WHITE PAPER
Correlating Outputs to Outcomes

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Correlating Outputs to Outcomes

Overview

Sophisticated analysis powered by advanced linguistics technology has provided new insights and an important new metric, "Share of Discussion." The quantity and quality of public discussion about a company compared to its competitors appears to be directly related to business success. Put more simply, if people consistently say more good things about your company or product compared to your competitors, your sales should increase. Measuring Share of Discussion, and relating it to key business metrics, enables companies to benchmark their coverage and determine the success of their strategies. This paper will take you through the research that led to these insights, present case studies, and show you how to measure Share of Discussion.

Introduction

New technology that provides the rapid and accurate analysis of text has provided very strong evidence that public discussion (non-paid media coverage) is related to sales. These results are based on more than 160 studies with the analysis of tens of thousands of articles for each using PRtrak Ai, an artificial intelligence advanced linguistic tool with human-like text analysis capability from VMS.

Prior to the availability of this technology, few quantitative studies were performed with large numbers of clips, simply because of the time, cost and complexity of such analysis. Typically, companies would measure only their own publicity, mostly to determine whether their efforts were having an impact on media placement. Measuring the coverage generated by competitors, if done at all, would be cursory to save time and cost, and would usually be focused on learning about their messages rather than fully quantifying their coverage.

Freed from the time and cost limitations of manual analysis, studies were undertaken for entire competitive categories, analyzing tens of thousands of stories. The goal of these early studies was to determine how changes in public discussion correlated to changes in business outcomes. Where appropriate, sales figures were used as the measure of business outcomes, since sales are clearly what attracts management's attention. However, for many studies, other outcome measures such as number of sales appointments, doctor visits, sales closing ratios or audience survey results were a more meaningful metric than raw sales.

One of the early insights from these initial studies was the importance of comparing your media coverage to that of your competitors. This was reflected in a new metric, Share of Discussion. Share of Discussion is the "quantity and quality of your coverage compared to your competitors", like Share of Voice in the advertising world, but adjusted for tonality. (Unlike advertising, which is always positive, publicity may be negative. So, Share of Discussion is a tonality-adjusted Share of Voice).

These studies showed that measuring only your own publicity makes it far more difficult to find a relationship between publicity and changes in business outcomes. However, in every study completed, Share of Discussion has shown clear correlations to business outcomes.

Because it has been so difficult to prove the value of public relations, many managers have relegated public relations to a second tier status. With new insights and new metrics that prove the importance of managing positive public discussion, PR will begin to receive more attention, enjoy bigger budgets, and become more integrated into the overall marketing strategy.

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Industry Study:
Menopause Treatment

Despite strong growth in overall product category discussion, sales greatly trailed forecast. All elements of the marketing mix had remained stable, and news coverage had tripled. A Share of Discussion study was commissioned to compare media coverage to the volume of new prescriptions for hormone replacement therapy in an effort to identify the problem.

This stunning study showed that per-capita prescriptions declined just as the client's Share of Discussion began to decline at a correlation of .84. The reason? The entire product category had grown by a factor of five due to the introduction of herbal supplements and other alternatives, so tripling publicity wasn't enough. Note that discussion in this case precedes changes in sales by approximately 11weeks. The majority of other studies have shown that discussion usually leads changes in sales by as little as a few days in the case of retail, and as long as 26 weeks in the case of larger purchases.

 The link between discussion and sales was so clear in this case, that sales forecasts have been made eight weeks in advance for the past two years at 80% accuracy based ONLY on Share of Discussion.

Prescription Volume
## Versus
Share of Discussion
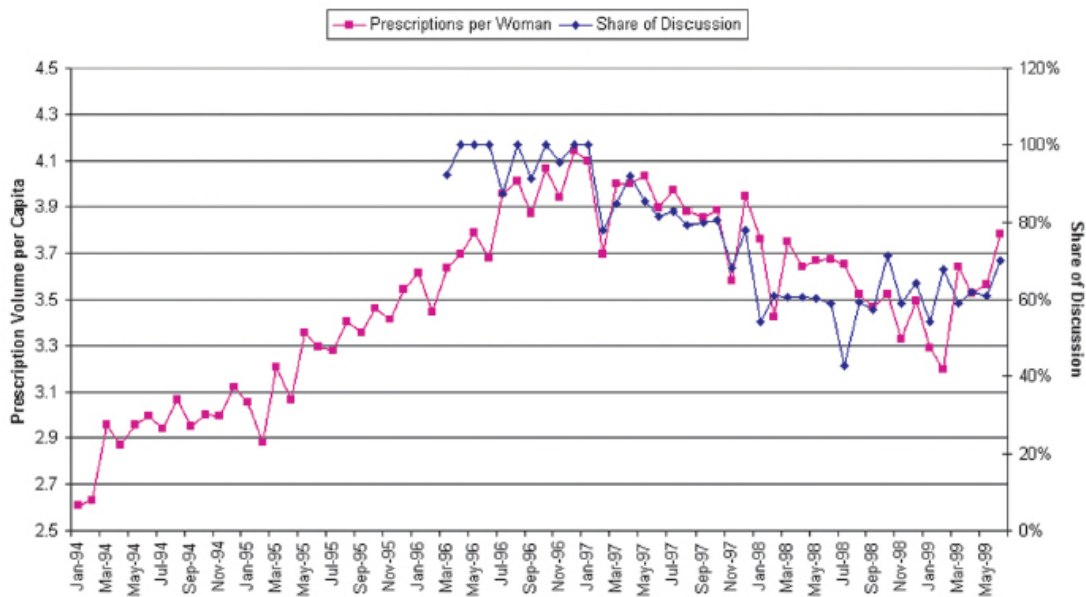
Industry Study:
Vitamin / Nutritional Sales

This client believed that "buzz" drove sales, but had no metrics to support it. A subsequent Share of Discussion study for the entire industry category showed clear correlation between public discussion in the nutritional category and sales.

The chart below illustrates that sales increase as discussion increases, and vice versa. This particular graph shows overall nutritional sales, but similar results were seen for subcategories and brands within categories. Overall correlation: R=.84. The horizontal line in the chart illustrates the advertising expenditure, which was flat. Interestingly, advertising does not appear to have a direct correlation to sales in this study. This high correlation between nonpaid discussion and sales resulted in a new view of the relationship between advertising and public relations, with PR being viewed as a much more important part of the strategic marketing mix.

Sales Versus Discussion
## Total Multivitamins / Calcium / Herbals
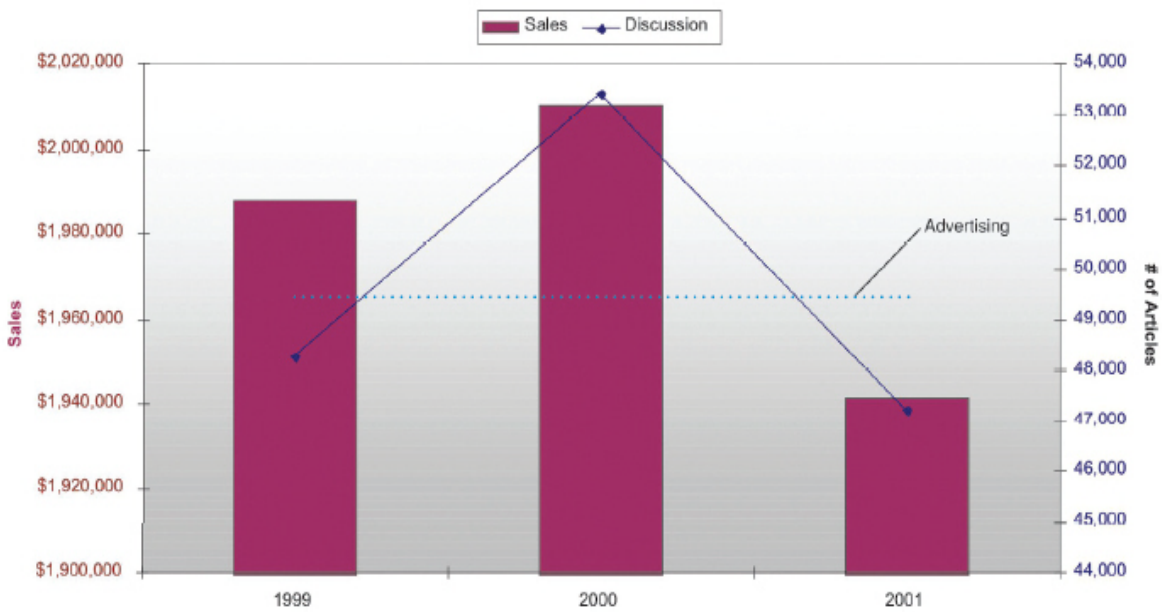
Industry Study:
Market Mix Modeling

A major cookie and cracker packaged goods company missed its sales forecast by 9.5%, which meant millions of dollars were wasted in production overcapacity. The sophisticated Market Mix Model that had been used for years, (which called for an exact amount of advertising, promotion, product facings, sales efforts and production to affect a desired level of sales) simply did not work as it had in the past. The one key variable not included in the Mix was unpaid media.

In the graph below, we can see what would have happened if this company had included unpaid media in its forecasting model. The blue line represents the revenue forecast without this addition, and the pink line shows actual sales. The red line in middle represents the new model WITH Share of Discussion included... which closes the gap by nearly five percent. However, the gap between sales projections and reality would have closed further if the client had allowed the accurate scoring of the term "trans fatty acids" as a negative instead of a neutral (green). Making results look better by cheating a little on tonality only harms the overall case, making PR look ineffective.

Improved Market Mix Models

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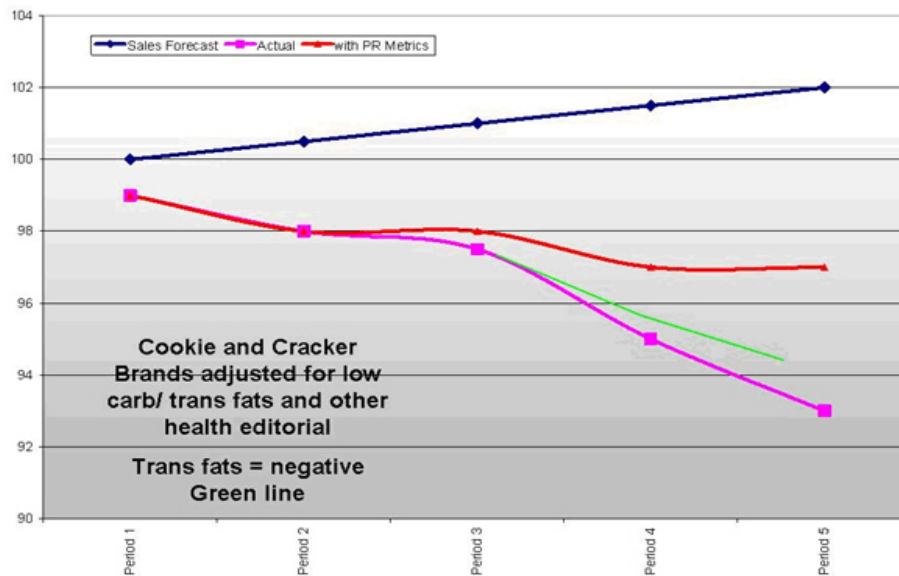
Industry Study:
Business to Business

Share of Discussion was calculated for a manufacturer of business software. This chart shows the high correlation between Share of Discussion for the company and the percentage of sales that result from each face-to-face sales call.

The firm's SoD (top yellow line) was compared to the closing ratio for its sales force (bottom red line). This study suggests that a sales person is more likely to close a sale when the prospect has heard positive things about the seller in unpaid media. The correlation between the two is in the high nineties.

Share of Discussion Versus Sales Closing Ratio
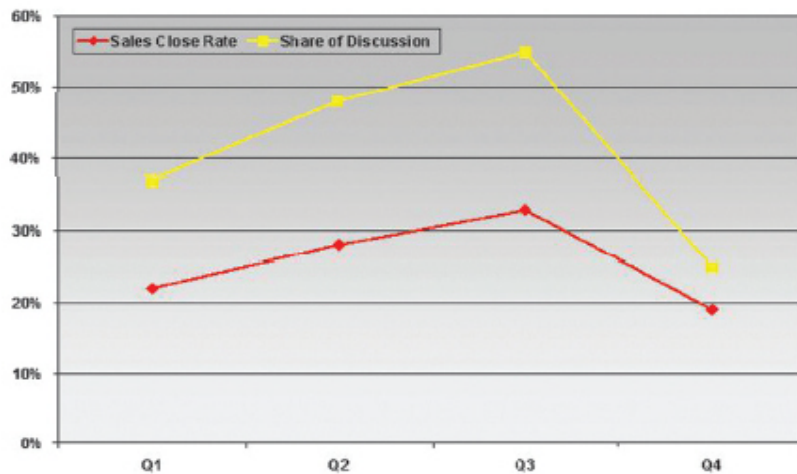
## Industry Study:
College Admissions

Share of Discussion was calculated for a New England college and its key local competitors. The chart on the next page shows a very high correlation between Share of Discussion for each college and the results of a parental preference study (R=.90).

One key finding was that parental preference was influenced by all forms of discussion about the college, from its sports teams to the quality of its teaching staff. A similar comparison of SoD versus high school teacher or guidance counselor preference showed that only discussion topics relevant to the quality of the teaching environment had an impact on them.

This study also shows the clear differences between the metrics used in the calculations. SoD based on tonality weighted Media Values (purple) provided the best correlation (R=.993); Impressions (red) was next best (R=.883), and Story Counts (blue) were least effective (R=.791).

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Media Value Vs. Impressions Vs. Story Counts
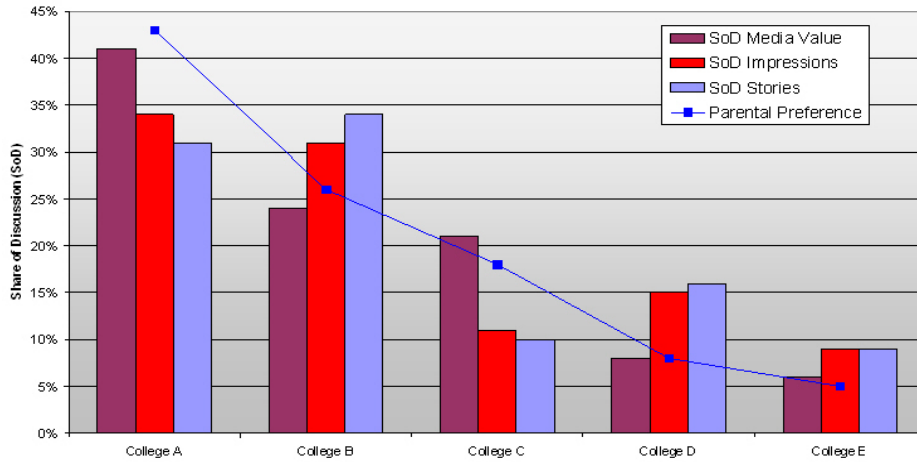
Calculating Share of Discussion

1. Capture all the media coverage about your company and its competitors. Determine the amount of coverage in each article attributable to you or your competitors based on column inches, word counts or broadcast time.

2. Obtain Media Values or Audience Impressions for each source and apply to the coverage amounts for you and your competitors.

3. Measure the tonality of each mention; subtract negative stories from neutral+ positive stories to obtain Net Favorable Value or Impressions. (Note: VMS offers a new Media Prominence Index that makes this calculation much simpler).

4. Divide each company's Net Favorable Value or Impressions by the total of all competitors to obtainShare of Discussion.

5. Plot Share of Discussion at monthly, quarterly or annual intervals on a spreadsheet, or in a statistical program. Plot an outcome measure at the same time intervals. The two should trend together with some adjustment for sales cycle time-lag.

Value of Standardized Metrics

Consistent, quality metrics are a key to showing correlation between outputs and outcomes. All studies mentioned utilized PRtrak's metrics based on 3rd party standards:

- Nielsen Media Research for television

- Arbitron for radio

- SRDS, BurrellesLuce or ANR for newspapers & magazines

- SQAD for broadcast and Internet costs

- comScore MediaMetrix for Internet

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