

**Forum for People Performance Management & Measurement**

**EXECUTIVE SUMMARY**

**An Exploratory Study of Sales Incentive Programs**

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**OVERVIEW**

Sales incentives represent an industry in excess of \$127 billion<sup>1</sup>. According to a report by The Incentive Federation, sales contests account for nearly \$9 billion in annual expenditures in the United States<sup>2</sup>. Despite the widespread use of incentives to motivate the sales force, uncertainty remains about their impact on overall sales performance. Kohn (1993) states that a rarely examined notion is the, "...belief that people will do a better job, if they have been promised some sort of incentive."<sup>3</sup> One reason for the uncertainty regarding the impact of incentives is the relatively small extent of theory-based research. Most of the available literature on sales contests, a commonly used incentive to energize salespeople, is limited to descriptive accounts provided by them and their managers<sup>4</sup>. In this study, we make an attempt to evaluate the impact of sales incentives on the bottom line.

The sales force is an important component of an organization's promotional capabilities, especially in the business-to-business marketing domain. Sales people account for roughly 12% of the fulltime work force in the United States and firms spend over a trillion dollars annually on sales force expenditures, more than they spend on any other promotional method<sup>5</sup>. Given the high cost and importance of the personal selling function, a key managerial concern is about motivating people to achieve higher levels of performance.

We have four major objectives in this research effort:

- Do incentives in a multi-product sales situation generate positive economic returns?

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<sup>1</sup>Stolovitch, Harold D., Richard E. Clark and Steven J. Condly (2002), *Incentives, Motivation and Workplace Performance: Research and Best Practice*. Society of Incentive and Travel Executives Research Foundation.

<sup>2</sup>This number accounts only for travel and merchandise prize awards. There is no accounting for cash prizes or administrative costs of the sales contests within this number.

<sup>3</sup> Kohn, Alfie (1993), "Why Incentive Plans Cannot Work," *Harvard Business Review*, 74 (5), 54-60.

<sup>4</sup>Albers, Sonke (2002), "Salesforce Management Compensation, Motivation, Selection and Training," in *Handbook of Marketing*, Barton Weitz and Robin Wensley, eds. London: Sage Publications, 248-266.

<sup>5</sup> Kotler, Philip (2003), *Marketing Management*, 11th ed. Upper Saddle River, NJ: Prentice Hall, Inc., 637-664.

- Which individual and program factors play a strong role in district performance?
- Do incentive design preferences vary across employees and managers?
- How do perceptions vary across employees and managers in high and low performing districts?

This Executive Summary provides an overview of the key findings from the study and specific data to support those findings.

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## **SUMMARY OF KEY FINDINGS**

### **Key findings from the study include the following:**

- For the specific incentive program evaluated, sales of the focal product nearly doubled during the program resulting in a 10% return on investment when the dynamic effects of the program are taken into account.
  - Incentives seem to generate a delayed sales effect - prior to the incentive period, sales show a declining trend possibly indicative of a “holding back” of sales till the incentive period.
  - During the program, sales peak in the beginning and again towards the end before dropping off gradually towards the baseline.
  - There is a positive impact on sales of the focal product but there are no adverse effects on sales of other products in the portfolio.
  - Individuals in high performing districts are more likely to have greater experience, more satisfaction with the incentive program, and allocate more effort to the focal product.
  - Managers and employees differ in their perceptions about which program elements are more preferred (employees) versus more effective (managers). Employees indicate a preference for cash while managers believe that recognition (non-cash) awards are more effective.
  - Managers in high and low performing districts differ in their beliefs about the importance of cash versus non-cash incentives.
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## **FORUM BACKGROUND**

### **What is the Forum for People Performance Management and Measurement?**

The Forum for People Performance Management and Measurement is a research center within the Medill Integrated Marketing Communications (IMC) graduate program at Northwestern University. It is funded by the Incentive Performance Center, which is made up of a number of top incentive companies and industry leaders dedicated to research and educational programs that improve human performance in business. A central objective of the Forum is to develop and

disseminate knowledge about communications, engagement and management such that businesses can better design, implement and manage people-based initiatives both inside and outside an organization. A number of research initiatives by the Forum are planned over the next three years to investigate the value and importance of employee incentives along with the other key issues of communications, engagement, and management.

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## PAST RESEARCH

Incentives like sales contests, are generally seen as an important tool to motivate sales people to achieve goals that surpass those associated with normal compensation<sup>6</sup>, enhance overall job satisfaction<sup>7</sup>, and increase corporate profits<sup>8</sup>. Despite these stated goals, a review of the academic literature on sales contests in the last twenty-five years reveals very little empirical work. Questions about the economic returns from incentive programs (ROI), their impact on sales of other products within the portfolio and the elements of optimal program design remain largely unanswered. When incentive program design decisions are considered, there is limited theoretical support to the hypotheses or the findings.

In a conceptual sense, previous research has described the likely overall impact of incentives including a discussion of the pros and cons. The lack of empirical work in this area has left room for a thirty year old debate regarding the overall benefits of incentives. On the one hand, tangible incentives may lead people to ignore other important tasks in the organization (such as customer service). Some have stated that incentives only gain temporary compliance from employees<sup>9</sup>. Other arguments suggest that incentives merely delay or push sales into future periods, borrow sales from future periods and disrupt sales force cohesiveness. Others describe sales incentives as rewards for behaviors that should be inherent with the primary compensation plan<sup>10</sup>.

On the other hand, arguments are made that an incentive system that is properly designed and executed can actually be quite successful<sup>11</sup>. One conceptual model has existed for over thirty years as indicated in Figure 1. In this model, it is suggested that an incentive program is normally held in a season when the sales would otherwise be low. Furthermore, the impact of the program

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<sup>6</sup> Murphy, William H. and Peter A. Dacin (1998), "Sales Contests: A Research Agenda," *The Journal of Personal Selling & Sales Management*, 18 (1), 1-16.

<sup>7</sup> Beltramini, Richard F. and Kenneth R. Evans (1988), "Salesperson Motivation to Perform and Job Satisfaction: A Sales Contest Participant Perspective," *Journal of Personal Selling & Sales Management*, 8 (2), 35-42.

<sup>8</sup> Wildt, Albert R., James D. Parker and Clyde E. Harris Jr. (1987), "Assessing the Impact of Sales-Force Contests: An Application," *Journal of Business Research*, 15 (2), 145-155.

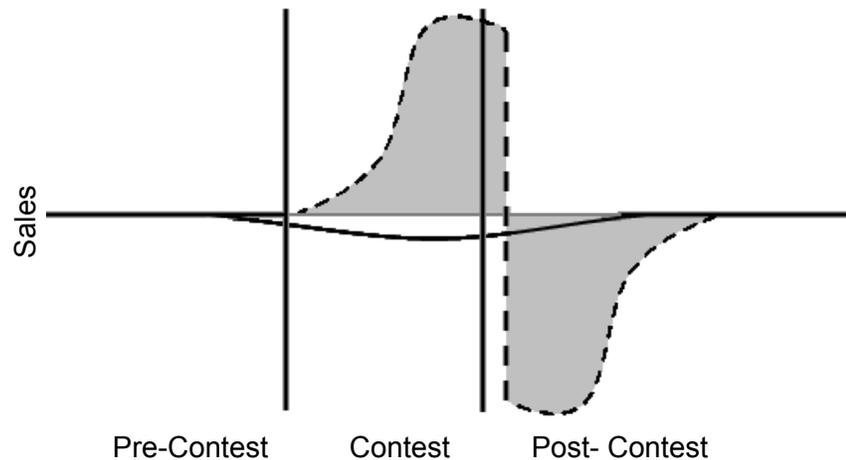
<sup>9</sup> Kohn, Alfie (1993), "Why Incentive Plans Cannot Work," *Harvard Business Review*, 74 (5), 54-60.

<sup>10</sup> Johnston, Mark W. and Greg W. Marshall (2003), *Churchill, Ford and Walker's: Sales Force Management*, 7th ed. Boston: McGraw-Hill Irwin, 369-402.

<sup>11</sup> Eisenberger, Robert and Judy Cameron (1999), "Does Pay for Performance Increase or Decrease Perceived Self-Determination and Intrinsic Motivation?" *Journal of Personality & Social Psychology*, 77 (5), 1026.

endures even beyond the program duration. In this model, sales rise dramatically during the program. But after its conclusion, the model suggests that sales will fall to a low level, before returning to a baseline. This basic model gives the impression that sales may have been “pulled in” from future periods but the net impact of the sales incentive may be almost negligible. However, such models have not been empirically tested.

**Figure 1 Conceptual Sales Contest Response Model<sup>12</sup>**  
(Dodge 1973)



While this conceptual depiction is helpful, it leaves important questions unanswered. For example, why do the peaks and dips occur? How long are they likely to endure? Does this model accurately depict the sales pattern around an actual sales incentive program, i.e., is this finding applicable to a variety of other situations? The existing literature offers little insight into these types of questions.

Sales incentives can be designed to deliver many benefits for the company and also provide positive motivation to the employees. Motivation can be drawn from varied sources such as the need for recognition or the extra emphasis on improving performance<sup>13</sup>.

Wildt et al.<sup>14</sup> provide an empirical investigation of a sales incentive program. The authors consider two contests for one product. They suggest that the contest does not necessarily impact a competing product and discuss the impact on sales after the contest is over. However, the time frame is only 49 days in total

<sup>12</sup> Dodge, H. Robert (1973), *Field Sales Management: Text and Cases*, Dallas: Business Publications, Inc., 284-289.

<sup>13</sup> Wildt, Albert R., James D. Parker and Clyde E. Harris Jr. (1980-81), “Sales Contest: What We Know and What We Need To Know,” *Journal of Personal Selling & Sales Management*, 1 (1), 57-64.

<sup>14</sup> Wildt, Albert R., James D. Parker and Clyde E. Harris Jr. (1987), “Assessing the Impact of Sales-Force Contests: An Application,” *Journal of Business Research*, 15 (2), 145-155.

and the research brings up the issue of the duration of observations necessary to fully understand the dynamic effects of the program.

Murphy and Dacin<sup>15</sup> update the literature review of Wildt et al. (1980-81). This review found a growth in contest research related to perceptions and motivations of employees regarding sales contests, preferred designs and some theoretical links to goals and expectancy theory. While research suggests that effort in the contest may be higher<sup>16</sup>, no research has investigated how this effort around a contest shifts over time. Our study partially answers the need for more research to better understand the behavioral responses of employees to incentive programs and how these responses result in an impact beyond the start and completion of the program.

Kalra and Shi<sup>17</sup> investigate the optimal design of contests using a theoretical model. Consistent with the economics literature, they define sales contests as rank order performance tools; distinct from quota based systems. They build on existing literature that suggests contests are a method to manipulate salespeople's effort. They draw on agency theory which posits that a clear relationship exists between effort and outcome. From this framework, they consider how salesperson effort can be maximized through design characteristics of the sales contest, such as the number of winners, risk aversion, number of contestants, and sales uncertainty. However, the authors stop short of describing how the effort itself might vary around the duration of the incentive program.

Past sales contest literature has several shortcomings. Few theoretical ties have been made to the effort that contests induce<sup>18</sup>. There is little empirical research in the area. With the exception of Wildt et al.<sup>19</sup> few have looked at multiple products, multiple contests or the impacts around the time of the incentive program. Even when this has been done, the time horizon seems too short to accurately capture these effects. Furthermore, there

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<sup>15</sup> Murphy, William H. and Peter A. Dacin (1998), "Sales Contests: A Research Agenda," *The Journal of Personal Selling & Sales Management*, 18 (1), 1-16.

<sup>16</sup> Hart, Sandra H., William C. Moncrief and A. Parasuraman (1989), "An Empirical Investigation of Salespeople's Performance, Effort and Selling Method During a Sales Contest," *Journal of the Academy of Marketing Science*, 17 (1), 29-39.

<sup>17</sup> Kalra, Ajay and Mengze Shi (2001), "Designing Optimal Sales Contests: A Theoretical Perspective," *Marketing Science*, 20 (2), 170-193.

<sup>18</sup>For exceptions see, Hart, Sandra H., William C. Moncrief and A. Parasuraman (1989), "An Empirical Investigation of Salespeople's Performance, Effort and Selling Method During a Sales Contest," *Journal of the Academy of Marketing Science*, 17 (1), 29-39. and Hastings, Bill, Julia Kiely and Trevor Watkins (1988), "Sales Force Motivation Using Travel Incentives: Some Empirical Evidence," *The Journal of Personal Selling & Sales Management*, 8 (2), 43-51.

<sup>19</sup> Wildt, Albert R., James D. Parker and Clyde E. Harris Jr. (1987), "Assessing the Impact of Sales-Force Contests: An Application," *Journal of Business Research*, 15 (2), 145-155.

is no definitive answer regarding the economic impact (ROI) of sales incentives.

The overall base of research in the area of sales contests is not deep, especially on the quantifiable results of sales contests. With the exception of a few empirical studies<sup>20</sup>, most work is theoretical or based on respondent perceptions<sup>21</sup>.

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## METHODOLOGY

The research described in this report is based on a collaborative relationship with a Midwestern financial services company with operations in 13 states, involving over 1300 sales agents, covering 78 districts. This company sells three primary product lines to end consumers through a network of agents specializing in financial services.

Every year, the firm administers two or three sales contests for their agents. Each contest lasts a few weeks and is designed to motivate all employees to push the sales of one of the three product lines. The focal product line is the most profitable for the company but is also the most difficult to sell. The data for this study was obtained from three sources - historical sales data from the firm, a survey of the firm's sales employees and a survey of district managers.

A sales contest held by the firm in 2003 is analyzed (late January to early March). The incentive structure had multiple rewards. The top few performers in the firm won large travel vouchers. In addition, employees selling above various pre-specified hurdles were eligible for smaller prizes. All employees selling over a base hurdle earned a recognition plaque.

Employees were surveyed on demographic information as well as their reactions to various statements about the incentive program they had just participated in. The survey was sent to the entire sales force, and 810 responded, creating a 64% response rate. The district managers were surveyed at an annual meeting; 70 of the 78 district managers responded.

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<sup>20</sup> Wildt, Albert R., James D. Parker and Clyde E. Harris Jr. (1987), "Assessing the Impact of Sales-Force Contests: An Application," *Journal of Business Research*, 15 (2), 145-155.

Wotruba, Thomas R. and Donald J. Schoel (1983), "Evaluation of Salesforce Contest Performance," *Journal of Personal Selling & Sales Management*, 3 (1), 1-10.

Caballero, Marjorie J. (1988), "A Comparative Study of Incentives in a Sales Force Contest," *The Journal of Personal Selling & Sales Management*, 8 (1), 55.

<sup>21</sup> Albers, Sonke (2002), "Salesforce Management Compensation, Motivation, Selection and Training," in *Handbook of Marketing*, Barton Weitz and Robin Wensley, eds. London: Sage Publications, 248-266.

The impact of the sales incentive program is calculated using two methods. In the simple approach, sales within the contest are compared to sales outside the contest to calculate the ROI. In the refined approach, where the sales dynamics are considered, a method called change point analysis is used to study the sales pattern during/outside the contest periods. This technique is used to establish the points in time where significant shifts in sales occurred. This helps in making a more accurate assessment of ROI for the contest.

The impact on the complete product portfolio is also important to determine the program ROI. To analyze the impact of individual, contest and market factors, a mean split of districts, to evaluate high versus low performing districts, was conducted.

## RESEARCH QUESTIONS

The task of linking a sales incentive program directly to increases in sales is a challenging task. This research addresses four major objectives:

- Do incentives in a multi-product sales situation generate positive economic returns?
- Which individual and program factors play a strong role in district performance?
- Do incentive design preferences vary across employees and managers?
- How do perceptions vary across employees and managers in high and low performing districts?

## RESULTS

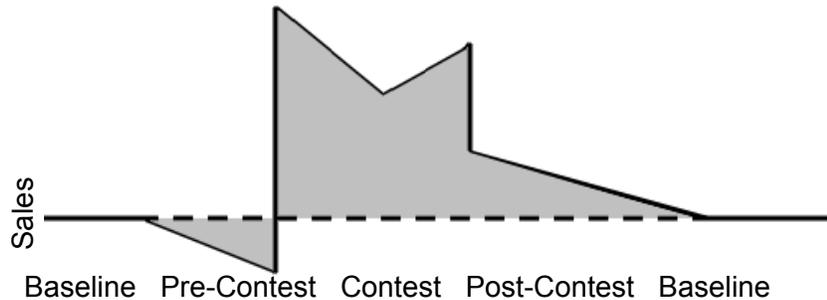
The 2003 sales incentive program lasted 45 days (January – March 2003) and produced average sales of 110 units per day. A period of 242 days was determined as the non-contest period (91 days before the contest and 151 days after the contest). In the non-contest period, average sales were 39 units per day. Based on the average margin per unit, the total incremental margin from the contest was \$150,000. The incentive cost was \$164,000; thus the contest produces a -8% return using the simple method for Product A (the focal product). Looking at the impact on products B and C, there seem to be very little differences in their levels of unit sales before and after the contest.

**Table 1 Change in Unit Sales – Simple Approach**

Product	Contest	Non-contest
A	110 units	39 units
B	178 units	193 units
C	601 units	579 units

Change point analysis<sup>22</sup> enables us to identify that sales go through four phases: baseline, pre-contest, contest, and post-contest phase. These phases can be employed to further refine and estimate the total economic returns from the sales contest in a more accurate manner.

**Figure 2 Observed Sales Contest Response:**



### **Phase 1 - The Baseline Phase**

This period is defined by the times during which the contest effects are non-existent. Generally, these durations are observed at points in time far removed from the start and end of the contest. Sales in these periods provide the true yardstick to evaluate the total impact of the contest, because it suggests the likely sales levels that would have occurred if the contest had not been held. Therefore, these sales levels become a comparison benchmark.

### **Phase 2 - Pre-Contest Phase**

This may be described as the preparation phase for the sales contest. It is typified by lower than baseline sales. This could be attributed to two factors – holding back sales until the contest begins and/or decreasing effort prior to the contest in order to save energy for the contest.

### **Phase 3 - The Contest Phase**

This is the actual duration of the contest, where sales are typically expected to be higher. The pattern of sales suggests a peak as soon as the contest begins which may indicate the redemption of sales that were held back from before. Sales show a lull in the middle of the contest but then start to go back up to a (smaller) peak before the contest ends. This may be due to the rush to close sales as the contest deadline approaches.

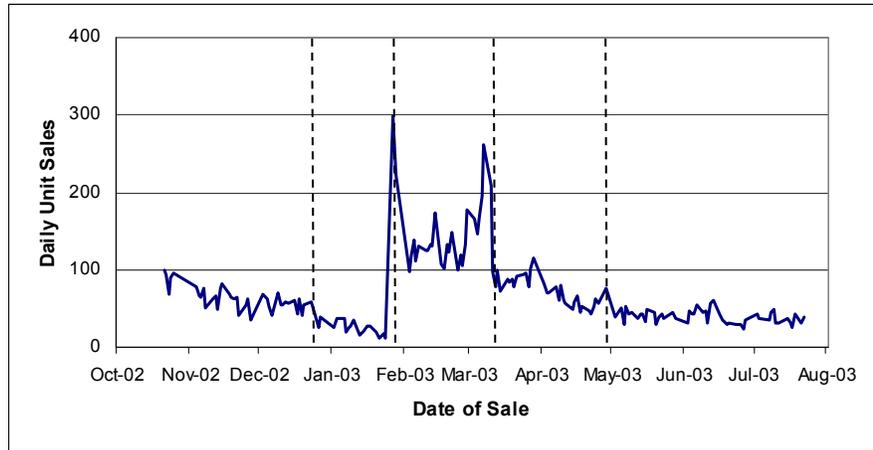
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<sup>22</sup> Krishnaiah, P.R. and B.Q. Miao (1988), "Review About Estimation of Change Points" in *Handbook of Statistics, Volume 7: Quality Control and Reliability*, P.R. Krishnaiah and C.R. Rao, eds. North Holland, The Netherlands: Elsevier Science Publishers B.V., 375-402.

### Phase 4 - The Post-Contest Phase

We find that sales in this period continue to remain at a level higher than the baseline sales. It is likely that the higher sales are a result of effort that was put forth during the contest, but could not be redeemed until after the contest.

**Figure 3 Actual Sales Contest Response**



Based on the sales pattern observed before and after the actual contest dates, a dynamic view of ROI would consider a longer duration than merely the contest start and end dates for a more accurate assessment of economic return.

In this approach, the impact of the contest lasts 91 days (contest period = 45 days, pre-contest period = 21 days, post-contest period = 25 days), with average daily sales of 77 units. The non-contest period, lasting 196 days, produces average daily sales of 35 units. The incremental margin is about \$180,000. The cost of the incentive program which was about \$164,000, produces a 10% return using the dynamic view for Product A. Looking at the impact on Products B and C, there seems to be very little difference in their unit sales before and after the program.

**Table 2 Change in Unit Sales - Dynamic Approach**

Product	Contest	Non-contest
A	77 units	35 units
B	183 units	191 units
C	604 units	566 units

### District Level Analysis

The firm operates in 78 different sales districts. Discriminant analysis helps to determine which factors have the greatest

predictive power for the change in daily sales by agents in those districts. For each district, the change in average daily sales performance from non-contest to contest adjusted by the number of employees is stated as:

$$Y = \Delta S/N = (S_2 - S_1) / N$$

Based on this index, districts were classified as high and low performing. The analysis reveals that the number of agents in the district, the experience level, satisfaction with the incentive program and percentage of effort allocated to the focal product in the non-contest are all positive factors in predicting whether a district would be a high performer in the contest.

### Survey Results

When employees were asked about which types of incentives they preferred to receive, their responses differed from the incentives that managers perceived were most effective in obtaining results. The following table shows these responses:

**Table 3 Employee and Manager Preferences for Rewards**

	Employee	Manager	T-value
Cash	54.5%	29.2%	10.825***
Merchandise	14.6%	15.0%	0.231
Recognition	12.8%	33.4%	8.602***
Travel	19.6%	22.4%	-1.464

\*\*\* Significant at p<.001

As is evident from Table 3, employees prefer cash rewards. However, this does not imply that cash rewards are necessarily effective. In fact, managers seem to believe that recognition is more effective in producing the desired results.

Employees were also surveyed on their effort allocation to the three product lines before and during the incentive program. The results reported in Table 4, suggest that effort is shifted towards product A (the focal product) during the program. It is worth noting that the total weekly effort before (29 hours) and during (33 hours) the incentive program did not change materially. Thus, the reallocation of effort which helps product A does not appear to hurt products B and C.

**Table 4 Employee Effort Allocation**

	Contest	Non-contest	T-value
Product A	38%	21%	-22.637***
Product B	23%	28%	11.591***
Product C	39%	51%	-22.637***

\*\*\* Significant at p<.001

The district managers were asked about which incentive elements were more effective in producing the desired results. The results reported in Table 3 were further classified by managers belonging to the low and high performing districts and are reported in Table 5. It is interesting to note that managers in the low performing districts have a somewhat similar view as the employees in those districts i.e., cash is preferred (or considered to be effective).

**Table 5 Manager Perceptions for Awards**

	High	Low	T-value
Cash	23.0%	34.7%	2.492*
Merchandise	18.0%	12.4%	-1.482
Recognition	33.9%	32.9%	-0.207
Travel	25.2%	20.0%	-1.404

\*significant at P<.05

## CONCLUSIONS

- Incentives appear to generate “delayed” sales effects
- No evidence to support or refute cross-product effects
- Individual factors (experience, program satisfaction, effort allocation) are important in the gap among high and low performing districts
- Managers and employees differ in their perceptions about which program elements are more preferred (employees) versus more effective (managers)
- Managers in high and low performing districts differ in their beliefs about the importance of cash versus non-cash incentives

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