error. \* =  $p < .10$ ; \*\* =  $p < .05$ ; \*\*\* =  $p < .01$ .