Advertising and Brand Attitudes: Evidence from 575 Brands over Five Years

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Abstract

The primary goal of advertising is to influence sales. However, recent literature shows that it is very difficult to estimate advertising effectiveness on sales. Extremely large sample sizes are required to adequately power advertising experiments (e.g., Lewis and Rao 2015) and observational methods may be a poor substitute for experimental estimates (e.g., Gordon et al. 2017). The underlying reasons are that (i) sales data are sparse and highly variable, (ii) ad effects tend to be small and short-lived, and (iii) advertising exposures are nonrandomly assigned.

The current research investigates whether brand attitudes can be reliable measures of advertising effectiveness. In contrast with sales data, brand attitude data are (i) non-sparse and relatively stable, (ii) possibly more influenced by advertising, though most of the effect signs and magnitudes remain unknown, and (iii) measurable in large samples of consumers whose selection is unrelated to advertising treatment.

We examine a unique dataset of 575 established brands from 37 industries over a five-year observation window, merging weekly brand attitude survey data with weekly advertising expenditure data. In totality, the data include $264 billion spent on advertising, 37% of all ad spend measured during the observation window, and approximately ten million brand attitude surveys. We primarily address the following three questions for mature brands that advertise regularly: How do brand attitudes change with advertising by the same brand and its competitors? How do these relationships vary across attitude measures and types of advertising media? How do various strategies to control for time-varying unobservables change effect sizes and precision?

The brand attitude metrics we consider are the percentages of survey respondents indicating favorable perceived quality, perceived value and recent satisfaction for each brand in each week. The three types of advertising media we consider are national traditional media, local tradi- tional media, and digital media. The models we estimate all include lagged brand attitudes, contemporaneous and lagged ad spending by type of media, brand fixed effects, week fixed effects, and weighted standard errors to reflect exogenous variation in the number of survey respondents each week. We investigate two sets of control variables as partial remedies to this advertising timing endogeneity problem: brand/quarter fixed effects; and industry/week fixed effects.

The data indicate that brand/quarter and industry/week fixed effects are individually and jointly important determinants of brand attitude data. The key findings are that (i) brand attitude metrics all rise with multiple lags of the brand's own national traditional advertising; (ii) local traditional ads increase perceived quality and perceived value; (iii) digital ads increase perceived value; (iv) the effects of competitors' ads are generally negative.

Our findings and empirical strategies may aid marketers and their agencies in using data to guide important practical questions such as whether to advertise, how much to spend, and how to allocate ad budgets. Such empirical guidance may be especially needed in industries where available data complicate the estimation of causal effects of ads on sales, such as markets with long purchase cycles or long interpurchase times.

Keywords: Advertising · Brand attitude · Brand tracking metrics · Media mix models