CONTEXTUAL ANALYSIS OF PERFORMANCE IMPACTS OF OUTCOME-BASED INCENTIVE COMPENSATION

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This study investigated how contingency factors such as competitive intensity, customer profile, and behavior-based control influenced the effectiveness of an outcome-based incentive plan supporting a customer-focused service strategy. Empirical analyses were based on data for 77 months from 34 outlets of a major retailer, 15 of which implemented the incentive plan. Results support theoretical predictions: the positive impact of outcome-based incentives on sales, customer satisfaction, and profit increased with intensity of competition and proportion of upscale customers and decreased with level of supervisory monitoring.

Outcome-based compensation is increasingly being used by many firms in service industries. A major reason for this change is the intensifying competition that is motivating firms to emphasize customer-focused service as a way to gain a strategic advantage. Customer focus involves understanding and satisfying individual needs, which may differ widely across customers. Therefore, the tasks performed by the workers who deliver customer-focused service are more difficult to prescribe and less programmable than the tasks required for a more conventional, mass-production-style service. Thus, the increased use of outcome-based compensation is consistent with organizational control theory, which suggests that outcome-based control is appropriate in an environment characterized by low task programmability. However, anecdotal evidence indicates that the effect of outcome-based compensation on organizational performance has not been uniform across organizations providing customer-focused service and that, in fact, some have reverted to behavior-based control systems. We posit that certain environments do not warrant the adoption of a customer-focused strategy coupled with outcome-based control. Specifically, customer focus is less effective when customers are not particularly discerning or demanding of high levels of service; in such circumstances, implementing outcome-based incentives

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is less likely to improve organizational performance. We examined how this fit between contingency factors, customer service strategy, and organizational control system affects organizational performance using a panel of data for 77 months from 34 outlets of a retail firm, of which only 15 outlets implemented an outcome-based incentive plan.

Until recently, many service industries were sheltered from competition by regulatory constraints. There was little competition from overseas. Today, increasing competition is creating incentives to drive out inefficiencies (Roach, 1991) and to improve service quality (Zeithaml, Parasuraman, & Berry, 1993). In a recent Ernst & Young survey, executives ranked the improvement of customer service as the single most critical challenge facing U.S. business (Clark, 1993). To motivate employees to enhance customer satisfaction, many service organizations have recently moved from traditional behavior-based fixed salaries to outcome-based contingent compensation (Bivins, 1989; Burns, 1992; Coopers & Lybrand, 1992; Discount Store News, 1993; Kanter, 1989; Restaurants and Institutions, 1992; Sawyers, 1993; Schlesinger & Heskett, 1991b). There is also increased use of customer satisfaction measures as a basis for such outcome-based compensation (Hauser, Simester, & Wernerfelt, 1994).

The increased emphasis on customer-focused service requires that the needs and expectations of individual customers be understood and satisfied. But if service providers need to strive to determine the needs and expectations of customers, the exact tasks they must perform cannot be prespecified. For instance, Pfeffer reported that “rule #1” at Nordstrom, a retailer renowned for its superlative customer service, was “Use your good judgment in all situations. There will be no additional rules” (1994: 41–42). Thus, in such cases, service providers’ jobs become less programmable and more ambiguous, qualities that in turn make it difficult to monitor the providers’ behavior.

Two different approaches have been discussed in the literature on organizational control: Behavior-based control involves high levels of supervisory monitoring, direction of and intervention in activities, and subjective, complex methods of evaluating performance that are typically focused on employees’ job inputs. In contrast, outcome-based control involves relatively little managerial supervision of employees, reliance on straightforward, objective measures of performance, and use of compensation schemes that are based on these outcome measures (Anderson & Oliver, 1987). Since measures of output such as sales and customer satisfaction are often available as a basis for determining the rewards of service providers, organizational control theory predicts the use of outcome-based control to support a customer-focused service strategy (Eisenhardt, 1988).

A vital ingredient of excellent service quality is hiring highly motivated employees and rewarding their superior performance (Zeithaml et al., 1993). Many service firms are now trying to enhance customer satisfaction by focusing on the activities of front line workers and linking their compensation—and not simply that of senior executives—to performance (Schlesinger & Heskett, 1991b). Articles addressing practitioners have also recognized that
it is necessary to motivate service providers by linking rewards to performance in order to improve customer service in the short term and thus increase sales and profitability in the long term (Funston 1992; Kochan & Osterman, 1994; McCallum & Thompson, 1993).

Outcome-based compensation can range from individual bonus plans and individual merit pay to plans based on group performance, such as profit sharing and gain sharing. Prior empirical studies of the performance impacts of outcome-based compensation have yielded mixed results (Gerhart & Milkovich, 1992). Few studies have examined individual bonus plans, especially at lower levels of organizations; most have found a positive average impact (Kahn & Sherer, 1990; Locke, Feren, McCabe, Shaw, Denny, 1980; Taylor, 1967). Analyzing quarterly sales data from the same research site used for the current study, Banker, Lee, and Potter (1996) reported that store sales increased on the average after the implementation of the incentive plan and that the positive impact on sales increased over time.¹

In contrast, two studies of merit pay (Kahn & Sherer, 1990; Pearce, Stevenson, & Perry, 1985) detected no improvement in organizational performance although methodological concerns may limit the interpretability of the second study (Gerhart & Milkovich, 1992). Studies on profit sharing (Weitzman & Kruse, 1990) and gain sharing (Kaufman, 1992; Schuster, 1983), however, have generally shown positive impacts on productivity. Although many firms are currently implementing outcome-based compensation plans, some firms have reverted to behavior-based control systems (Financial Times, 1994; Wall Street Journal, 1990; Women’s Wear Daily, 1991). Contingency theory suggests that the impact of a compensation system on organizational performance depends on the fit between the organizational context and the system chosen. It is important, therefore, to evaluate the effectiveness of pay-for-performance systems taking into account contingency factors such as business strategy, competitive environment, employee characteristics, and existing human resource systems (Gerhart, Minkoff, & Olsen, 1994).

Although outcome-based control fits the task ambiguity created by a customer-focused service strategy, such a service strategy may not fit an organization’s environment. In the absence of a fit, outcome-based control will not be effective. Therefore, we identified the competitive and market conditions that are necessary for the success of a customer-focused service strategy. In addition, to the extent that effective behavior-based control is already in place, the potential for improving performance by implementing an incentive plan is limited. In this research, we empirically evaluated

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¹This initial study did not include performance measures other than sales and did not explain cross-sectional differences between stores in the impact of the incentive plan. The present study shows that the effectiveness of the plan in individual stores, as measured by sales, customer satisfaction, and profit, is moderated by the contextual factors of competitive intensity, upscale customers, and supervisory monitoring that are suggested by strategic contingency theory.
whether all of these factors moderated the impact of an outcome-based incentive plan supporting a customer-focused service strategy on three measures of performance in the specific setting of the retail industry. Our research site offered a unique set of experimental and control stores, a long time series of data, and a setting in which the major organizational change was the implementation of the outcome-based incentive plan. These features enabled us to evaluate the extent to which performance gains after the implementation of outcome-based compensation were related to the competitive and market environment of a store and the degree of behavior-based control in place prior to the implementation of the plan.

THEORETICAL BACKGROUND AND HYPOTHESES

The Impact of Outcome-Based Incentives

Increased competition has led many companies to emphasize customer-focused service in order to enhance customer satisfaction and gain a competitive advantage (Schlesinger & Heskett, 1991b). This is especially true of service organizations because in such businesses product differentiation is low, customer interaction is high, and the production and consumption of services are inseparable (Zeithaml et al., 1993). Customer focus can reveal opportunities for creation of buyer value and also allow a seller to command price premiums through value-based pricing (Forbis & Mehta, 1981). Retaining old customers and winning new customers is necessary for maintaining or improving market share and profitability. In a study of customer switching behavior in restaurants, hotels, banking, airlines, and retail industries, Keaveney (1995) identified dissatisfaction with service encounters, service mistakes, unsatisfactory employee responses to mistakes, and attraction by competitors offering superior service as some of the primary reasons for customer switching. In the short run, delivery of high-quality service provides an opportunity for companies to shield themselves from price competition (Fornell, 1992; Garvin, 1988). In the long run, superior customer service leads to both market expansion and gains in market share (Fornell, 1992; Zeithaml et al., 1993).

Customer-focused service changes the nature of the tasks service providers perform. Workers involved in customer service need to be empowered because the exact tasks required to improve customer satisfaction cannot be prespecified, as different customers have different needs, and their service expectations often differ from those of the management (Schlesinger & Heskett, 1991a). Zeithaml, Parasuraman, and Berry (1993) offered three reasons for worker empowerment in service organizations. First, services are basically intangible. Because customer service produces performances and experiences rather than objects, precise production specifications concerning uniform quality can rarely be set. Often, the criteria customers use to evaluate customer service are complex and difficult to capture precisely. Second, services are heterogeneous. The delivery of customer service varies from customer to customer and from day to day unless a service organization
chooses a very narrowly focused market niche. The quality of the interactions
bank tellers, flight attendants, retail sales consultants, and insurance agents
have with customers can rarely be standardized to ensure uniformity in the
way the quality of goods produced in a manufacturing plant can. For example,
the duties of a bank teller range from processing simple deposits to explaining
legal problems associated with cashing a postdated check. Zeithaml and
colleagues (1993) reported a case in which failure to explain legal problems
resulted in the customer’s switching to another bank. Understanding the
special service needs of each customer is thus essential, and hence these
tasks are not easily programmable. Third, the production and consumption
of many services are inseparable. The quality of service is often determined
by service delivery, usually in an interaction between customer and provider,
rather than engineered at a manufacturing plant and delivered intact to the
customer. Thus, when the emphasis is on customer-focused service, the tasks
performed by a service provider are more ambiguous and less programmable,
necessitating the empowerment of employees.

Research on organizational control that relates task programmability to
outcome- or behavior-based control (Anderson & Oliver, 1987; Eisenhardt
1985, 1988; Ouchi, 1979) provides a useful framework in this case. Earlier
studies have suggested that outcome-based control is likely to result in higher
performance when outcome measurability is high and task programmability
is low (Conlon & Parks, 1990; Eisenhardt, 1985; Govindarajan & Fisher,
1990; Snell, 1992). Since customer-focused service involves greater worker
empowerment and task ambiguity, an outcome-based control is necessary to
implement this strategy.

A customer-focused service strategy may not, however, be consistent
with an organization’s competitive and market environment. Contingency
theory, in general, is based on the common proposition that organizational
performance is a consequence of the fit between two or more factors, such as
an organization’s environment, strategy, structure, systems, style, and
culture (Pfeffer, 1982). Because of inertia, inflexibility, resource immobility,
and related issues, organizations cannot always assure a perfect fit between
all these factors. Therefore, empirically, researchers have found different
levels of organizational performance, with performance level related to
degree of fit (Van de Ven & Drazin, 1985). Although outcome-based compensation
fits the customer-focused strategy characterized by low task programmability well, the performance impact of implementing an outcome-based compensation plan in such a case will depend on the extent of the fit between
the customer-focused strategy and an organization’s competitive and market
environment.

The Moderating Effect of Contextual Factors

Researchers have recognized that the effectiveness of outcome-based compensation may depend on other contingency factors (e.g., Gerhart et al.,
1994). For instance, Gerhart and Milkovich (1992) stated the following:
Further development and testing of contingency models is needed. Contingency factors may include not only other human resource activities but also employee, job, organization, and external factors. The effectiveness of compensation policies may vary significantly across settings that differ on these contingency factors. It is critical for both theory and practice that such factors be identified and understood more completely. . . .

No pay program (or set of pay programs) is likely to be equally effective under all sets of conditions. Therefore, looking only at the average effect of a pay program across diverse settings overlooks the possibility that there is a statistical interaction between pay programs and contextual (i.e., contingency) factors. This can also be described as a question of fit. Some pay programs and organizational strategies are likely to be more congruent than others. . . . The contingency approach suggests the need for organizations to decide what pay programs fit best with their overall strategy (1992: 482).

When an outcome-based compensation plan is implemented to support a customer-focused service strategy, factors that affect the relation between customer service level and customer buying decisions are the most salient. Specifically, the existence of competing organizations that can fill customers' needs and economic and demographic factors that influence customers' service outlet choices are especially relevant. In addition, the impact of outcome-based control will be affected by the level of behavior-based control in place before a new incentive plan is implemented.

The moderating effect of competition. Intense competition has been identified as a principal reason for service organizations' choosing customer-focused service as a strategy for gaining competitive advantage (Schlesinger & Heskett, 1991b). Studies in marketing also identify competitor concentration as a principal moderator of the impact of customer-oriented strategies on performance (Slater & Narver, 1994). The greater the competition, the more aggressive a business must be in discovering customer wants and creating superior customer value to satisfy them (Kohli & Jaworski, 1990). Service industries such as retail stores, banks, airlines, insurance brokerages, restaurants, and hotels are characterized by monopolistic competition involving service outlets located near each other in a given geographic area, with each competing for its clientele (Kreps, 1990). Service units differentiate themselves from one another through different levels of customer service. If a service unit located in a highly competitive geographical area offers a low level of customer service, it risks customers' "walking away" to a nearby competitor. Conversely, a service organization enhancing the level of its customer service stands to win customers away from its competitors. Attraction by competitors offering better service is a principal determinant of customer switching behavior (Keaveney, 1995). In contrast, a service organization facing little competition or enjoying monopoly power is less likely to gain from higher levels of service because the behavior of the customers is less likely to be influenced by the behavior of the service providers. Therefore, although competitive intensity is negatively related to sales, the positive
impact of implementing an outcome-based incentive plan to provide superior customer service and win and retain customers is likely to be more perceptible in a more intensely competitive environment. Accordingly,

_Hypothesis 1: The greater the intensity of competition, the greater the performance impact of an outcome-based incentive plan implemented to support a customer-focused service strategy._

**The moderating effect of customer profile.** Stores in upscale markets are likely to enjoy greater sales. But, in addition, the effectiveness of enhanced customer service depends on the extent to which customers value service quality relative to other factors influencing their buying behavior. Studies of department stores indicate that upscale customers value customer service and are attracted by enhanced customer service more than other customers (Crask & Reynolds, 1978; Korgaonkar, 1981; Peterson, Albaum, & Ridgway, 1989). Because upscale buyers exhibit more discretionary purchasing behavior, their buying decisions are more likely to be affected by the improved customer service resulting from the implementation of an outcome-based incentive plan (Slater & Narver, 1994).

Following Korgaonkar (1981) and Crask and Reynolds (1978), we measured the construct of upscale customers in terms of income, age, college education, and employment characteristics. Customers with high household incomes are likely to have more flexibility in buying decisions and hence are more likely than others to be influenced by customer service and not just by prices. Older households are wealthier and more willing to spend (Petre, 1986) and have substantial discretionary income (Allan, 1981). Better-educated customers tend to demand better product information and higher service quality and to expect service providers to meet their needs. Upscale customers are less likely to compromise their specific needs for a lower price. The buying decisions of customers who value customer service more are more likely to be affected by enhanced customer service. Therefore,

_Hypothesis 2: The more upscale the market, the greater the performance impact of an outcome-based incentive plan implemented to support a customer-focused service strategy._

**The moderating effect of monitoring.** Performance improves with the extent of behavior-based control, but studies by Eisenhardt (1985) and Conlon and Parks (1990) have indicated that behavior- and outcome-based controls can substitute for one another. Agency theory also suggests that if an agent's actions can be observed more precisely, desired actions can be induced with lower risk premium costs. For service outlets that rely on a high level of monitoring by supervisors and managers, a switch to outcome-based compensation will not produce a dramatic increase in performance, because the high level of monitoring that existed prior to the change, although not perfect, will have already produced better performance than that realized by service...
outlets with little monitoring. Thus, the gains in organizational performance from the implementation of an outcome-based compensation plan vary inversely with the extent to which behavior-based control is in place at the time of the plan’s implementation. Therefore,

*Hypothesis 3: The higher the existing level of monitoring, the smaller the performance impact of an outcome-based incentive plan.*

**METHODS**

**Research Site**

Our research site was a large retailer whose stated strategy was to provide customers with exceptional value. It operated full-line department stores emphasizing fashion leadership, quality merchandise, broad selections, and superior customer service. All the retail outlets (stores) sold a full line of similar merchandise to the general public. An average store occupied approximately 220,000 square feet and employed about 180 sales consultants. Although the stores were spread over a large geographic area, most of the stores were located in or near shopping malls in urban areas.

**Retail industry.** Competition in the retail industry has become very intense in recent years. *Forbes* (Koselka, 1991) reported a 36 percent increase in retail square footage in the 1980s but observed that the increased competition had led to a sharp decline of 16 percent in sales per square foot. In this competitive environment, increasing or at least maintaining productivity has become a necessity, and retailers have resorted to emphasizing high-quality service delivery as a competitive strategy designed to attract and retain customers. As a *New York Times* article (Stevenson, 1989) reported, “After years of concentrating on keeping costs low and luring customers with constant rounds of sale prices, the large department and apparel stores increasingly see competent service from an efficient, cheerful sales staff as the key to success in an increasingly competitive retailing environment.” Many large retailers, including Nordstrom, Bloomingdale’s, Macy’s, Rich’s, and Carter Hawley Hale, have implemented or expanded their incentive pay plans (Barmash, 1989; *Discount Store News*, 1993; Ginsberg, 1989; Lloyd, 1989). An Ernst & Young survey of the retail industry (Bivins, 1989) reported that virtually all department stores offered incentive plans such as commissions, base salary plus commission, and quota bonus plans. Newspaper and magazine articles also cite firms reporting dramatic improvements in performance when outcome-based plans are implemented (e.g., Ginsberg, 1989).

**Incentive plan.** The job description for sales consultants at our research site before the implementation of the incentive plan involved routine duties such as being available, dressing appropriately, closing sales, restocking merchandise, and billing. Although these duties continued to be a part of a sales consultant’s job, a customer-focused service strategy requires the salesperson to “go the extra mile” to satisfy the needs of customers. Sales consultants could enhance customer service by keeping databases of custom-
ers and their preferences, making calls to update them on new products, informing them of sales and special events, and retrieving merchandise they need from other departments or stores. In addition, sales consultants were empowered to take necessary steps to satisfy customers by providing discretionary discounts and unconditionally accepting returns. These activities required knowledge of the specific needs of individual customers and were difficult to prescribe a priori, so task programmability decreased.\(^2\)

Following other retailers, managers at our research site introduced the outcome-based incentive plan to provide service “beyond customers’ expectations.” Documents distributed to salespersons describing the plan also emphasized enhanced customer service as its objective. Outcome-based incentives were expected to lead to superior customer service and thus to improved customer satisfaction and sales performance. The structure of the incentive plan was the same at all stores in which it was implemented; it applied to all sales consultants and to all merchandise sold at those stores.

The outcome-based incentive plan implemented at our research site is best described as a bonus program. A salesperson was paid a base wage equaling an hourly rate times the hours worked plus a cash bonus if the quarterly sales he or she generated exceeded a prespecified goal. (The hourly wage rate was the same as that in place before the plan was implemented and was comparable to the wage rate at the 19 stores that did not implement the plan.) Each employee’s sales goal was based on his or her hourly wage rate, merchandise category, and other proprietary factors. The cash bonus equaled a prespecified percentage rate times the amount by which the sales goal was exceeded. Failure to meet the quarterly sales goal resulted only in no bonus payment, with the base pay guaranteed. However, failure to meet the target in two successive quarters could result in termination of employment.\(^3\) Bonus payment was substantial relative to salary, averaging 23.5 percent of the annual base salary of about $16,000. In addition, because these employees had little opportunity for career advancement or other outcome-based rewards within the firm, this setting was particularly suitable for examining the impact of incentives on performance.

After the plan’s implementation, managers became responsible for supporting the consultants’ enhanced customer service activities, and the former

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\(^1\) We observed that the time sales consultants spent with customers, the time spent in explaining product choices to customers, and the training of sales consultants by headquarters staff for customer-focused service tasks all increased after plan implementation. Thus, in terms of Eisenhardt’s (1988) operational definition, task programmability decreased with the new emphasis on a customer-focused service strategy.

\(^2\) Since the incentive plan was an add-on program guaranteeing sales consultants the same base salary they had earned prior to plan implementation, the compensation of the sales consultants who continued to be employed at our research site increased. However, possible termination for failure to meet the quota accentuated the steepness of pay as a function of performance. Thus, as the efficiency wage hypothesis suggests, both the level and the form of this incentive plan motivated sales consultants to improve their performance. Unfortunately, since all stores had the same plan structure, it was not possible to separate the impact of these two aspects.
became largely facilitators as the sales consultants gained autonomy. After outcome-based compensation was introduced, the managers were encouraged to spend their time scheduling salespeople, resolving disputes over credit for sales, and instructing employees who had subpar selling performance, in addition to carrying out the supervisory and monitoring activities they had performed earlier. Under the incentive plan, sales department managers and supervisors were also paid a quarterly bonus as a percentage of the amount by which actual sales exceeded their goals, so the new compensation plan covered all store personnel directly responsible for customer service.

**Plan implementation.** Our research site comprised 34 stores located in a relatively homogeneous geographic region spanning six states. Conversion of 15 of these 34 stores to the outcome-based incentive plan occurred over a period of about three years as company managers were unsure about the precise extent of the impact of the plan on store performance. Implementation of the plan coincided with an emphasis on customer-focused service. The plan was first implemented toward the end of 1987 in one store chosen from a group of similar stores. Three additional stores implemented the plan in 1988, and another seven stores were added in 1989. By the end of 1990, four more stores had implemented the plan. Plan implementation was preceded by a number of question-and-answer sessions and store visits by corporate staff members, both designed to aid the transition. Corporate staff was present on site during the initial phases of implementation to emphasize customer-focused service and explain the details of the plan to store employees. Sequential implementation of the plan was necessitated by the limited number of headquarters staff members and by the desire of the management to assess performance impact before full-scale adoption. The 19 stores that did not implement the plan provided a natural control group that enabled us to assess the cross-sectional effects of the implementation of the incentive plan on store sales, customer satisfaction, and profitability for the 15 experimental stores.

Interviews with senior managers in finance, human resources, and stores (sales) departments involved in the design and implementation of the plan and detailed examination of internal correspondence assured us that the 15 stores were chosen for initial implementation only because they were generally representative of other stores. Table 1 compares the 15 experimental stores and the 19 control stores on the levels of several variables of interest existing before the implementation of the plan. We disguised all numbers by multiplying by a constant. The median number of square feet of retail area is identical for the control and experimental stores, and the difference in means is also statistically insignificant. The 15 experimental stores had slightly higher sales than the 19 control stores, and they also had slightly greater competitive intensity and more upscale customers. However, none of these nor any other variable appearing in the table exhibits any statistically significant or systematic differences between the experimental and control.
### TABLE 1
Comparison of Control Stores with Experimental Stores

<table>
<thead>
<tr>
<th>Variables</th>
<th>Stores with Plan</th>
<th>Stores without Plan</th>
<th>Statistical Tests of Differences&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
<td>Mean</td>
</tr>
<tr>
<td>Square feet</td>
<td>227.520</td>
<td>187.000</td>
<td>220.420</td>
</tr>
<tr>
<td>Sales 1987&lt;sup&gt;c&lt;/sup&gt;</td>
<td>$43.02$</td>
<td>$35.08$</td>
<td>$34.46$</td>
</tr>
<tr>
<td>Competition</td>
<td>36.47</td>
<td>35</td>
<td>31.58</td>
</tr>
<tr>
<td>Upscale customer profile</td>
<td>0.47</td>
<td>0.66</td>
<td>-0.37</td>
</tr>
<tr>
<td>Monitoring 1987</td>
<td>0.22</td>
<td>0.21</td>
<td>0.23</td>
</tr>
<tr>
<td>Customer satisfaction index</td>
<td>58.05</td>
<td>57.33</td>
<td>57.82</td>
</tr>
<tr>
<td>Profit 1987</td>
<td>0.270</td>
<td>0.297</td>
<td>0.267</td>
</tr>
<tr>
<td>Number of stores</td>
<td>15</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> All numbers have been disguised by multiplication by a constant.

<sup>b</sup> $p(t)$ is the probability that the means of the two groups are equal; $p(z)$ is the probability that the medians of the two groups are equal.

<sup>c</sup> Expressed in millions of dollars.

stores. This finding is consistent with management’s intent to select representative stores for initial implementation.

**Data Collection**

Sales and profit data were collected from the company’s general financial ledgers, and employee data were obtained from databases maintained at its headquarters by the accounting and human resources management staffs. We cross-checked these data with aggregate statements to identify and eliminate data entry errors. The company’s marketing and sales research group provided results of customer surveys and data on competition and customer demographics.

**Measures of performance.** Outcome-based incentive plans are expected to have both short- and long-term effects on organizational performance. The short-term effect on performance results from improved customer service, which translates into an immediate increase in sales (Anderson et al., 1994; Hauser et al., 1994). An increase in sales also results in an

<sup>4</sup> Although the above statement is intuitive, the following statement from Stanley Marcus, the retired chairman of Neiman-Marcus, underscores the importance of customer service in generating sales in the retail industry. Marcus admonished specialty and department store retailers for forgetting their sales-service heritage and remarked “Poor selling saved me $48,873 in 1983. That year I decided I would not buy anything I didn’t need unless someone sold it to me. Whenever I found something I wanted, but didn’t encounter sales persuasiveness, I did not buy. By the end of the year my savings total was $48,373” (Zeithaml et al., 1993: 3).
increase in profit in the short term if increases in all expenses including bonus payments are less than the increases in sales. In addition, improved customer service leads to increased customer satisfaction, which in the long term leads to repeat purchases by the same customers (Anderson & Sullivan, 1993; Anderson, Fornell, & Lehmann, 1994; Hauser et al., 1994; Zeithaml et al., 1993). Therefore, we used three measures of organizational performance. Two assessed short-term performance gains: a monthly time series of data on stores sales over 77 months and profitability per square foot over 65 months. To measure long-term performance impact, we used a seven-year time series of data on customer satisfaction.

Sales, which we measured as average monthly sales per square foot, is a commonly used performance measure in published research (Weitz, 1981) and is also widely used in practice (Peck, 1982). This performance measure can also be easily attributed to the individual responsible for it (Anderson & Oliver, 1987). Profitability is also a widely used measure of performance (Behrman & Perreault, 1982) that supplements sales information because it reveals if sales have been increased by cutting margins (Anderson & Oliver, 1987). We measured store profit as store sales revenues less the cost of goods sold and all store-level expenses, including the salaries and bonuses of sales consultants and managers and such support expenses as security, displays, promotions, and administration. Customer satisfaction is a key measure available in the short term that is a leading indicator of long-term performance (Griffin & Hauser, 1993; Hauser et al., 1994; Phillips, Donkin, Treece, & Hammonds, 1990), especially in the retail industry, where repeat business is very important. Our customer satisfaction index (CSI) is based on customer surveys conducted every year by an independent market research agency. We constructed an annual measure of customers' satisfaction with salesforce service for each store by averaging the responses of customers to four survey questions, presented in the Appendix. We chose these four questions because they were identified by the company's customers as important. Principal components analysis indicated that more than 87 percent of the variation in responses could be explained by one eigenvalue. The alpha coefficient is .92, much higher than the conventional .70 level (Nunnally, 1978).

Measures of contextual factors. The sales research group at our research site supplied us the number and type of competitors in the trade area of each of the 34 stores. With this information we constructed a measure of the intensity of the competition faced by each retail store. Managers at our research site classified competitors into one of three categories: high-end, middle, and low-end. As noted, the firm we examined in this research study positioned itself as a high-end retailer offering premium-quality products and superior customer service. Thus, other high-end retailers were its closest competitors as they sold a similar range and quality of products and provided a high level of customer service; these included retailers such as Saks Fifth Avenue, Neiman Marcus, Macy’s, Bloomingdale’s, and Nordstrom. Low-end competitors included discount retailers, such as Target, Montgomery Ward’s,
Kmart, Wal-Mart, and Kohl's, whose marketing strategy was based on low prices rather than on premium service and quality. Middle-range competitors included stores such as Sears, Mervyn's, and J.C. Penney, which were between the two extremes. The competition measure was a weighted index of the number of competitors (classified into three categories based on market niche) multiplied by the weights 3, 2, and 1 (high-end = 3, middle = 2, low-end = 1) for the three categories. These weights were based on the company's practice, which reflected the fact that competition from the low end did not affect its performance as much as competition from the high end.\footnote{Our results are robust, remaining consistent with a variety of alternative weights that maintain this monotonic order (Slater & Narver, 1994).} Therefore, the overall competition index weighs the impact of the close competitors (in the same high-end category as our research site) much more than the impact of discount stores. Stores with a higher value on competition were located in more intensely competitive areas.

We combined four demographic variables into a principal component labeled \textit{upscale customer profile}. These four variables (shown with corresponding factor loadings in parentheses) were measured for the trading area of each store: median household income (0.445), median age (0.334), percentage of the population with college education (0.439), and percentage of white-collar workers in the population (0.537). Unidimensionality was found as only one principal component emerged with an eigenvalue greater than one. The weights for the principal component indicate that an upscale store's trade area had a higher median household income, an older population, and larger percentages of both college-educated and white-collar individuals.

A behavior-based control in place at all stores prior to the implementation of outcome-based compensation, which continued to be used even after the implementation, was sales managers' supervision and monitoring of sales consultants' efforts. Therefore, we measured supervisory monitoring as the ratio of the number of managers supervising the salesforce to the number of sales consultants at each store. The variable we use in our estimation model, \textit{monitoring 1987}, is the level of supervisory monitoring existing prior to plan implementation, computed as the average monthly ratio for 1987, the year prior to the implementation of the incentive plan.

\textbf{Descriptive Statistics}

Table 2 presents descriptive statistics and correlations for all dependent and independent variables in the estimation models described in the next section. Average monthly sales per square foot are \$16.29, with a standard deviation of \$8.07. The average annual customer satisfaction index is 63.39 out of a possible maximum of 100. There is a negative correlation between sales and the customer satisfaction index and also between profitability and customer satisfaction, and which suggests that moderators need to be identi-
TABLE 2
Descriptive Statistics and Correlations

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>s.d.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sales</td>
<td>$16.29</td>
<td>$8.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Customer satisfaction index (^3)</td>
<td>63.39</td>
<td>6.04</td>
<td>-.19(^*)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Profit</td>
<td>$4.57</td>
<td>$2.93</td>
<td>.94(^*)</td>
<td>-.30(^*)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Plan</td>
<td>.20</td>
<td>.40</td>
<td>.22(^*)</td>
<td>.30(^*)</td>
<td>.16(^*)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Competition</td>
<td>33.73</td>
<td>15.13</td>
<td>.03(^*)</td>
<td>-.22(^*)</td>
<td>.17(^*)</td>
<td>.10(^*)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Upscale customer profile</td>
<td>0.00</td>
<td>1.61</td>
<td>.28(^*)</td>
<td>-.31(^*)</td>
<td>.48(^*)</td>
<td>.22(^*)</td>
<td>-.01(^*)</td>
<td></td>
</tr>
<tr>
<td>7. Monitoring 1987</td>
<td>.23</td>
<td>.08</td>
<td>-.16(^*)</td>
<td>.48(^*)</td>
<td>-.46(^*)</td>
<td>-.11(^*)</td>
<td>-.48(^*)</td>
<td>-.37(^*)</td>
</tr>
</tbody>
</table>

\(^*\) \(N = 2,618\). Significance levels should be interpreted with caution because monitoring 1987, upscale customer profile, and competition are constant over time for each store.

\(^3\) Correlations with customer satisfaction index are based on aggregated annual numbers. \(^{*p < .05}\)

fied to explain the relations between these performance measures.\(^6\) With respect to the independent variables, the mean of 0.23 for monitoring 1987 indicates that on the average there was about one supervisor for every five sales consultants in 1987. The mean for upscale customer profile is zero by construction. Sales and profit are positively related to customer profile and competition and are negatively related to monitoring 1987. The customer satisfaction index, however, is negatively related to customer profile and competition but positively related to monitoring 1987. Pairwise correlations among the three independent variables reveal that they are negatively related to each other. A dummy variable plan equals 1 if a store is under the incentive plan and 0 otherwise. This variable is positively associated with all three performance measures.

On the average, monthly store sales per square foot increased by $4.50 between 1987 and 1991 for the 15 experimental stores but by only $1.87 for the 19 control stores. However, there was considerable variation in the increase in sales per square foot among the 15 experimental stores. The increase was less than $1.87 for three of the 15 experimental stores but was greater than $9 for two stores and greater than $6 for four more stores. Similarly, the change in monthly profit per square foot from 1987 to 1991 exhibits variation from a low of −$0.16 to a high of $2.56. The increase in customer satisfaction from 1987 to 1991 also shows considerable variation, ranging between 8.85 and 13.52. What contextual factors moderate this differential?

\(^6\) Note, however, that the correlation between the change in sales and the change in the customer satisfaction index is positive (.33), as is that between the change in profit and the change in customer satisfaction (.19).
impact of the incentive plan on store performance, therefore, is an important question addressed in this study.

Figure 1 displays a plot of the average sales residuals (scaled by expected sales) for the experimental and control stores before and after the implementation of the incentive plan. We computed the residuals for each store as prediction errors from the following model: $SALES_{im} = \alpha_i + \beta_iAVGSAL_{im} + \epsilon_{im}$, where $SALES_{im}$ is sales per square foot for store $i$ in month $m$ and $AVGSAL_{im}$ is average sales per square foot in month $m$ over all 34 stores. The parameters $\alpha_i$ and $\beta_i$ are estimated using all monthly available data prior to the implementation date of the plan. The graph for the experimental stores is centered around the actual date of plan implementation for each store, and the graph for the control stores is centered around the 24th month from the end of our study period, when 13 of the 15 experimental stores had implemented the plan. The two graphs reveal no systematic differences in the sales residuals of the experimental and control stores before plan implementation but do reveal a steep increase in sales residuals after the month of plan implementation for the experimental stores, suggesting that on the average, the incentive plan had a positive impact on sales.

Figures 2, 3, and 4 focus on the experimental stores only. Each figure shows graphs of sales residuals for two subgroups of experimental stores, formed in each case by classifying the 15 experimental stores as either low or high on the basis of one of the three contextual variables. The graphs suggest that although the incentive plan had a positive impact on sales on the average, the impact on individual store sales varied with the contextual factors. Figure 2 shows that stores located in areas in which competition was high experienced a higher increase in sales than stores in low-competition areas, especially about a year after plan implementation. Figures 3 and 4 indicate even sharper differences between the two subgroups when the experimental stores are classified on the basis of upscale customer profile and monitoring 1987, in directions consistent with our hypotheses. In fact, the residuals show a steady decline for the stores classified as low on competition or upscale customer profile or as high on monitoring 1987, and the residuals are negative toward the end of the second year after implementation in these cases. This pattern suggests that although the incentive plan had an initially positive impact on the sales of such stores, these gains dissipated over time because of a lack of fit between the customer-focused strategy and the contextual factors. Similar, but less sharp, patterns are observed for the plots of the residuals of profit and customer satisfaction. Readers are cautioned, however, that these graphs focus on the variation in only one contextual factor at a time, omitting other relevant factors. We estimated the multiple regression models described in the next section to simultaneously take into account variation in all three contextual factors.

If monitoring (behavior-based control) and performance incentives (outcome-based control) can substitute for each other as methods of organizational control (Eisenhardt, 1985), then monitoring level should have decreased after the implementation of the incentive plan. This appears to be
FIGURE 1
Incremental Sales, Control and Experimental Stores

Incremenal Sales (percent)

Stores with Incentive Plan (experimental)

Stores without Incentive Plan (control)

Months Before/After Implementation

FIGURE 2
Incremental Sales, High- and Low-Competition Experimental Stores

Incremenal Sales (percent)

High Competition

Low Competition

Months Before/After Implementation

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FIGURE 3
Incremental Sales, Experimental Stores with High and Low Upscale Customer Profile

FIGURE 4
Incremental Sales, Experimental Stores with High and Low Monitoring 1987
the case, because values for our measure of supervisory monitoring decrease from an average of 0.223 in 1987 to 0.166 in 1991 for the 15 experimental stores but decrease only slightly from 0.233 in 1987 to 0.211 in 1991 for the 19 control stores. The decline in supervisory monitoring after plan implementation reinforces our results in that it was the new incentive plan, and not an increase in supervision, that was in fact responsible for the improvement in performance.

ESTIMATION MODELS

Moderating Effect of Contextual Factors

Empirical testing of the hypotheses derived earlier involved assessing the impact of the incentive plan on store sales, customer satisfaction, and profit. To estimate the differences in the effectiveness of the outcome-based incentive plan across stores, we estimated the following three models:

\[
SALES_{im} = \alpha_0 + \sum_{i=1}^{34} \alpha_i \cdot DVGSA_{im} + \beta_i \cdot COMPETITION_i + \gamma_i \cdot UPSCALE_i \\
+ \delta_i \cdot MONITOR_{87} + \epsilon_{im},
\]

\[
CSI_{iy} = \alpha_0 + \sum_{i=1}^{34} \alpha_i \cdot DVGCSI_{iy} + \beta_i \cdot COMPETITION_i + \gamma_i \cdot UPSCALE_i \\
+ \delta_i \cdot MONITOR_{87} + \epsilon_{iy},
\]

and

\[
PROFIT_{im} = \alpha_0 + \sum_{i=1}^{34} \alpha_i \cdot DVGPF_{im} + \beta_i \cdot COMPETITION_i + \gamma_i \cdot UPSCALE_i \\
+ \delta_i \cdot MONITOR_{87} + \epsilon_{im},
\]

where

- \(SALES_{im}\) = sales per square foot for store \(i\) in month \(m\).
- \(AVGSA_{im}\) = average sales per square foot in month \(m\) over all 34 stores.

\(\delta_i\) The decrease in supervisory monitoring may have been more extensive than these numbers indicate. When all of the effort of sales managers is focused on supervision, this measure accurately captures the degree of supervisory monitoring. However, as detailed in the section describing the incentive plan, the managers' responsibilities included activities other than supervision after the implementation of the plan. The ideal measure for the numerator in this case is the number of managerial hours actually spent on supervision, but since managers at our research site did not record the time they spent on supervision, we did not have the data for computing this ideal measure. Therefore, the measure of postimplementation monitoring is noisy and biased upward because the ratio of the number of managers to the number of sales consultants overstates the degree of monitoring. However, the measure of preimplementation monitoring is unbiased because in 1987, prior to the implementation of the incentive plan, virtually all of the effort of sales managers was focused on supervision alone.

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\[ CSI_{iy} = \text{customer satisfaction index for store } i \text{ in year } y, \]
\[ AVGCSI_{iy} = \text{average customer satisfaction index in year } y \text{ over all 34 stores}, \]
\[ PROFIT_{im} = \text{profit per square foot for store } i \text{ in month } m, \]
\[ AVGPFT_{im} = \text{average profit per square foot in month } m \text{ over all 34 stores}, \]
\[ MONITOR_{87i} = \text{the ratio for the number of managers to the number of salespeople during 1987 (prior to the implementation of the incentive plan).} \]
\[ UPSCALE_i = \text{store } i\text{'s customer profile}, \]
\[ COMPETITION_i = \text{the competitive intensity of store } i\text{'s market}, \]
\[ D_i = 1 \text{ if store } i, 0 \text{ otherwise}, \]
\[ PLAN_{in} = 1 \text{ if store } i \text{ was under the outcome-based plan in month } m, 0 \text{ otherwise}, \]
\[ PLAN_{iy} = 1 \text{ if store } i \text{ under outcome-based plan in year } y, 0 \text{ otherwise}, \]

and

\[ \varepsilon_{im}, \varepsilon_{iy}, \text{ and } \varepsilon_{in} \text{ are random errors.} \]

These models express store sales, customer satisfaction, and profit as functions of the individual store characteristics existing before and after the implementation of the outcome-based incentive plan. To control for potentially unique selling strategies of the retail company as well as seasonal and economy-wide effects on the performance of all stores, we specified individual store sales, customer satisfaction, and profit in a particular time period as varying in proportion to average sales per square foot (AVGSAL), average customer satisfaction index (AVGCSI), and average profit (AVGPFT), the averages of the corresponding variables over all 34 stores for the same time period.\(^8\) The coefficients \( \gamma_{0i}, \gamma_{yi}, \text{ and } \gamma_{pi} \) represent the main effects of plan implementation on sales, customer satisfaction, and profit, respectively, after the effects of the contextual factors are controlled for. The coefficients \( \beta_{1i}, \beta_{2i}, \text{ and } \beta_{3i}, j = 1, 2, 3, \) ascribed to these variables in the three models, capture the main effects of the three contextual variables. The interaction effects of the contextual variables for stores that implemented the plan are captured by the coefficients of the variables crossed with the dummy variable for plan implementation. For example, \( \gamma_{yi}, \gamma_{yi}, \text{ and } \gamma_{pi} \) represent the difference in the effect of monitoring on the three performance measures between stores that implemented the plan and those that did not. Hypothesis 3 states that the higher the level of monitoring existing before the implementation of the incentive plan, the smaller the plan’s impact on performance. We tested this hypothesis by examining whether the \( \gamma_{yi}, \gamma_{yi}, \text{ and } \gamma_{pi} \) coefficients were negative in their respective models. A negative \( \gamma_{yi} \) would suggest that gains

\(^8\) We also measured the variable as average sales, customer satisfaction, and profit for only the 19 stores that did not implement the plan. The results did not change appreciably.
in sales were smaller in stores in which higher levels of monitoring existed before the implementation of the plan. If the sum of $\gamma_\theta$ and $\beta_\delta$ was positive, we inferred that monitoring remained beneficial overall (before supervisory salary costs were considered), even for stores that implemented the plan. Other hypotheses were tested in a similar fashion.

**Statistical Considerations**

To ensure that our inferences were reasonable, we evaluated the empirical validity of the assumptions underlying the regression models and examined possible data problems. Because we used time series information to estimate the effect of the incentive plan, serial correlation may have biased the estimated standard errors of the coefficients. We corrected for autocorrelation in the regressions using a variant of the Prais-Winsten (1954) estimator proposed by Park and Mitchell (1980). This estimator is consistent and performs especially well for short time series and trended data (Doran & Griffiths, 1983). It also reduces the extent to which the autocorrelation coefficient tends to be underestimated (Kmenta & Gilbert, 1970).

We accounted for potential heteroskedasticity by dividing the sales of each store by its area (Christie, 1987). Using White's (1980) test procedure, we confirmed that the homoskedasticity assumption is not violated for all three models. In order to evaluate whether extreme and influential observations drive the results, we computed the $RSTUDENT$, $COV$, $DFFITS$, and $h$ metrics suggested by Belsley, Kuh, and Welsch (1980). We classified observations as influential if two or more of the computed metrics exceeded the suggested cutoff values, deleted them from the sample, and reestimated the models. The reestimated parameters did not exhibit any appreciable changes. We also employed Belsley and colleagues' (1980) collinearity diagnostics to identify possible problems due to multicollinearity between independent variables. The condition indexes were well below the suggested cutoff for models 1 and 3 but above the cutoff for model 2 for customer satisfaction.

---

9 Results of estimating the three different models together as a system of seemingly unrelated regressions (SUR) to account for contemporaneous correlation were similar to the results obtained from estimating separate regressions because most of the independent variables are the same for the three models (Greene, 1994: 488–489).

10 Our original specification of the estimation models included different intercepts for the 34 stores to allow for possibly different individual store characteristics. A single intercept model was estimated for statistical reasons. The inclusion of 34 intercepts resulted in extreme multicollinearity, and consequently we could not invert the $X$ matrix to estimate the vector of coefficients. We addressed this issue by first deleting the four intercept terms that contributed most to the collinearity. This deletion allowed us to invert the $X$ matrix, but severe multicollinearity problems reflected in highly inflated variances persisted. The condition indexes were greater than 400, well beyond the cutoff of 30 suggested by Belsley and colleagues (1980). The results obtained using these less restricted models are qualitatively similar to the results using the single intercept models shown in Table 3. In the less restricted models with multiple intercepts, only six intercepts are significantly different from zero, and in the restricted models shown in Table 3 the single intercept is not significantly different from zero.
In conclusion, no severe violations of the standard statistical assumptions, or data problems, were noted for the sales and profit models. However, the customer satisfaction model suffered from high collinearity, which may contribute to the weaker results obtained for this model.

RESULTS

Impact on Store Sales

The adjusted $R^2$ for a regression of store sales on average sales over all stores (AVGSAL) alone is 0.9061. This high $R^2$ is not surprising because average sales controls for seasonality, which is very high in the retail industry. Results of estimating the impact of the three contextual variables on store sales are presented in the first column of Table 3. The overall equation is significant ($p = .0001$), and the adjusted $R^2$ is 0.9574. The variable for implementation of the plan and the contextual variables explain 55 percent of the remaining variation not explained by the average sales model. The prediction that the $\gamma_j$, $j = 1, 2, 3$, coefficients are zero for all three contextual variables is not confirmed ($p = .0001$). The main effect of competition is negative and significant, indicating that store sales decrease as competition increases. But, consistent with Hypothesis 1, the interaction effect of competition on store sales is positive and significant, indicating that plan implementation enables a store to capture more customers from its competitors when

<table>
<thead>
<tr>
<th>TABLE 3</th>
<th>Results of Regression Analyses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Independent Variable</strong></td>
<td><strong>Parameter and Expected Sign</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Competition</td>
<td>$\beta_i$ (−)</td>
</tr>
<tr>
<td>Upscale customer profile</td>
<td>$\beta_i$ (+)</td>
</tr>
<tr>
<td>Monitoring 1987</td>
<td>$\beta_i$ (−)</td>
</tr>
<tr>
<td>Plan</td>
<td>$\gamma_i$ (−)</td>
</tr>
<tr>
<td>Plan × competition</td>
<td>$\gamma_i$ (+)</td>
</tr>
<tr>
<td>Plan × upscale</td>
<td>$\gamma_i$ (+)</td>
</tr>
<tr>
<td>Plan × monitoring 1987</td>
<td>$\gamma_i$ (−)</td>
</tr>
</tbody>
</table>

$p(\text{model}: \beta_i = \beta_j = \beta_k = \gamma_0 = \gamma_0)$

$p(\text{moderators}: \gamma_1 = \gamma_2 = \gamma_3 = 0)$

Adjusted $R^2$, full model

Adjusted $R^2$, no interaction terms

Adjusted $R^2$, control variable only

| | | | |
| | | | |

* For sales, $n = 2,618$; for customer satisfaction, $n = 238$; for profit, $n = 2,210$.

* $p < .05$, one-tailed test
there is more intense competition. The customer profile variable is positively and significantly related to store sales. The interaction effect is also positive and significant, but smaller than the main effect. These findings lend support to Hypothesis 2, stating that implementing outcome-based incentive plans in stores located in upscale markets results in larger sales gains. Hence, outcome-based plans are likely to be more effective in more competitive and upscale markets. The coefficient \( \beta_i \) for the main effect of monitoring 1987 is positive and significant, indicating that monitoring is positively associated with sales for all stores. The interaction of monitoring 1987 with plan implementation has a statistically significant negative coefficient \( \gamma_i \), suggesting that sales gains from implementing an outcome-based control are lower when a high level of behavior-based control exists. This finding supports Hypothesis 3. The sum of the \( \gamma_i \) and \( \beta_i \) coefficients is positive and significant, implying that even in stores that implemented the incentive plan, monitoring has a net beneficial effect. Finally, \( \gamma_i \) is insignificant, indicating that the three contextual factors explain most of the variation in the impact of the incentive plan on store sales.\(^\text{11}\)

**Impact on Customer Satisfaction**

The adjusted \( R^2 \) for a regression of store customer satisfaction on average customer satisfaction index values over all sample stores (AVGCSI) alone is 0.9844. The second column of Table 3 displays the results of estimating the impact of contextual factors on customer satisfaction. The overall equation is significant \( (p = .0001) \); the adjusted \( R^2 \) is 0.9862. The plan variable and the contextual variables explain 12 percent of the variance not explained by the average customer satisfaction model. The prediction that the \( \gamma \) coefficients are zero for all three contextual variables is not confirmed \( (p = .0063) \). The main effect of competition is negative but not significant. The interaction effect of competition is positive, as in the sales model, but not significant at the 5 percent level \( (p = .0650) \), thus providing only weak support for the hypothesis that implementing outcome-based incentive plans in competitive markets leads to greater performance gains. The coefficient of the main effect of the upscale customer profile variable is positive but not significantly different from zero. The interaction effect, however, is positive and significant at the 5 percent level, supporting the hypothesis that implementing outcome-based incentive plans in stores located in upscale markets results in larger gains in customer satisfaction. Outcome-based plans are likely to be more effective, therefore, in upscale markets in which customers value customer-

\(^{11}\) The fact that \( \gamma_i \) is insignificant indicates that there is no intercept change for the stores that implemented the plan relative to stores that did not. We can also assess whether there is any residual difference in variance between the plan and nonplan stores that is not explained by the contextual variables by comparing the \( R^2 \) for the model with the contextual variables, interaction terms, and the plan dummy variable against the \( R^2 \) for the model without the plan dummy. The resultant \( F \)-test is equivalent to the \( t \)-test of the null hypothesis \( \gamma_i = 0 \) for the separate plan dummy variable (Greene, 1994: 206; Johnston, 1972: 143–152).
focused service. The main effect of monitoring is not statistically different from zero, and the interaction effect of monitoring and contextual variables is not significant at the 5 percent level ($p = .0574$). Finally, as in the sales model, the main effect of plan implementation is not statistically significant when contextual variables are included, suggesting that those variables explain most of the variation in the impact of the incentive plan on customer satisfaction as well.

**Impact on Profit**

The adjusted $R^2$ for a regression of store profit on profit per square foot averaged over all stores (AVGPFT) alone is 0.9413. The results of estimating the impact of the contextual variables on store profit appear in the last column of Table 3. The overall equation is significant ($p = .0001$); the adjusted $R^2$ is 0.9567. The plan variable and the contextual variables explain 26 percent of the variation not explained by the average profit model. The prediction that the coefficients are zero for all three contextual variables is not confirmed ($p = .0001$). All results except the main effect of competition and the main effect of plan implementation are similar to those for the sales model. The coefficient of the main effect of competition is negative but not significant. In contrast to the sales and the customer satisfaction models, in this model the main effect of plan implementation is positive and statistically significant when the contextual variables are included, suggesting that they do not explain all the variation in the impact of the incentive plan on profitability and that other factors influencing costs and pricing decisions may also moderate the plan’s impact.

**Managerial Significance**

To evaluate the managerial significance of the above results, we combined the regression estimates with the means and standard deviations of the variables for the 15 experimental stores to compute the impact of the contextual variables on the change in each dependent variable occurring as a result of implementing the incentive plan. Table 4 presents the percentage change in the three performance measures resulting from the plan implementation and analyzes it by the contextual variables. The first panel of Table 4 shows the average percentage increase in each performance measure. The second and the third panels show the percentage change when all contextual variables are one standard deviation above and below their mean levels. These estimates suggest that stores in competitive areas were likely to benefit most from the incentive plan, but the potential benefits were offset to a large extent when supervisory monitoring was high before plan implementation. Although managers cannot change the contextual variables, these insights are useful in deciding where to implement a customer-focused strategy coupled with an outcome-based control system.

**DISCUSSION AND CONCLUSION**

Recent research in human resource management recognizes the importance of identifying contextual factors that help discriminate between situa-
### TABLE 4
Managerial Significance of the Impact of the Contextual Variables on Store Performance

<table>
<thead>
<tr>
<th>Contextual Variables and Level</th>
<th>Sales</th>
<th>Customer Satisfaction Index</th>
<th>Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>17.90%</td>
<td>4.40%</td>
<td>7.98%</td>
</tr>
<tr>
<td>Plan × competition</td>
<td>0.91</td>
<td>0.26</td>
<td>0.82</td>
</tr>
<tr>
<td>Plan × upscale customer profile</td>
<td>-12.60</td>
<td>-2.86</td>
<td>-27.39</td>
</tr>
<tr>
<td>Plan × monitoring 1987</td>
<td>-1.35</td>
<td>1.64</td>
<td>18.82</td>
</tr>
<tr>
<td>Plan</td>
<td>4.89</td>
<td>3.44</td>
<td>4.44</td>
</tr>
<tr>
<td>Total impact</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean plus standard deviation</td>
<td>24.10</td>
<td>6.03</td>
<td>10.94</td>
</tr>
<tr>
<td>Plan × competition</td>
<td>3.99</td>
<td>1.14</td>
<td>3.62</td>
</tr>
<tr>
<td>Plan × upscale customer profile</td>
<td>-8.02</td>
<td>-1.82</td>
<td>-17.43</td>
</tr>
<tr>
<td>Plan × monitoring 1987&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-1.35</td>
<td>1.64</td>
<td>18.82</td>
</tr>
<tr>
<td>Total impact</td>
<td>18.72</td>
<td>6.99</td>
<td>15.95</td>
</tr>
<tr>
<td>Mean minus standard deviation</td>
<td>11.10</td>
<td>2.78</td>
<td>5.03</td>
</tr>
<tr>
<td>Plan × competition</td>
<td>-2.18</td>
<td>-0.62</td>
<td>-1.98</td>
</tr>
<tr>
<td>Plan × upscale customer profile</td>
<td>-17.18</td>
<td>-3.89</td>
<td>-37.35</td>
</tr>
<tr>
<td>Plan × monitoring 1987&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-1.35</td>
<td>1.64</td>
<td>18.82</td>
</tr>
<tr>
<td>Plan</td>
<td>-10.23</td>
<td>-0.09</td>
<td>-15.44</td>
</tr>
<tr>
<td>Total impact</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Values are percentage changes.

<sup>b</sup> Since the predicted sign for plan times monitoring 1987 is negative, the standard deviation was subtracted from the mean in the second panel and added to the mean in the third panel.

...tions in which outcome-based incentive plans will be effective and those in which they will not be (Gerhart & Milkovich, 1992; Gerhart et al., 1994). This observation stems in part from the mixed and inconclusive results from the prior empirical research that has sought to evaluate the average impact of such incentive plans. Anecdotal evidence reported largely in practitioner-oriented publications also recounts stories of some organizations in which the implementation of outcome-based incentive plans has been very successful and some other organizations in which it has been a failure. It is of interest, therefore, to explain why researchers have observed such differences in the effectiveness of outcome-based incentive plans in different organizations. More important, if we are to advance conceptual understanding of why and how outcome-based incentives impact organizational performance, it is essential that the role of the contextual factors that moderate this relationship between incentives and performance be understood.

In this research, we restricted our attention to outcome-based incentive plans that are implemented to support a customer-focused service strategy. This combination of a shift to a customer-focused strategy and a control system based on pay-for-performance has become common in recent years, especially in service organizations (Kochan & Osterman, 1994; Schlesinger &
Heskett, 1991b; Zeithaml et al., 1993). By focusing on this specific form of outcome-based incentive plan, we were able to derive relatively sharp hypotheses about the contextual variables that moderate their effectiveness. Our empirical research evaluates these hypotheses in the context of one firm in the retail industry. The design of any empirical research entails trading the availability of rich, highly reliable data from one organization off against the greater external validity of a broad sample of organizations representing different industries. In this study, we chose the first alternative because we had access to a long time series of data for groups of both experimental and control stores operating in a context that faithfully represented the theoretical constructs of interest to our research.

A customer-focused service strategy requires sales consultants to identify and satisfy the needs of individual customers. As a result, the programmability of their tasks decreases. Organizational control theory suggests, therefore, that outcome-based control fits a customer-focused service strategy. However, this fit only implies that among service outlets adopting a customer-focused service strategy, those employing outcome-based control will perform better. But in practice we find customer-focused service strategies implemented simultaneously and in conjunction with outcome-based control (Schlesinger & Heskett, 1991b; Zeithaml et al., 1993), as was the case at our research site. Therefore, to explain differential performance impacts, we needed to understand the fit between the service strategy–control system dyad and the environmental context in which they were implemented. Theoretical considerations suggested that customer focus would be more effective in winning new customers from competitors when competition was more intense and customers were more demanding. We found strong empirical support for hypotheses predicting that the impact on store sales, profits, and customer satisfaction of an outcome-based incentive plan implemented to support a customer-focused service strategy is higher in highly competitive and upscale markets.

We also examined the interaction between outcome-based control and behavior-based control, as prior research suggested that the two are substitutes for each other (Conlon & Parks, 1990; Eisenhardt, 1985). Specifically, the potential for performance improvement from implementing an outcome-based incentive plan is lower when a high level of behavior-based control already exists. We found strong evidence indicating that low levels of performance improvement resulting from incentive plan implementation were associated with the prevalence of high levels of supervisory monitoring before the implementation. Furthermore, the level of supervisory monitoring appears to have decreased subsequent to the implementation of the plan.

This study is an initial step in our efforts to understand the determinants of the performance impact of outcome-based incentives implemented to support a customer-focused service strategy. Although we found empirical support for predictions based on our theoretical analysis, several interesting questions remain to be researched. Our empirical study is restricted to only one retailer, but customer-focused service and outcome-based incentives are
common in many other service industries. It will be important to evaluate the robustness of our results in these other contexts. Our empirical analysis is based on organization-level performance data. It would be of interest to examine individual-level data to evaluate the interactions between individual-level incentives, individual characteristics such as experience, and other human resource management practices, such as selection and retention, that affect individuals differentially.

REFERENCES


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APPENDIX
Customer Satisfaction Index

Questions were “Salespeople are available when I have a question,” “Salespeople seem genuinely interested in helping me,” “Salespeople are courteous,” and “Salespeople go the extra mile to make me feel like a valued customer” (α = .92; variation explained by largest eigenvalue = 0.8765).

Responses, made by checking boxes, were “strongly agree,” “agree,” “disagree,” and “strongly disagree.” For each of the seven years, the company computed an overall store weighted-average response as follows: (100 × percent of store responses stating “strongly agree”) + (70 × percent of store responses stating “agree”). Each store’s weighted average was based on between 300 and 900 customer surveys.

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