

# Do Trade Shows Pay Off?

The authors report on the effects of a trade show on incremental sales and profits for a manufacturer of gas chromatographic equipment. Their analysis indicates that the show provided positive economic returns to the firm. They also provide evidence that the show had positive effects on generating product awareness and interest. Although their research studies a single firm and the effect of a single show, the authors' results indicate that, under carefully controlled conditions, the returns from trade show investments can indeed be measured and quantified and that extensions of their approach may have broad applicability.

**T**rade show expenditures are the second largest item in the business marketing communications budget after advertising, and they account for nearly one-fifth of the total budget for U.S. firms and approximately one-fourth of the budget for European firms (Jacobson 1990; Schafer 1987). The level of these expenditures, including direct costs and allocation of exhibitor staff time, though excluding planning costs and overhead allocations, amounts to over \$53 billion annually in the United States alone (Trade Show Bureau 1994).

Trade show expenditures are growing: According to the Trade Show Bureau (1994), between 1989 and 1994 the number of trade shows in the United States and Canada grew from 3289 to 4316, the number of attendees from 60 million to 85 million, and the number of exhibiting companies from 1.0 million to 1.3 million. The Trade Show Bureau also projects a growth in trade show activity of 35% during the 1990s.

As with the other elements of the business marketing communications mix, trade show expenditures have historically been justified by "rules of thumb," such as inertia (last year's activities/expenses updated to reflect this year's) or rhetoric (Our competitors will be there and our image will be hurt if we don't show [Bonoma 1983]). Yet, authors, such as Slywotzky and Shapiro (1993), are urging companies to strive to gain a competitive advantage by treating marketing expenditures as investments. Bottom line managers are listening and demanding accountability by asking the important question: Do trade shows pay off? For example, a recent round-table discussion on trade shows (*Business Marketing* 1993) identified investment accountability as the greatest challenge facing the prospective exhibitor. Sentiments, such

as the belief that "cost-consciousness has become the overriding element in the trade show culture of the '90s" (McDermott 1993; Tanner and Chonko 1992), reflect the challenge that management faces for tracking the return on investments in trade shows and other marketing activities.

The measurement of return on trade show investments is confounded by a number of factors. First, a firm's trade show participation results in direct sales effects, as well as attitudinal or cognitive effects (e.g., creating product awareness or interest, building image and reputation). Second, the trade show is typically employed in conjunction with other elements of the marketing communications mix, such as direct mail, advertising, and personal selling. Very often, the time a prospective customer takes to move from interest to actual purchase may range from a few weeks to many months, depending on the nature of the product and the buying situation. In the intervening period, other marketing activities interact and, thus, interfere with measuring the true impact of the trade show.

Although trade show effectiveness is of interest in an academic setting, the answer to the question, "do trade shows pay off?" is job-critical for many practitioners. We attempt to address the following key concerns, especially for practitioners:

1. What do we know about the role of the trade show in the business marketing communications mix?
2. How can we evaluate either individually, or as part of an overall communication program, the effectiveness of trade show investments?
3. Is there evidence that any trade show has a positive net return on investment?
4. (If yes to concern 3) What program of monitoring and/or ongoing research is needed for a firm (or a group of firms) to establish the determinants of the return on trade show investments?

In the subsequent sections, we address these issues, outlining a procedure to assess the value of a trade show. With the cooperation of a firm in the chromatography industry, we apply the procedure to a trade show with encouraging results. We conclude the paper with an evaluation of what this work means for the marketing practitioner interested in an answer to the trade show valuation or justification question,

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as well as to the marketing academic, interested in extending knowledge in this area.

## Trade Shows and Business Marketing Communications: Role and Effects

Personal selling expenditures outweigh advertising, trade shows, and other impersonal communications spending by a factor of approximately 10 to 1 (Lilien and Weinstein 1984). As with advertising, trade shows typically complement direct selling efforts: For example, they generate awareness, project a favorable corporate image, provide product information, and handle customer complaints (Hutt and Speh 1995).

Researchers have characterized the business buying process as a series of stages in which the buyers in each stage have different information needs (Wind and Thomas 1994). Those information needs represent tasks for marketers. Some of the tasks, such as generating awareness, are done more cost-effectively by using impersonal marketing communications, whereas others, such as providing customized product offerings, require personal contact. Therefore, most business marketers use a mix of personal and impersonal communication vehicles, recognizing that personal selling normally becomes more cost-effective as the prospect moves closer to the purchase or supplier selection phase.

Trade shows are a mix of direct selling (there are usually some sales personnel at the booth, and it is common in European shows for customers actually to place orders at many shows) and advertising (exhibits are usually designed to be eye-catching and provide a great deal of product information, even without the help of booth personnel). Different firms have different expectations of the benefits of trade show participation—some are interested in generating leads, others in promoting their corporate image, and still others have objectives, such as casual contact with current customers and competitive considerations. The objectives also depend on the mix of new and existing products being exhibited by the firm.

Because of the range of exhibitor objectives, as well as the complementary and interactive nature of trade shows in the selling process, even the most sophisticated marketers typically rely on surrogate measures of performance, such as audience activity, audience quality, proportion of target audience attracted to the booth, proportion actually reached, and number of sales leads generated at the show (Bellizzi and Lipps 1984; Cavanaugh 1976; Gopalakrishna and Lilien 1995). In several studies (Trade Show Bureau 1986b, 1988, 1994), lead generation was the most frequently cited measure of trade show effectiveness. Yet, overall "success" depends on effective follow-up (through sales visits or direct marketing) to turn leads into sales, but few firms systematically engage in tracking and efficient follow-up of customers and prospects.

Occasionally firms participate in "conversion studies." The typical conversion study examines what fraction of attendees at a show purchase products that were exhibited

**FIGURE 1**  
Evaluating Effectiveness of Participation in Trade Shows: Measurement and Analysis Stages

	Measurement/Analysis Stage	(A) Our Study	(B)* Future Extension/Additions
1.	Pre-Show	<ul style="list-style-type: none"> <li>Customer lists: customers/prospects</li> </ul>	<ul style="list-style-type: none"> <li>Pre-show attitude and purchase intention measures</li> </ul>
2.	At Show	<ul style="list-style-type: none"> <li>Visited booth vs.</li> <li>Did not visit booth and/or did not attend trade show</li> </ul>	<ul style="list-style-type: none"> <li>Attended show but did not visit booth</li> </ul>
3.	Post-Show Matching/Adjustment	<ul style="list-style-type: none"> <li>Volume of business</li> <li>Current/new buyer</li> <li>Buying process stage</li> </ul>	<ul style="list-style-type: none"> <li>Other matching measures or adjustment procedures as appropriate</li> </ul>
4.	Post-Show Survey/Tracking	<ul style="list-style-type: none"> <li>Awareness</li> <li>Preference</li> <li>Prior purchase intentions</li> <li>Actual sales: level/timing</li> </ul>	<ul style="list-style-type: none"> <li>Exposure to other marketing mix variables (sales force, advertising)</li> <li>Competitive marketing exposures</li> <li>Purchase of competitive products</li> </ul>

\*Items to consider adding when replicating or extending this procedure to other market situations.

there within a year of attendance (Trade Show Bureau 1986a). Historically, such studies have neither compared sales results with a comparable group of purchase influencers who did not attend the show nor attempted to account for the effect of other marketing mix elements.

The trade show situation is similar to that of advertising for many consumer goods. The relationship between consumer advertising and sales has been studied extensively, yet the results are usually muddled by other marketing mix elements, such as promotion and distribution effects and the time lag between advertising exposure and the realization of sales results. These difficulties have led most advertisers to rely on attitudinal and cognitive effects (e.g., advertisement recall, product awareness, attitudes toward the brand, intent to purchase) as opposed to direct sales effects (Rossiter and Percy 1987).

However, in a few cases in which firms have run careful field experiments and/or in which the effects of other marketing variables have been minimal (see, for example, Kuritsky et al. 1982; Rao 1970), firms have been able to read sales effects of advertising. We adapt these ideas to the trade show valuation question, which enables us to outline four "desirable" characteristics of the situation under study, and in turn, best enables us to measure a return on trade show investment. These characteristics are:

C<sub>1</sub>: "Clean" situation: A situation in which the firm uses little or no advertising or direct selling. By eliminating these

other elements of the mix, we do not need to account for synergies or interactions, and can more easily attribute sales or other effects to the trade show—the element of the communications mix in use.

- C<sub>2</sub>: New products:* Trade shows are often used to highlight or introduce new products. By studying new products, we minimize the need to measure and control for the past, carryover effect of previous marketing activities. This is closely related to *C<sub>1</sub>*, and greatly simplifies our ability to attribute effects to the trade show.
- C<sub>3</sub>: Market segment matching procedure:* We need a mechanism to establish both a “test” and a “control” group, in which the main or only difference between them is exposure to the trade show. Again, such a procedure will help ensure that the effects we measure can be attributed to the show.
- C<sub>4</sub>: Cooperating firms.* Because of the private nature of sales for most business products, a cooperating firm is needed to provide client lists for segment matching and track sales over time for the exposed versus unexposed segments.

Before we apply the measurement approach outlined previously and depicted in flow-chart form in Column A of Figure 1, we explain several key conjectures that will guide our explorations.

## Conjectures

Our research is by nature exploratory. As noted, we have been unable to locate definitive research in the academic literature that demonstrates the economic return on trade show investments. Yet, we have made the analogy between trade shows in the business marketing communications mix and advertising in the consumer mix. Here, we develop some speculative hypotheses, drawn partially from the literature on advertising effectiveness and partially from our own extensive interactions with trade show exhibitors and managers (suppliers).

We divide our conjectures (CONJ) into two groups—those related to the direct sales effect of trade shows and those related to the cognitive or attitudinal (indirect) effects of trade shows.

### Direct Sales Effects

If the many exhibitors at trade shows are acting rationally, we expect that:

- CONJ1: Sales per customer for products exhibited at a show will be higher among those attendees visiting the booth than among those not visiting the booth.
- CONJ2: Incremental profits related to the greater sales per customer (CONJ1) for products exhibited at a booth will result in a positive return on trade show investment.

*Discussion.* A trade show is a communication medium, and we expect a positive effect on sales, either immediately or after some period of time (CONJ1: Hanssens, Parsons, and Schultz 1990; Little 1979). Furthermore, those incremental sales should be greater than the expenditures on the trade show for the investment to be financially justified (CONJ2: Kuritsky et al. 1982). In addition, we expect the effects of trade shows to play out over time, either immediately (concave) or eventually (S-shape), seeing decreasing re-

turns to some asymptotic value (Hanssens, Parsons, and Schultz 1990).

### Indirect Effects

In addition to sales effects, we expect trade shows to have a positive effect on the intermediate cognitive stages leading to purchase, as follows:

- CONJ3: Visitors to a trade show booth will become more aware of products exhibited at the show than non-visitors.
- CONJ4: Visitors to a trade show booth will become more interested in products exhibited at the show than non-visitors.

*Discussion.* Much of the literature on advertising effectiveness focuses on the “so-called” hierarchy of effects (Awareness–Interest–Liking–Desire–Intention or some variation). Effective forms of marketing communication should have a positive effect on the earlier stages in the hierarchy (Rossiter and Percy 1987), which is consistent with CONJ3 and CONJ4.

We should point out that these conjectures reflect the conventional wisdom of trade show practitioners. We specify them to make the focus of the empirical research, which we describe subsequently, more explicit. There is no research of which we are aware that has measured and quantified such effects.

## Methodology

Consistent with our previous discussion, our research was driven by our four “desirable” characteristics for early, exploratory work in this area. We were able to secure the support of a cooperating firm (*C<sub>4</sub>*): Restek Corporation, a manufacturer of innovative, high quality chromatography products with annual sales of approximately \$10 million in 1992. The firm’s customers include a wide range of analytical laboratories involved in testing environmental pollutants, foods, flavors, pharmaceuticals, and petroleum products.

Restek Corporation participates in a number of trade shows each year. The company mainly employs trade shows and direct mail to communicate with present and prospective customers. The direct mail effort informs current and prospective customers about new products launched into the market in the recent past. Restek mails newsletters and brochures every other month to a customer and prospective customer list. The direct mail effort is a significant component of Restek’s communications mix, accounting for 80% of its total marketing communications budget.

In 1992, the firm incurred a total expenditure of \$98,000 on trade shows, or approximately 15% of its marketing budget. Its telemarketing activity is limited, devoted primarily to receiving orders from customers and handling customer service. The company does not employ a salesforce or use agents or distributors and, thus, does not engage in active selling. This marketing strategy provides a “clean” situation (which fulfills *C<sub>1</sub>*), enabling us to isolate more easily the effect of trade show activities.

The major trade show for the chromatography industry is the Pittsburgh Analytical Conference (PITTCON) show.

**TABLE 1**  
**Cell Sizes in Six Sample Categories**

Description	Visited Restek's Booth	Did Not Visit Restek's Booth (may or may not have attended the trade show)	Total
Small customers*	164	1481	1645
Large customers	136	824	960
Prospective customers	703	8566	9269
Total	1003	10,871	11,874

\*Less than \$1,000 in sales with Restek in 1992.

This show is an annual event and is usually attended by all major manufacturers and suppliers of chemicals and chromatography products. Our study pertains to the PITTCON show held in March 1993 in Atlanta, in which Restek introduced two new products, thus fulfilling C<sub>2</sub>. The products were (1) a new software for gas chromatography and (2) a new type of jacketed capillary column connector. The show attracted over 12,000 attendees and approximately 1000 exhibitors, and it occupied nearly 331,000 square feet of exhibit space. Several of Restek's competitors also participated in this show, five of whom were featured in our post-show survey. On average, visitors to Restek's booth also visited four of the five other competitors' booths, which suggests that they had broad exposure to competitive products.

#### **Experimental and Control Groups**

We determine the incremental impact of the trade show by comparing current customers and prospective customers who attended the show and visited Restek's booth (experimental group = booth visitors) with those who either did not attend the show or attended the show but did not visit Restek's booth (control group = non-visitors). To fulfill C<sub>3</sub>, it is important that we compare groups that are similar; therefore, we matched the two groups on relevant dimensions.

Our construction of experimental and control groups follows a "natural" process because the firm's customers and prospects acted as they would have before, during, and after the show. We created the two groups after the show concluded in the subsequent manner: Approximately one month prior to the show, the firm mailed a brochure to all current customers and prospective customers. The brochure highlighted some products that Restek had introduced recently into the market and other general company announcements. There was no mention of the two new products that were being introduced at the upcoming show. The brochure also included a visit card that invited the customer or prospect to visit the firm's booth at the show, turn in the visit card, and receive a free gift in exchange. The firm collected information about booth visitors who did not have the visit card on a separate (imprint) form. At the conclusion of the trade show, we compared the booth visit cards and imprint forms to develop a non-duplicated list of booth visitors. Our unit of analysis is Restek's customer ID, which represents an individual firm at a specific location. In total, 1003 non-duplicated records (including the visitor's name, address, and affiliation) formed our experimental group, namely, the booth visitors (i.e., those exposed to Restek's booth at the trade

show). All other names on the customer and prospective customer list formed the control group, that is, the non-visitors. Note that customers and prospects self-selected themselves into the experimental or the control group.

#### **Matching Samples with Prior Buying Intentions**

We determined prior intention to buy *any* of the products on display at the show using a post-show survey. This measurement is important because those individuals who attend a show might do so because they have more clearly developed buying plans for products being displayed at the show than those individuals who do not attend. Thus, higher sales from show attendees might be attributed simply to their higher levels of purchase intentions as compared to non-attendees, and we would have to adjust the sales effects of the trade show accordingly. To investigate possible differences in buying intentions, we surveyed separate random samples of those who attended the show and visited the booth and those who did not attend the show at all, excluding those who attended the show but did not visit the Restek booth.

Attendees entering a firm's booth at a trade show can be classified into two categories—current and prospective customers. The impact of the exhibit on an existing customer may be different from the impact on a prospect because of the current customer's familiarity with, for example, the exhibiting firm itself, the characteristics of its products, or its service support. For prospective customers, the exhibiting firm starts earlier in the sales process, because it needs to create firm/product/brand awareness. Also, it is important that "large" and "small" customers are examined separately, so that the impact of the show is not confounded with the higher buying levels of some customers. Thus, we used the size of the previous year's purchases with Restek as a blocking variable in our analyses.

In summary, we used current business volume as a blocking variable in the experimental design, creating three categories: (1) small customers (1992 purchases < \$1,000), (2) large customers (1992 purchases ≥ \$1,000), and (3) prospective customers (no purchases in 1992). Based on the customer list provided by Restek, the classification resulted in 1645 small, 960 large, and 9269 prospective customers. We combined this customer-specific information with the information from the experimental condition in the previous section (1003 booth visitors) to arrive at the number of subjects in each of the six categories in Table 1. Note that our data on sample sizes does not permit us to distinguish between those individuals who attended the show but did not

visit the Restek booth from those who did not attend the show at all. We will return to this issue subsequently.

### Intermediate (Non-Sales) Effects of the Trade Show

As we discussed previously, there may be important non-sales effects of trade show participation, which moves prospective customers through the different stages of the sales process. Trade shows, then, can reduce the effort needed for the marketing communications activities that follow the trade show (e.g., personal selling, telemarketing), producing an indirect effect of the show.

Two months after the show, we surveyed a sample of show attendees (who also visited Restek's booth) and non-attendees from each of the six cells in Table 1 to examine the impact of the show on product awareness and product interest. (This was the same survey we used to establish prior purchase intentions.) If a respondent was aware of either or both of the products that Restek introduced at the show, we rated that individual as "aware." Similarly, we coded the respondent's average level of interest for both products on a scale of 1 to 5 (1 = no interest, 5 = high interest).

## Results

Using a rating scale of 1 to 5 (1 = no plans to buy, 5 = very definite plans to buy), on an overall basis we determined that the mean score for those attending the show was 3.03 (standard error .13) versus 2.93 for those not attending the show

**Table 2**  
Buying Plans Prior to Trade Show

Description	Pre-Show Buying Plans (5-point scale)	
	Mean*	Standard Error
Small customer		
visited show (and booth)	2.63 (n = 65)	.22
did not visit show	2.65 (n = 58)	.22
Large customer		
visited show (and booth)	3.51 (n = 67)	.20
did not visit show	2.94 (n = 53)	.25
Prospective customer		
visited show (and booth)	2.92 (n = 52)	.24
did not visit show	3.31 (n = 42)	.28

\*1 = no plans; 5 = very definite plans.

(standard error .14), a difference that is not significant at the .05 level. Thus, those attending the show (and visiting the Restek booth) and those not attending the show appear to have, on average, similar levels of prior buying intentions. At the individual cell level (Table 2), we detect no statistically significant differences in prior purchase intentions.

The monthly sales results for the two new products exhibited at the show are reported in Tables 3 and 4. We tracked sales, following the Restek customer ID, for customers and prospects for a period of four months (May–August 1993) in each of the six cells mentioned previously. The four month period following the show was relatively free from "interference" from other shows in the chromatography industry, because the next major show in the industry was held in October 1993.

Table 3 shows that in each month following the show, the experimental groups had a higher sales level on a cumulative per customer basis than the control groups, which provides support for CONJ1. Furthermore, from Table 4, we note that the proportion of customers buying the two products is greater among those who visited Restek's booth at the show. Also, sales per customer *buying the product* is greater among those who visited Restek's booth at the show.

Recall that the two products were introduced for the first time at this show. Thus, there was no prior sales history of these products, and, therefore, the higher level of sales per customer in the experimental versus control group after the show can be ascribed to the effect of the show.

We compute the trade show's return on investment (ROI) in Table 5. The ROI computations are performed as of the end of August 1993 and pertain to sales during the period of May through August 1993. Because the two products were not ready for shipment during April 1993, there were no sales in April. We aggregated the total incremental sales across all cells and multiplied the result by the average gross margin for the two new products (35%) to derive the total incremental profit. We allocated the total cost of participation in the trade show (\$30,770) to the two products on the basis of the proportion of total booth space occupied by the two products (15%). The resulting short-term return on investment (ROI<sub>S</sub>) of 23% represents a lower bound on the value of this trade show in terms of incremental short-term sales alone and supports CONJ2.

Breaking off our analysis at the end of a four month period gives an artificially truncated view of the total effect of the show. As with advertising, the total (long-term) effect of

**TABLE 3**  
Post-Show Cumulative Monthly Sales Analysis

Description	Cumulative Sales/Customer (\$)			
	May	June	July	August
Small customer, visited booth (n = 164)	9.18	14.90	19.12	23.09
Small customer, did not visit booth* (n = 1481)	2.00	4.78	7.38	9.73
Large customer, visited booth (n = 136)	14.89	68.45	101.18	144.38
Large customer, did not visit booth* (n = 824)	14.44	33.30	43.72	57.61
Prospective customer, visited booth (n = 703)	1.85	3.32	4.17	4.17
Prospective customer, did not visit booth* (n = 8566)	.40	.70	.82	1.07

\*May or may not have attended the show.

the show should be determined over a longer time horizon. Figure 2 plots the cumulative incremental sales computed at the end of each month as a function of time elapsed (in months) following the show.

First, note from Figure 2 that the incremental sales values at the end of each month suggest a possible S-shaped response curve, with cumulative incremental sales increasing initially at an increasing rate, but later at a decreasing rate. These observations are preliminary, however, and further empirical studies are needed. Second, note that some

amount of time elapses before the show "breaks even" (generates \$4,616 in incremental profits). We find from our study that this period is roughly three months after the show; sales afterward add to positive net returns.

Because of the potential interference of other shows and marketing activities on sales, we terminated our sales data collection after four months and used a mathematical projection model to estimate long-term effects (*ceteris paribus*). Such a projection suggests what "would have happened" if conditions had remained the same and is our best

**TABLE 4**  
**Post-Show Cumulative Purchaser Analysis**  
**(May/August)**

Description	Number of Purchasers*	Purchasers as Percentage of Customers	Cumulative Sales Per Purchaser
Small customer, visited booth (n = 164)	11	6.7%	\$344
Small customer, did not visit booth** (n = 1481)	47	3.2	307
Large customer, visited booth (n = 136)	33	24.3	595
Large customer, did not visit booth** (n = 824)	111	13.5	428
Prospective customer, visited booth (n = 703)	8	1.1	367
Prospective customer, did not visit booth** (n = 8566)	32	.4	285

This table shows the positive effect of the trade show booth visit in terms of the number of purchasers and the sales/purchaser in each of the cells, consistent with the sales effects noted in Table 3.

\*Number of purchasers represents the total number of separate individual Restek customer numbers in each cell after four months. Double counting of purchasers was eliminated, which could have occurred because of multiple purchases in separate months or because of multiple purchases of both new products in the same month.

\*\*May or may not have attended the show.

**TABLE 5**  
**Computation of ROI**

Description	Cell Size	Cumulative Sales May-Aug. 1993	Sales Per Customer	Incremental Sales Per Customer in Experimental Groups	Incremental Total Sales to Customers in Experimental Groups
Small customer, visited booth	164	\$ 3,786	\$ 23.09	\$23.09 - \$9.73 = \$13.36	\$13.36 × 164 = \$2,190
Small customer, did not visit booth*	1481	14,413	9.73	—	—
Large customer, visited booth	136	19,635	144.38	\$144.38 - \$57.61 = \$86.77	\$86.77 × 136 = \$11,800
Large customer, did not visit booth*	824	47,472	57.61	—	—
Prospective customer, visited booth	703	2,935	4.17	\$4.17 - \$1.07 = \$3.10	\$3.10 × 703 = \$2,186
Prospective customer, did not visit booth*	8566	9,123	1.07	—	—
Total Incremental Sales					\$16,176

\*May or may not have attended the show.

Average gross margin = 35%.

Short Term: Total incremental profit = .35 × \$16,176 = \$5,661.

Allocated cost of trade show expenditure for the two new products = \$30,770 × .15 = \$4,616.

ROI<sub>S</sub> = (\$5,661 - \$4,616)/\$4,616 = 22.7%.

Long Term: Total incremental profit = .35 × \$28,001 = \$9,800 (from Figure 2).

ROI<sub>L</sub> = (\$9,800 - \$4,616)/\$4,616 = 112%.

estimate of the long-term effect. Thus, we estimate a level of "saturation" sales that might have been achieved in the long run by fitting a Log Reciprocal model of the form  $S = \exp(\alpha - \beta/t)$ , where  $S$  = cumulative sales,  $t$  = time elapsed, and  $\alpha$  and  $\beta$  are parameters. The Log Reciprocal curve has desirable properties such as zero sales at  $t = 0$  and an S-shape for the response function with an inflection point at  $t = \beta/2$  (Lilien, Kotler, and Moorthy 1992). The saturation sales is given by  $S_{sat} = \exp(\alpha)$ . In fitting the observed sales data to this function (note that  $\ln(S)$  is linear in  $\alpha$  and  $\beta$ ), we obtain parameter estimates of  $\alpha = 10.24$  and  $\beta = 2.52$ . This gives an estimated "saturation" sales level of  $\exp(10.24)$  or \$28,001. Thus, we see that incremental sales at the end of August were approximately 58% (\$16,176/\$28,001) of the projected long-term sales level, leading to an estimated, upper limit of 112% long-term return ( $ROI_L$ ) on trade show investment (as calculated in Table 5), providing further support for CONJ2.

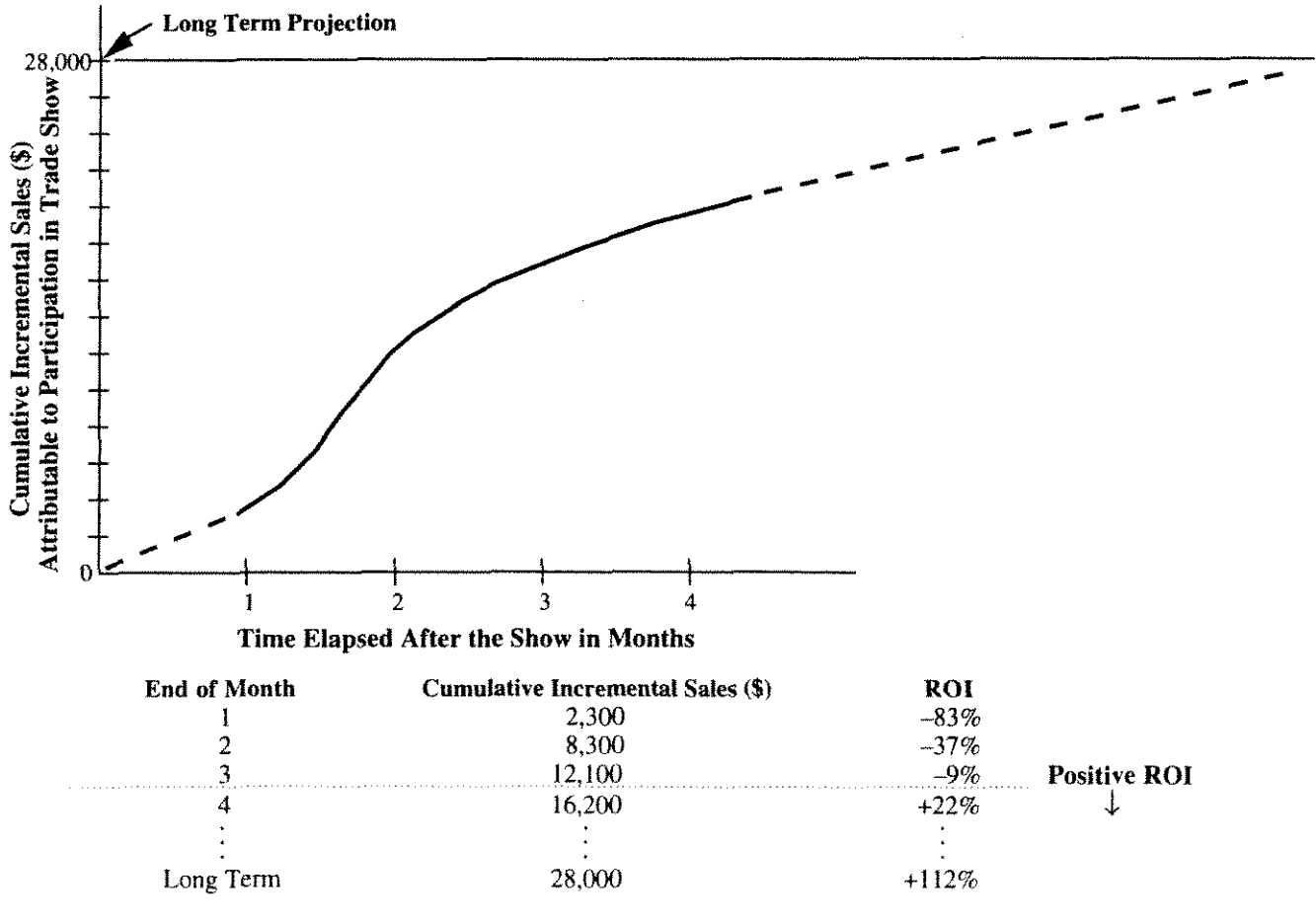
### Indirect Effects of the Show

In addition to direct sales effects, the trade show can move potential customers forward in the selling process. As noted previously, we investigated two stages of the selling process in our survey of respondents in the six cell categories—

product awareness and interest—and present the results in Table 6. We note that product awareness levels are higher for the attendees (booth-visitors) compared to the non-attendees in all categories, which is consistent with CONJ3. The differences, however, are not statistically significant. This may be because both attendees and non-attendees (who otherwise would have been completely unaware) received product information through direct mail following the show. Thus, our results, which indicate only a weak differential impact on creating awareness for the new products between attendees and non-attendees, could be considered conservative. For product interest, we observe a significant difference in the mean levels between attendees and non-attendees in the small and large customer categories, which supports CONJ4. For prospective customers, the difference was not statistically significant. Note, though, that all of the results for awareness and interest are directionally consistent with our conjectures, suggesting that larger sample sizes are likely to produce statistically significant results.

Our results suggest that this trade show performed an effective, pre-sales role in the later stages of the selling process, that is, generating interest in the new products and possibly creating some level of readiness to buy or positively influence the buying decision for the products.

**FIGURE 2**  
The Dynamics of Trade Show ROI



**TABLE 6**  
**Post-Show Product Awareness and Interest Level Among Booth Visitors versus Non-Attendees**

Description	Awareness	Interest Level	
		Mean*	Standard Error
Small customer, visited show (and booth)	75.5% (n = 49)	2.51** (n = 49)	.20
Small customer, did not visit show	67.3% (n = 52)	1.99 (n = 52)	.17
Large customer, visited show (and booth)	77.4% (n = 53)	2.58** (n = 53)	.20
Large customer, did not visit show	67.4% (n = 43)	1.89 (n = 43)	.18
Prospective customer, visited show (and booth)	78.0% (n = 41)	2.41 (n = 41)	.21
Prospective customer, did not visit show	67.6% (n = 34)	2.05 (n = 34)	.23

\*1 = no interest; 5 = high interest.

\*\*Significantly different from non-attendees at  $p < .05$ .

## Discussion

Although we have demonstrated that trade shows can produce a positive ROI, there are several limitations to the current study. First, we have only calculated the ROI in trade shows for two new products of a single firm. The corresponding ROIs for other firms will vary, depending on the variations in the several components used in the calculations. Second, we selected a "clean" promotional mix situation consisting primarily of direct mail and trade shows. This is not typical for most business marketing firms, which will have a promotion mix in which personal selling will play a much more significant role, if not the dominant role. Indeed, in many "noisy" markets, it may not be possible to ascribe separately the economic returns to investments in each marketing element. Third, we focused on new products, basing our calculations only on the sales and profits resulting from those products. To avoid accounting for the carryover of prior marketing activities, we did not include incremental sales and profits generated from current products that were also exhibited at the show; thus, we do not know the ROI for total trade show expenditures. That figure may be higher or lower. Fourth, we did not measure any product spill-over effects, namely, the incremental sales and profits for products that were *not* exhibited at the show but that did result from contact with booth personnel at the show, and the company image that the firm's participation at the show created.

The question, "Do trade shows pay off?" is being asked by firms that allocate the lion's share of expenditures on marketing communications to personal selling. Hence, the question really becomes whether the trade show can demonstrate a positive ROI through incremental sales and profits, in addition to the sales already being generated by the sales force. Trade shows "pay off" when their effects can be isolated, but to be considered cost-effective, they must also "pay off" when their effects are mixed with the effects of other elements in the promotion mix.

Column B of Figure 1 suggests how our approach can be extended to situations not as "clean" as the one presented by

Restek. In the first measurement stage, we have included pre-show measurements of awareness, knowledge, interest, and intentions to buy products in the product class, as well as products produced by the firm, but not featured at the show. If feasible, such measurements should be made prior to individuals attending the show (prospective measurements). The time frame for purchases should also be calculated to enable the assessment of the effect of the show on purchase acceleration. The second stage adds a third group of individuals: Those who attended the show, but *did not* visit the booth. We suggest careful tracking of all three of these groups to help evaluate competitive effects more precisely. The third stage matches individuals as best as can be done. Each individual situation could suggest some different matching variables (we used volume, current/new buyer, and buying process stage here). If the samples do not match on purchase intentions, for example, then a sample-adjustment procedure may need to be employed. In the fourth stage, the controls for other mix elements and competitive effects become important. Ideally, a firm would run some type of controlled (blocked) exposure to other elements of the communications mix (i.e., have salespeople visit only a proportion of the top leads or stagger the visits over a several month period). In either case, exposure to competition and other elements of the communications mix (covariates) must be tracked at the individual level to be able to estimate the effect of the show on the hierarchy of effects.

Such an approach would enable a more detailed analysis of indirect measures. Further research could examine not only the change in the level of other indirect measures, such as knowledge, preference, and conviction, but also track movement of show visitors from one stage to the next in the hierarchy of effects. If these results were combined with field sales studies, firms could see if a personal selling effort is more effective with those customers who were exposed to the trade show than with those who were not.

Although it is tempting to try to generalize our quantitative results, such a generalization is beyond the scope of our study. The vast literature on advertising effectiveness has only given some gross indications of effectiveness to date;



we can, here, only hope to provide a similar small first step in that direction. However, it seems clear that trade shows are more likely to yield a positive ROI when they generate high incremental returns in awareness, interest, prospect-generation, and sales, relative to their cost. Such situations are most likely to occur for new products and at shows in which exhibitor participation cost per key purchase influencer is low. The farther a study moves away from this type of situation, the more difficult and confounded the measurement process and, therefore, the show justification process becomes.

## Conclusion

Although trade shows are characterized by heavy investment by many firms worldwide, the area of trade show effectiveness has heretofore generally been a matter of faith, with little scientific support. Although the results of any single marketing study must be confirmed in a wide variety of environments, we must start somewhere. We hope we have provided such a start here.

We have reported what we believe is the first direct demonstration of a positive return on trade show investment. To do so, we developed a set of conditions ( $C_1$  to  $C_4$ ) that would enable an early demonstration to occur. Those conditions and the related methodology may be used or transported to other situations and, with the extensions suggested in Figure 1, applied to a broader set of practical business market situations. We have demonstrated in one situation that trade shows can pay off. Our challenge now is to determine the extent and limitations of those pay-offs and encourage firms to embrace the philosophy and approach to the justification and evaluation of investments in marketing communications that we developed here.

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