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MEASURING AND CHANGING EMPLOYEE WORK BEHAVIOR:
AN APPLICATION OF THE PERFORMANCE MATRIX.

By
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This dissertation is dedicated to my family, Dan and Lucy, who have taught me what the finer things in life really are and whose love and support are my greatest reinforcers.
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“The spirited horse,
which will try to win the race of its own accord,
will run even faster if encouraged.”
- Ovid

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ABSTRACT

In the face of a competitive marketplace, businesses are searching for effective solutions to managing employee work behavior. One such approach is through the systematic application of Organizational Behavior Management. While investigations of pay-for-performance programs and incentive systems have demonstrated desired changes in workplace behavior, little research has been conducted on the Performance Matrix, a measurement system and objective feedback tool.

The current study offers insight on the construction and general effectiveness of the Performance Matrix when used in conjunction with a work-contingent incentive and feedback system for small groups. Primary research questions tested the efficacy of the Performance Matrix as a tool to change the customer service behaviors of 12 retail sales associates. Secondary questions pertained to manipulations of the prioritized weight distribution feature of the Performance Matrix, how it is used, effects on non-targeted behaviors and relation to response covariation, and assessment for preference and end-user satisfaction.

Results indicated that customer service-type performance was changed on average by 10 percent when weight distribution differentials were 15 or more. No detrimental effects were found for other behaviors not targeted for incentive earnings. Implications for implementing a Performance Matrix system with incentives are discussed.
INTRODUCTION

Businesses today are often under stress. Turnover, unstable markets and reduced patronage affect the quality of production and customer service. Businesses, both large and small, are looking for new ways to compete in a difficult market while still appealing to employees, particularly in terms of retention to reduce turnover costs. Productivity, including both goods and customer service, are essential to a business’ success. One common approach in the field of Organizational Behavior Management (OBM) to reach such success and overcome these obstacles includes the use of incentive plans, or pay for performance systems.

A number of applied studies have demonstrated that incentive plans are effective at increasing productivity in small group or individual systems (see Bucklin & Dickinson, 2001; Honeywell-Johnson & Dickinson, 1999; Plowman, 2004 for reviews). It has been demonstrated that individual incentive programs produce equivalent results to small group incentive programs. As group programs tend to be more efficient and require fewer resources on behalf of the organization, they are a viable solution to productivity management.

Several studies have examined the use small group incentives in equally-distributed and differentially-distributed systems. Employees earn the same amount of incentives, or rather; incentives are divided among group members equally, in equal-distribution systems whereas incentives are not divided among group members equally in a differential system. Weinstein and Holzback (1973) conducted an analogue study using three-person groups of college students. Subjects were assigned to an experimental condition, and coded responses to a questionnaire, earning $.06 per correctly coded questionnaire. In the equally-distributed group incentive condition, each group member received one third of the total group earnings. In the differentially-distributed group incentive condition, the top performer received one-half of the groups’ earnings, the middle performer earned one-third, and the bottom performer received one-sixth. Results indicated performance was higher on average in the differentially-distributed condition, but employees preferred the equally-distributed incentive condition. Both conditions produced higher rates of performance than without incentives.

Farr (1976) expanded Weinstein and Holzback’s 1973 study, comparing individual and hourly conditions to the two group incentive programs. This study also found higher rates of performance to be evident in the differentially-distributed group incentive condition, but the preference was for equally-distributed incentives as they were reported to be more fair.
Allison, Silverstein, and Galante (1992) provided feedback, imbedded within three experimental monetary incentive conditions, to groups of 12 teacher assistants in a treatment center for handicapped children. The conditions were cooperative, competitive, or independent. Results indicated both performance and preference to be highest in the cooperative condition. Other studies, conducting in both laboratory and applied settings, have found equally-distributed group incentives to be effective in increasing productivity (Honeywell, Dickinson, & Poling, 1997; London & Oldham, 1977; Stoneman and Dickinson, 1989).

**Context Variables.** Further research on small group incentives has included the use of context variables, such as feedback and goal setting. These enhancements have been demonstrated to produce high performance improvements and increased satisfaction reports. Sulzer-Azaroff, Loafman, Merante, and Hlavacek (1990) introduced an injury prevention model in a large industrial plant to assess its effect on safety performance of employees. The model included weekly graphic feedback, low-cost reinforcement (rewards ranging from $2.00 to $5.00 in price), luncheon based on department level performance, and progressive goal setting. Austin, Kessler, Riccobono, and Bailey (1996) implemented a multi-component treatment package to assess effects of productivity and safety of roofers. The package consisted of verbal and graphic feedback, goal setting, group and individual reinforcement. Pampino, Jr., MacDonald, Mullin, and Wilder (2003) conducted two field experiments using a “package” intervention of task clarification, goal setting, and access to preferred items, weekly graphic & verbal feedback on the performance of retail sales associates. All of these studies provide empirical evidence to support the use of feedback and goal setting as supplements to incentive systems.

**Response Covariation.** The topic of response covariation, an over-arching term used to classify occurrences of responses generalization (Austin & Wilson, 2001), is also a topic of interest and a specific, related context variable to be explored in OBM. While response generalization, per se, is narrowly defined and difficult to cleanly research in applied settings, it lends itself to promising perspectives of efficiency of interventions. If an intervention can inadvertently impact a non-trained behavior, the efficiency of that intervention is improved. This potential side-effect is often sought after in OBM and business alike (Houchins & Boyce, 2001).
Small Business Impact

Most small businesses are either family-owned or operated by a small number of non-related owners. Owners are typically managers, or “owner-operators” (Haksever, 1996). This unique situation varies a great deal from traditional larger firm operations where ownership and management are two separate divisions, operated by different parties (Brown, Hamilton & Medoff, 1990). This dual-role of the small business owner-operator presents challenges. The owner-operator must evaluate financial aspects of the business (pay role, taxes, expenses, vendor payments, marketing, rent, etc.), monitor many relevant performances sustaining financial stability (employee performance, training, pricing, etc.), and manage daily operations (schedules, inventory, staffing, operation costs, etc.). Thus, the owner-operator requires a multitude of sources to obtain information regarding current business needs. Collecting, analyzing, and using this information effectively demands a substantial amount of time and effort. Many owner-operators are not formally trained to find these resources or use them to their best advantage. Thus, they often seek efficient practical ways of running their business and making the most of their time.

Given the pressures of fiscal survival in small businesses, it is easy to see that an inexperienced entrepreneur/owner-operator may focus only on finances to solve operational problems. This financial-only concern, according to Kaplan and Norton (1996), suggests a singular focus on financial outcomes neglects other, possibly more important measures of organizational success. On the other hand, some owner-operators may focus on every possible variable, consuming their time and energy in unnecessary areas. Kaplan and Norton (1992, 1996) suggested that effective managers must pay attention to other variables to properly evaluate and organization’s performance, however, keeping a low number of measures while ensuring they are balanced. Therefore, the Balanced Scorecard (BSC) was conceived, presenting the idea of a formalized “balanced” cohort of measures relating directly to the organization’s mission.

The Balanced Scorecard

Initiated by Kaplan and Norton in 1992, the Balanced Scorecard (BSC) was created to establish alignment of an organization’s strategies and visions with the performance of the employees. The BSC concept was to function as a tool for managers to easily monitor an organization and aid in the decisions pertaining to its success by identifying key factors, or
perspectives. The premise of the BSC is based on two factors: 1) the performance of a company cannot be determined by financial measures alone, and 2) only a few indicators will be adequate to represent all relevant areas of interest.

The BSC was designed as a measurement system for business to observe results in four relevant categories of interest: financial, customer, internal processes, and learning & growth. Each of these perspectives is represented to ensure a “balance” of goal setting, promoting a diverse emphasis on business regulation. Each of the four perspectives identifies goals derived from the organization’s mission statement. Performance measures are linked to the goals, and comprise the scorecard that is used by managers to monitor various aspects of the organization’s success or failure. Many company managers focus only on financial goals. The BSC teaches managers to look at more than just the financial perspective, but that other perspectives (customer, internal processes, and learning and growth) are also important.

This system, however, is designed primarily for large businesses. The utility of the BSC in small businesses has been explored very little (see Chow, Haddad & Williamson, 1997). The BSC can offer an advantage for owner-operators, simplifying their multi-task responsibilities of business management by concentrating on selected performance indicators. These measures can also be indexed, by weighting indicators to reflect importance of the measure in comparison to other measures. This would be functional, for example, in an incentive program where the BSC measures were directly connected with bonus pay.

Kaplan and Norton (1996) discussed concerns with tying scorecard systems to incentive programs. There are problematic concerns of selecting the right measures, ensuring balanced compensation across indexed measures, problems with subjective judgments, employee control of performance, and more. Therefore, they generally advocate against the use of BSC measures in formal compensation programs until more research is conducted in determining the role of the BSC measures to explicit rewards.

Behavioral Approach

OBM is a field dedicated to solving problems in the workplace from a behavior analytic perspective. A specialty area of OBM is Performance Management, a systematic, data-oriented collection of analysis techniques to management utilizing positive reinforcement to maximize performance (Daniels & Daniels, 2004). Rooted in behavior analysis, Performance Management has been applied to a wide variety of work-related problems. In order to be effective, like so
many other applications of applied behavior analysis, data must be collected and analyzed in a particular manner. While organizations may collect a large volume of data, making sense of it and using it effectively to improve future performance is key.

Many companies and organizations recognize the value of sound employee performance measures. Some have effective measurement systems in place; some do not. Some companies combine such measurements with incentive plans or bonus structures. Some of these structures are objective, others subjective. Matrices and scorecards, tools used by managers to measure and track employee performance, are popular ways to manage data and organizational performance. Hanson and Towle (2000) reported 35% of respondents to a survey on performance management indicated they were either using or had plans to use scorecards in their measurement practices in the near future.

Most employee compensation programs in business are designed to promote employee motivation via incentive plans, typically in the form of bonuses (contingent or noncontingent on specific employee performance). However, there is little to no empirical evidence suggesting the best way to design such programs, or maintain them. Typical compensation plans include: 1) an incentive (whether or not chosen or desired by the employee), 2) clear definitions of what performance is necessary to earn the incentive, 3) clear timelines when the incentive will be awarded upon completion (or duration) of a particular behavior or set of behaviors (Bucklin & Dickinson, 2001; Felix & Riggs, 1983).

An important step in determining the targeted performances for an incentive program, is to derive a ranked or rated list of the jobs relevant to the incentive contingency. This list may develop from an organization’s mission statement, review of data records, or by strategic operations. Typically the items on the list relate directly to the competitiveness of the organization. Slack (1994) suggested a number of ways in which this type of prioritizing can be done, all of which include collaboration of managers, employees, and benchmarking, depending on the level of the organization the prioritization is occurring.

Measuring Productivity

Incentive plans require meaningful managerial feedback, goals for direction, and relevant incentives delivered in a timely manner contingent upon a specified behavior. Most importantly, an objective measure of productivity must be in place to ensure a fair and effective system. Productivity measurement can be difficult as data from ratios, indexes, percentages, reports,
sales, earnings, and profit and loss statements may come from a number of sources and can often conflict one another. Because of this, accurate feedback on productivity improvement is often not delivered, and worse, the potential of this feedback is overlooked (Felix & Riggs, 1983).

Productivity (P), in its simplest form as a ratio, is output (O) divided by input (I):

\[ P = \frac{O}{I} \] (Felix & Riggs, 1983).

Here, the objective would be to increase the quotient, or index number by increasing output or decreasing input.

Productivity can also be difficult to define. The relationship between goods produced and quality must be factored in:

\[ P = \text{Goods} + \text{Services/Resources} \]

Goods and services can be influenced by both amount and value. Within these measures can be subcategories, including timeliness, safety, costs, materials, attendance, turnover, etc. Therefore, to confirm a change in productivity, be it an increase or decrease, it must be accurately measured. To be accurately measured, a number of factors must be considered. The Performance Matrix (1989) balances these challenging tasks.

The Performance Matrix

First coined in *Performance Management Magazine* by Felix and Riggs (1983) as an “Objectives Matrix”, and discussed as a point system to measure any job by Daniels and Daniels (2004), the Performance Matrix defines areas of accountability and sets challenging yet attainable goals for each (see Figure 1). Similar to the other approaches, the Performance Matrix accommodates priority to tasks by assigning weights to the variables. The weights are based on a value of 100 (or base of 10), and goals are determined with a base as in the Performance Scorecard, but instead of running on scale of 1-10, the Matrix runs on a scale of 4 – 12, with 5 being Baseline, or current levels of performance, and 10 being the ideal goal column, this provides for going “above and beyond” by reaching columns 11 and 12. These data are converted into scores in the same fashion of multiplying the column number by weight and adding the totals.
Component Analysis of Performance Matrix

The primary components of the Performance Matrix include: (a) goal-setting, which include development in either an assigned, or participative manner; (b) pay-for-performance contingent based pay system; (c) performance indexing of prioritized target behaviors; and (d) feedback system.

<table>
<thead>
<tr>
<th>Behaviors or Results</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>Weight</th>
<th>Raw Score</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriate Greeting</td>
<td>59%</td>
<td>60%</td>
<td>65%</td>
<td>70%</td>
<td>75%</td>
<td>80%</td>
<td>85%</td>
<td>90%</td>
<td>98%</td>
<td>35</td>
<td>70%</td>
<td>245</td>
</tr>
<tr>
<td>Number of Bins Sorted</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>12</td>
<td>25</td>
<td>9</td>
<td>250</td>
</tr>
<tr>
<td>Till Correct</td>
<td>91%</td>
<td>92%</td>
<td>93%</td>
<td>96%</td>
<td>97%</td>
<td>98%</td>
<td>99%</td>
<td>100%</td>
<td>30</td>
<td>95%</td>
<td>180</td>
<td></td>
</tr>
<tr>
<td>Number of Complaints</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>10</td>
<td>1</td>
<td>100</td>
<td>785</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1: Sample of Performance Matrix for a postal worker (adapted from Daniels & Daniels, 2004).

Goal-setting. Goal setting is useful for improving performances in occupational settings (see Latham & Yukl, 1975 for review). Goals must be carefully established, but serve to produce clear objectives for performance. Goals can be derived based on participative collaboration between manager and employee, assigned by the manager, data-driven, and/or based on industry standards (Fellner & Sulzer-Azaroff, 1984).

Pay for Performance. The basic principles of behavior, as discussed by Skinner (1953), have played a large role in contingent based pay, or pay-for-performance systems. These systems involve specific schedules of reinforcement, exchanges rates, and can vary by group or
individual distributions. Much research has been done in this area (see Hopkins & Mawhinney, 1992, for historical and empirical evidence).

Performance Indexing. This method of comparing dissimilar productivity measures was created by the University of Oregon (Felix & Riggs, 1983). Few published articles have been found that utilizes performance indexing (Grimes, n.d.; Lee, n.d.; Riggs, 1994; Slack 1994). A similar method, Profit-indexed performance pay (PIPP), makes a connection between the scorecard’s performance index and the company’s revenue. Employees share in the direct financial gain/loss of the company. Abernathy (1996) discussed three main components to PIPP: 1) performance pay basis, 2) organizational multiplier, and 3) Performance Scorecard. Like the other schemes mentioned, the Performance Scorecard was designed to coincide with an incentive pay structure, but emphasizing a more systems-level approach, or Total Performance System (TPS). In 2001, Abernathy used this TPS system in twelve organizations.

Feedback. Feedback is purposed to provide an employee with relevant, timely information regarding his/her performance. Feedback comes in many forms, (group/individual, graphic/verbal, density of schedule) and has been well-researched as a supplemental variable (see Alvero, Bucklin, & Austin, 2001; and Bucklin, McGee, & Dickinson, 2003 for feedback and incentive reviews).

Advantages of Matrices and Scorecards

Besides the advantages of simplified data management, the synthesis of performance indexing and objective measurement systems allow managers to have control over their leadership abilities. As a manager, effective leadership is key to success. The effectiveness of leadership equates to the effectiveness of the group’s performance.

The Performance Matrix contains goals for selected behavior(s). Accurate, objective, and reliable measures of these selected behaviors are taken. These goals and measures serve as clear objectives for employees, and promote effective leadership and communication within an organization. This communication is enhanced by the inherent feedback system imbedded in the Performance Matrix, reducing any ambiguity of rates or quality of performances. Feedback serves to provide valuable information on the needs of the business and allows the organization to alter any relevant goals to adjust accordingly. Last, the integrated contingent pay system provides an objective means for employees to earn incentives.
There are some concerns with this approach, however, as there is little empirical evidence to support or negate the use of Performance Matrices in organizational settings. While all of the components to such systems have been investigated independently or packaged and have demonstrated to be effective, the research on package intervention including performance indexing is little to none. Without sound empirical investigation, the marketing of such group incentive systems should be cautioned.

Purpose

Over the past several decades, there has been an increased interest and use of incentive-based compensation systems in the workplace. While there it can be argued such systems can add value to an organization, it is not clear how these systems achieve their results. The purpose of this paper is to provide an empirical investigation of the impact of the Performance Matrix on employee performance, to determine if manipulation of weight distribution of targeted variables produces behavior change, and to generate an understanding of the impact of such programs in small retail businesses.

In summary, the small group incentive plan literature contains methodological flaws. There are few quality, applied studies, particularly those in retail settings. The Performance Matrix lacks empirical evaluation. This study attempts to address the shortcomings of previous small group incentive plan research by using an applied setting, meaningful reinforcers, and sound methodological rigor. Further, this study includes social validity measures. The primary research question is: Is the Performance Matrix an effective intervention for changing workplace behaviors in a small business? Secondary questions are: How does prioritizing job tasks influence performance vs. non-prioritizing? How does adjusting the weights of the targeted tasks (those included in the Performance Matrix) effect job tasks not targeted for incentive earnings? What type of weight distribution do employees and managers prefer?
METHOD

Setting and Participants

This study was conducted in two privately owned retail stores specializing in jewelry and novelty items, both located in a Southern city; both locations are operated by the same owner. Twelve sales associates (six from each location) served as primary participants based on their full-time status and general intent for long-term commitment to the company (i.e. they were not hired for a short-term need). Secondary participants included each store manager and the owner-operator, as they were involved in the administration of the intervention. Primary participants were 18 to 50+ years of age, employed for two months to five years. All had received the same on-the-job training for their positions. Employees, managers, and owner consented for participation (see Appendix A Human Subjects Committee Approval Letter, B and C for Informed Consent Forms for employees and managers/owner, respectively).

Organizational Assessment

An initial assessment of the organization’s work and pay structure was conducted prior to designing and testing the proposed intervention. To develop an understanding of the conditions in which employees operated, their specific job tasks, and the extent to which sales associates were actually performing their job tasks, a thorough assessment was conducted. This assessment was multi-component and carried out over 9 months. The components of the assessment involved the following steps:

1. Gained understanding of all performance measures.
   a. Multiple extensive interviews with the owner-operator and store managers were held to review all job tasks, target areas for improvement, discuss previous actions taken, and to review organizational goals.
   b. The owner-operator, store managers, and accountant (where applicable) created a task analysis of the sales associates’ job responsibilities, as well as their own. This task analysis served as a resource for dependent variable behavioral definitions to aid in observations.
   c. Shadowed sales associates to directly observe their job tasks: customer service and store cleanliness at various times of day, and days of the week.
   d. Shadowed managers to directly observe their monitoring of job task and management style.
2. Gained understanding of the current pay system.
   
a. Multiple extensive interviews were conducted with the accountant, owner-
operator, managers, and several sales associates to discuss pay structure, bonus
plans, and feasible yet meaningful incentive options.
   
b. Observed and reviewed the accounting database.

The results of this initial analysis indicated all tasks were measurable, objectively
defined, verifiable (could be observed with high inter-observer agreement), had clear
consequences for occurrence and non-occurrence, had reasonable performance standards set and
were under the sales associates’ control. All sales associates were paid hourly and occasionally
earned bonuses. The most preferred incentive was monetary. Prior to this study, the owner
offered monetary bonuses on a sporadic, undefined schedule for nonspecific behaviors or
performance. She felt the current “bonus system” was carried out in too subjective a manner and
was seeking change for this. The employees did not understand how they specifically earned
bonuses and indicated they did not routinely occur, and often were inconsistent. The owner
expressed that she was interested in developing an objective bonus program that would promote
teamwork and would be contingent on specific work performance.

Based on the results of the assessment and review of relevant literature, an incentive
program was designed that ensured (a) an objective measurement system of employee
performance, (b) targeted items were verifiable, specifically defined, and under the performer’s
control, (c) timely, informative performance feedback, (d) incentives were meaningful to the
employees, (e) incentives were tied to the overall business plan of the organization, (f) teamwork
would be emphasized, and (g) tasks could be weighted to provide emphasis on greater priority
tasks. The Performance Matrix (Daniels & Daniels, 2004) met each of these qualifications and
was empirically investigated for its proposed effectiveness to change employee behavior when
weighted in different manners.

*Dependent Variables*

Selected customer service, restroom cleanliness, and target sales goals were the primary
variables measured (see Appendix D for behavioral definitions). The store managers and owner
developed all measures and corresponding definitions for validity purposes. Customer service
was composed of two parts: greeting/assistance and register behaviors. Each category had its
own task list.
Customer Service: Greeting/Assistance Behaviors. Greeting and general sales assistance behaviors included: 1) greet customer within 5 seconds of customer entering store using an appropriate greeting, 2) mention at least two promotional items, 3) check back with the customer within 5 minutes of greeting to initiate conversation or request of assistance. These behaviors were measured on a 3-point scale (2, 1, 0). A score of 2 was the highest score, which indicated the behavior occurred according to the definition. A score of 1 indicated the behavior occurred, but not to the definition. A score of 0 indicated the behavior did not occur and represented a missed opportunity. Percentage of occurrence for the observation session was reported.

Customer Service: Register Behaviors. Cash Transaction behaviors occurred at the register area. These were behaviors a sales associate engaged in when a customer made a purchase: 1) reference the customer appreciation list, 2) attempt to add on another item to the sale, make an “up-sell”, 3) use the customer’s name. These behaviors were measured on dichotomous scale of “occurred” or “did not occur” according to respective definitions. Percentage of occurrence for the observation session was reported.

Restroom Cleanliness. Dichotomous scoring was used to measure whether items in the restroom matched the appropriate definition of “acceptable” or “not acceptable” according to cleanliness standards and definitions. The act of cleaning was not observed, but the result was. The percentage of items clean was reported daily.

Sales Goals. Each employee received sales goals, determined by the owner, that were projected based on the previous year’s sales. The number was generated automatically through the accounting database. Based on the number of hours worked that day, each employee received a “target” goal for sales for the day, creating a total goal for each store each day. Percent-to-goal was recorded daily in each store.

Selection criteria for incentive-targeted behaviors. Four targeted behaviors were selected on the basis of: 1) stability, 2) frequency of occurrence, 3) importance to owner-operator, and 4) those that lent themselves to an investigation of response covariation for non-targeted behaviors. For Location I, those behaviors included: (a) greet customer, (b) mention promotional items, (c) use customer’s name, and (d) meet sales goals. For Location II, those behaviors were replicated, with the exception of (a) greet customer. Due to ceiling effects, this was replaced with “attempt an add-on”.
Response covariation probe measures. While four targeted behaviors were included in the incentive program, four response covariation probes were selected to see any effect(s) the Matrix may have had on seemingly similar behaviors, or those potentially belonging to the same operant class. These behaviors were selected based on operant class, or response covariation. For example, customer service involves more than one behavior. The protocol was: the sales associate should greet a customer, offer a promotion, and check back with the customer to offer further assistance. By selecting behaviors that naturally occurred together, such as greeting and mentioning promotional items, or in other words are considered to belong to the same operant class, within-class response covariation could be measured. By selecting behaviors that did not belong to the same response class (e.g. greet customer and wrap purchase), potential covariation across classes could also be observed. These data were collected concurrently with the incentive-targeted behaviors.

As covariation measures, the behaviors of: (a) check back with customer, (b) attempt an “add on”, or greet, for Location I and II, respectively, (c) use customer’s name, and (d) restroom cleanliness was measured, but not included in the Performance Matrix, or contingent upon the earnings of an incentive. These data assessed the effects of the treatment on the non-targeted items belonging to similar and different classes of behavior. The covariation probes were not any part of the intervention directly, but measured only to assess the effects the intervention my inadvertently have on non-incentive-targeted tasks, whether those be detrimental or supplementary in nature.

It should be noted that the sales goal data may have inadvertently included the covariation probes, assuming there was a direct link between the covariation probe and the occurrence of a purchase and sales transaction, but this is correlational and the cause of a sales transaction could have occurred for a number of other reasons (e.g. seasonal influence, economic change, inventory change, local area construction, etc.).

Data Collection

Trained observers collected most data using a checklist of the targeted behaviors (see Appendix E). The checklist included date, time, location, observer identification, the targeted and non-targeted behaviors (covariation probes). This checklist was constructed based on the sales associates’ task analysis developed during the assessment period and was based on pilot work.
Observers were trained in a number of ways to ensure valid and reliable data. First, a group discussion session was held. Behavioral definitions and scoring criteria for each item on the data sheets were explained. Difficult scenarios and potentially confusing cases were discussed and clarified. Second, observers were tested over the behavioral definitions and use of data sheet. A score of 90% or above had to be achieved on a 20-item quiz describing possible scenarios and highlighting potentially difficult definitions. Third, the observers practiced collecting data in trial locations and practice situations as well as in the experimental setting until observations are made with fewer than 5% errors. Observers were instructed to be discrete and remain as unobtrusive as possible while conducting direct observation to prevent reactivity. Ongoing random testing was administered to observers to prevent bias, observer drift, and ensure all observers are using consistent behavioral definitions throughout the study. Observers were also kept blind to the intervention to prevent bias.

Observation sessions consisted of 30 minute time periods (or three greet opportunities and one checkout observed) during selective times of days, based on business and traffic patterns of the stores. Those targeted times are between noon-2 PM and 4-6 PM. The busiest days of the week were Thursday, Friday, and Saturday (provided by traffic reports taken by both researcher and owner-operator). Two observation sessions were collected each day, except for Mondays as this is historically a low traffic day, and many of the employees were doing inventory and other tasks not typically of other days’ work. Data were collected minimum six days per week, 12 observations per week, across various times listed above.

Other data were collected in a variety of ways. The sales goals data were generated from the automated register system. This information was available through the accountant’s database. This was generated daily for each employee working on a given day, and summed by total number of employees and hours worked. Satisfaction measures (see social validity) were collected by responses on a written survey (see Appendix F and G).

Inter-observer Agreement Checks

Thirty eight percent of total observation sessions were conducted as inter-observer agreement (IOA) sessions, where two independent observers will simultaneously collect data. Agreement was defined as both observers recorded the same occurrence or nonoccurrence of the items on the data collection sheet. The formula used to calculate reliability was: number of agreements divided by number of agreements plus disagreements multiplied by 100. The goal
for acceptable reliability was 80% (as recommended by Bailey & Burch, 2002, and Kazdin, 1994). If reliability dropped below 80%, a review of the definitions and repeat of practice scenarios was conducted until reliability was regained. Reliability data were collected during each phase of the study.

Independent Variables

A Performance Matrix with assigned goals, group-based incentives and daily graphic feedback was introduced. Specifically, prioritization element, or weight distribution, was isolated and manipulated to test its effect on the dependent variables in different conditions.

Performance Matrix. The Performance Matrix contained four incentive-targeted dependent variables. Each was assigned a target goal and subsequent sub-goals by the owner-operator and respective manager for each location. The weights were distributed (first equally, then prioritized) on a base of 100. Baseline data was used to ascertain the current rates of performance (column 5) in which subsequent goals were established. The Matrix ran for duration of one week, which mimicked the fixed interval pay schedule of the business. The scores tallied on the Matrix were accounts of performances performed in that designated week across all employees.

Three versions of the Performance Matrix were tested. One contained an equal-weight distribution of the incentive-targeted measures (25 on a base of 100). Another contained the same behaviors but had prioritized weightings, determined by the owner-operator as she perceived overall relative importance to her business goals, and the third again contained the same behaviors, but were weighted to emphasize sales goals. This was done primarily to test the robustness of the intervention to a target that was under least control to the performer (a sales associate could not force a sale, but did have control over selling behaviors that might encourage a sale). Therefore, each incentive-targeted measure received three weightings, the first being 25, and the second and third being greater than, less than, or equal to 25, on a base of 100. The owner-operator established this distribution close to the week prior to its intervention to most accurately represent her sales goals and priorities of the time.

Feedback. Group performance feedback was offered daily via a graphic display. The graph was posted in clear view in the employee stock/break room, which every employee had access to. Group performance data were averaged for the day on the incentive-targeted measures and posted. Feedback was graphed each day by either the researcher or the manager.
(the researcher communicated the data to the manager by phone or Email at the end of the day). Feedback on the covariation probes was not be presented.

**Incentives.** Incentives were based on group performance scores and calculated as a percent of each employee’s base pay, accounting for time worked that week. The incentives were available on a tiered system containing three levels: the lowest, Bronze level (850 – 900 points) = 3% of base pay/hours worked for the week; the second highest, Silver (901 – 1000 points) = 4%; and the highest level, Gold (1001 – 1200 points) = 5%. All employees received the same level of incentive based on group performance, but it was differentiated by that specific employee’s pay rate and number of hour worked. This was to account for fairness of contribution to the score and represent each individual’s pay differentiation. Employees received written notification (see Appendix H) that they received a bonus, which level of applicable bonus, and amount earned by the Monday following the intervention week. Employees signed this documentation to verify, in part, independent variable integrity. Amounts due were given to the accountant by the manager and added to the employee’s next paycheck. For confidentiality reasons, the dollar amounts due and hourly wages were not available to the researcher. The amounts due were simply covered when the researcher viewed the verification slips for signatures.

*Experimental Research Design*

To empirically assess which type of weight distribution (equal or prioritized) enhances the overall Matrix performance score, a multiple-baseline-across-groups with imbedded reversal design was used, where condition A was baseline (no incentive program), condition B was the Performance Matrix with incentives based on equal weightings of the selected targeted behaviors (see Appendix I for Location I, Appendix J for Location II), C was the Performance Matrix with incentives based on unequal/prioritized weightings of the targeted behaviors as determined by the manager’s priorities (see Appendix K for Location I, Appendix L for Location II), and D was the Performance Matrix with incentives based on unequal/prioritized weightings of the targeted behaviors emphasizing sales goals (see Appendix M for Location I, Appendix N for Location II). This type of within-group design tested whether one intervention (in this case, one of the prioritized weightings) had any effect over and above prior performance levels (in this case, that achieved by the equal-weight distribution phase) (Komaki & Jensen, 1986). In the event there
was no differentiation between phases B, C, and D, the weights were to be adjusted to widen the range of weightings, making a possible E phase, but this was found not to be necessary.

Procedure

The owner-operator, store managers, and researcher provided an information meeting to participants on the format of the Performance Matrix, what it is, how it works, how they can earn incentives, review the definitions of the incentive-targeted measures, and review the dollar amount they could potentially earn based on the tiered system.

After baseline data were collected (minimum one week, until stability was reached across the majority of behaviors), the first phase of intervention was introduced and included the equally weighted (non-prioritized) Performance Matrix with group-based incentives and daily feedback. At the end of one week, and when data were stable, employees received notification of their incentive (if any), and were asked to sign the notification. Participants then were reminded that the next week they would continue with the Performance Matrix, but the tasks would be prioritized and weighted differently, emphasizing the fact that how well they did on a particular target would affect their incentive earnings, if any. The manager informed employees of the priority weightings (e.g. “Notice that this week greeting will no longer be weighted at 25, but now at X, therefore a proportionately different amount of incentive will be available for that measure”). The participants were asked to sign the completed Matrices to ensure they understand the designated components. All Matrices were publicly posted next to the daily feedback graphs for review, with the weight column highlighted. Each version was in operation for approximately one week, and each time the conditions were changed, the employees again were notified of any earned incentive, and if the program was going for approximately another week. Daily graphic feedback and notifications continued through all phases.

Social Validity

Upon completion of the study, participants (both sales associates and management) completed a written satisfaction survey (see Appendix F and G, respectively) inquiring level of satisfaction with the intervention, preference for type of Matrix, and overall opinion of the worthiness of the interventions.

Independent Variable Integrity

To ensure the incentive plan was carried out as intended, an independent variable integrity measure was taken. Participants were required to sign-off on their weekly Performance
Matrices prior to each kick-off. The Matrix included goal levels, target behaviors, and point total exchange rate based on magnitude and availability of reinforcers. Upon completion of the week’s Matrix, each participant sign-off on the final score calculations. Essentially, the sales associates signed each Matrix two times, once at the beginning of its use to ensure they understand the components to the matrix, and once at the conclusion to verify they understand earnings for that time period. Other integrity measures included verifying incentive distribution and feedback delivery, as well as including agreement checks on data entry and calculations.
RESULTS

This study investigated the effects of incorporating the Performance Matrix with incentives in a retail sales environment. The results are discussed in five categories: target dependent measures, demonstrating experimental control and overall treatment effectiveness across conditions; response covariation, showing absences of detrimental effects on non-targeted behaviors and possible covariation of measures; interobserver agreement, to demonstrate reliable collection of data; social validity/user-satisfaction, to evaluate the opinions and preferences of the users of the system; and independent variable integrity, to assess adherence the treatment protocol and provide assurance the intervention was carried out consistently.

Target Dependent Measures

All experimental conditions except 3 (2 in LI and 1 in LII, all in the sales measure), produced a higher performance than those in baseline. Of the 24 total opportunities for phase changes (12 in each location), 20, or 83%, demonstrated same direction of weight and performance change. On average, a 10% performance change was observed when weight differentials changed 15 or more points. For a complete inspection of the mean performance data and weight distribution across all phases in Location I and II, see Table 1.

Table 1. Average performance and weight assignment for each target behavior in Location I and II.
Location I

The following data were collected in Location I as incentive-targeted behaviors, or those included on the Performance Matrix.

Greet. Figure 2 shows the results of the Performance Matrix program for the greeting behavior in Location I. The mean for greeting behavior performed in the baseline condition was 70.2 %, range 54.2-83.3%. The mean increased to 19.4 percentage points to 89.6, range 80-100, in the equal-weight condition. The behavior increased again 7.8 points in the first prioritized condition to 97.4%, range 90-100, while the weight correspondingly increased from 25 to 50. Behavior was most stable in this condition and reached high levels. In the second prioritized condition, when the sales goals were emphasized and the greet measure was only weighted at 15, the behavior decreased 15.8 percent to an average of 81.6 percent (72-90). There was a downward trend initially in this phase, followed by a slight uptrend. Mean performance in this condition was lower than phase B, yet higher than baseline. The total combined effects of all intervention phases (the average of phases B, C, and D) increased 19% over baseline.

Figure 2. Mean data of the greeting behavior for all participants in Location I. Mean lines are included.
Promotional items. Figure 3 depicts the offering of promotional items for Location I across all phases of the program. Average performances were 44.5 (range 25-55) in baseline, increased 36.4 percentage points to 80.9 (60-100) in the equal-weight distribution phase, again increasing, this time 12.7 points, bring the mean up to 93.6 (80-100) in the manager-prioritized phase. A decrease of 24.6 points was observed in the final phase, which brought the mean down to 69 (65-78). The weight distributions for each experimental condition were 25, 30, and 15, respectively. The combined effects of the intervention conditions lead to a 37 percent increase over baseline. The trend patterns are similar to those found with the greet behavior both in weight increase/decrease and performance increase/decrease. This may be due in part to the close timing of these two behaviors (mentioning promotional items should immediately follow a proper greeting).

Figure 3. Mean data of the promotional items behavior in Location I. Mean lines are included.
Name use. Participants used the customers’ name during checkouts on average 21.7 (0-40) percent of the observation conducted in baseline (see Figure 4). The mean increased dramatically 48.3 percent to 70 percent (55-86) in the first condition, and increased another 6.5 percent, reaching 76.5 (65-93) in the third condition, and decreased slightly, 4.7 percent, in the last condition, finishing at 71.8 percent (65-78). The weight distribution for this behavior was 25, 15, and 10, respectively. Once behavior reached stability following the session 11, the behavior did not vary much in response to the weight changes, and maintained a similar range of 70-86, excluding a potential outlier on session 15 (93). This suggests the variance in the weight change was too small to produce a corresponding behavior change. That is, the weight range of 10-25 did not appear to make a difference in performance. However, overall the combined effects of all intervention phases produced a 50.7 percent mean increase over baseline.

Figure 4. Mean data of the use of customers’ names during transactions in Location I. Mean lines are included.
Sales Goals. As shown in Figure 5, sales goals were met 129 percent of the observations in baseline. The mean decreased 18% to 111% in phase B when the weight was 25. Performance decreased slightly again in phase C (4.5%) to 107, while the weight also decreased (to 5). Sales goals increased 27 percentage points to the highest mean of 134 in phase D. The weight in phase D for this measure was 60, also the highest.

It is important to note that employees had the least amount of control over this behavior compared to the other target behaviors. The variability makes analysis difficult, as the range of sessions the sales goals were met is similar throughout all conditions. This suggests the sales goals reached may not have been influenced by the intervention, however, the highest goals were reached in the condition with the greatest weight (phase D, sessions 24 and 27, 224 and 241 percent to goal, respectively). The third highest goal was met during baseline (session 7, 213 percent to goal). It should be noted that this sales were not typical for this location as special sales events occurred that day. Therefore, session 7 should be considered atypical, and therefore an outlier. Overall, the combined effects of the intervention decreased 12 percent from baseline.

Figure 5. Mean data of percent of sales goals met in Location I. Mean lines are included.
Location II

Location II data were collected in the same manner as Location I, only a few days later. Refer to Table 1 for comparison of mean performance data and weight distribution across all phases in Location II.

Add on. Figure 6 shows add on attempts during a checkout. Overall, the intervention promoted a 24.1 percent increase over baseline. Behavior occurred 6.7 percent (range 0-20) of the observations in baseline. This increased 12.9 percent in an initial uptrend to a mean of 19.6 (10-30) in phase B, followed by a sharp mean increase of 28.8 percent to 48.4 (40-60) in phase C. All data in phase C were outside of the variability range for baseline and phase B, and with the exception of session 26 in phase D (42). Weight, like performance, also increased in phase C from 25 to 40. Both mean of behavior and weight decreased in phase D, 20.6 (5-42), and 15, respectively. Performance dropped steadily as indicated by the downward trend in phase D. This suggests the 15 point increase (from 25 to 40) and 25 point decrease (from 40 to 15) in weight effected this performance. There was little difference (1 percent) in mean performance between conditions B and D (19.6 and 20.6, respectively), when a weight differential of 10 occurred. This suggests weights of 25 and 15 have similar control over this performance.

![Figure 6](image-url)

Figure 6. Mean data of percent of add on attempts made during transactions in Location II. Mean lines are included.
Promotional items. Sales associates promoted specific items or services in the store 50.6 percent (range 31-72) of the observations in baseline (see Figure 7). This behavior was somewhat variable, but trended downward after session 7. When the weight was introduced at 25 in phase B, performance also increased dramatically, specifically 39.5 percent, to a mean of 90.1 (83-100). The immediate effect, size of effect, and reversal of trend suggest experimental control. The weight was again increased in phase C to 35, however, the behavior decreased slightly to 84.1 (79-93), creating an opposite effect in direction of weight and behavior change.

The downtrend in behavior began near session 16 and continued through phase C. While it is not desirable to intervene with a reductive condition when a downtrend is evident, the decision to begin phase D was dictated by the performance of the other 3 target behaviors. Since phase changes occurred in tandem across all targets, this implication was difficult to avoid.

Figure 7. Mean data of percent of promotional items mentioned in Location II. Mean lines are included.
When the weight decreased again, in this occurrence down to 15, in phase D, the behavior corresponded and dropped 12.1 percent to 72 percent (62-84), still 22 percent over baseline. The behavior did increase as evident in the uptrend from sessions 26-31. The range of behaviors for this measure is similar in phases B and C, where the weight differential was 10 (25 and 35, respectively), suggesting similar functional control between these two conditions. However, when the weight differential is similarly compared in phases B and D, 25 and 15, respectively, a wider separation of the range of data is evident (83-100, 62-84, respectively). Only 1 percentage point overlaps. Overall, the total intervention improved behavior 31.4 percent over baseline.

Name Use. Customers’ names were used during transactions on average 26.3 percent of the time in baseline (refer to Figure 8). The range was 10 - 46.2. Performance increased 40.1 percent in a steep upward trend to an average of 66.4 percent (25-100) in phase B, coinciding with the initial weight introduction of 25. Assigned weight decreased in the last two phases, 20 and 10, respectively. Means also decreased in the last two phases, 60.6 (52-75) and 35.4 (20-50), respectively. The downward trend in phase C is similar to that found with the promotional measure. Behavior in phase D returned to a similar range as in baseline condition, suggesting the intervention and weight of 10 for that behavior did not have much influence over performance. The use of customers’ names in phases B and C is comparable in terms of overlapping data in the ranges of data. The effects appear to be short-term, although combined effects of the intervention produced a 28.1 percent increase over baseline.

Sales Goals. Sales goals were met on average 113 percent of the time (range 28-179) at the start of the program (see Figure 9). When the equal-weight distribution phase was introduced, goals were met 145 percent of the time (95-229), a 32% mean increase over baseline. The weight for phase B was 25, followed by 5 in phase C. Goal achievement deteriorated in subsequent phases, 124% (47-236), to 100% (75-133), respectively. The final phase was weighted the heaviest, 60, but produced the lowest mean occurrence. Variability was evident in baseline as well as the following two phases. The most stable data occurred in Phase D. Again, it is important to recognize the lack of total control the performers had over this measure and interpretation of these data is cautioned. The purpose of including this measure was to evaluate demonstration of effectiveness for a measure business owners view as very important.
Figure 8. Mean data of percent of customer name use in Location II. Mean lines are included.

Figure 9. Mean data of percent of sales goals met in Location II. Mean lines are included.
Performance Matrix Scores

Figure 10 shows the Performance Matrix scores for each Location during experimental conditions. While attempts were made to adjust the weight distributions similarly in both settings, some small differences can be observed. Location I received bonuses for each experimental phase, earning 3, 5, and 4 percent incentives, respectively. Matrix scores for Location I started at 875, increased by 145 points to 1020, and decreased by 55 points to 965, respectively. Location II earned incentives only once, which was after the equal-weight distribution phase, with a score of 900. Scores progressively decreased in subsequent conditions, to 825, and 545, respectively. See Appendix I – N for Performance Matrices for each Location per phase. The weight adjustments altered the conversion scores in the Matrix. In Location I for example, if the greet behavior occurred in at the same frequency in phases B and C (and therefore earned the same goal/column level), the end scores would computed differently, due to difference of the weight, 25 and 50, respectively.

Figure 10. Performance Matrix scores for each experimental phase for both Locations. Standard error bars are included to show variance.
**Weight Distribution and Performance**

A comparison of the manipulated weight distribution variable was compared to the performance goals in the Performance Matrix. These goals were represented by the column number found in the Matrix, based on raw score of performance. This type of analysis allows for comparison of peak performances in conjunction with weight distribution. Data in Figures 11 – 16 represent Location I and II and display these two variables. Comparisons can be made across weight change, either increase or decrease, and performance change in terms of goal level achieved by noting the covariation. Generally, when the weight of a behavior increased or decreased, the performance also changed in corresponding directions. One exception is displayed in Figure 15, where, although the sales goal was weighted the heaviest, performance was lowest in terms of column goal as represented on the Matrix.

![Graph](image)

**Figure 11.** Weight assignment and Performance Matrix column goal for Phase B, equal-weight distribution, for each target behavior in Location I.
Figure 12. Weight assignment and Performance Matrix column goal for Phase C, manager-selected weight distribution, for each target behavior in Location I.

Figure 13. Weight assignment and Performance Matrix column goal for Phase D, sales goal emphasis, for each target behavior in Location I.
Figure 14. Weight assignment and Performance Matrix column goal for Phase B, equal-weight distribution, for each target behavior in Location II.

Figure 15. Weight assignment and Performance Matrix column goal for Phase C, manager-selected weight distribution, for each target behavior in Location II.
In summary, the target behaviors were effectively altered by the intervention and altering of weight distribution. Overall, targeted performances were improved when the weights increased and decreased when the weights were lowered. While Performance Matrix scores differed for each Location, and incentives were not earned equally across Location, performances were enhanced. Behaviors during any experimental condition, with 3 exceptions with sales goal measures, were higher than in baseline conditions.

**Response Covariation**

**Location I**

Probes to measure possible response covariation were observed in tandem with the target behaviors included in the incentive program.

*Add on.* This behavior was variable throughout the study, with short periods of trending (see Figure 17, sessions 6-11 and sessions 19-24, respectively). Phase changes occurred during these times, indicating possible covariation, however, due to variability, this cannot be determined. The mean was 36.5%, range (0-80).
Check back. Similar to the add on behavior, checking back with a customer appeared to have not been detrimentally impacted by the simultaneous implementation of the intervention (see Figure 18). The mean of these data was 76.9, range 56-100. Data were generally stable until session 16 where evidence of improvement can be seen in the upward trend. At session 25, the behavior decreased somewhat, coinciding with the phase change of the independent variables. This could suggest some covariation of response in the last phase with other behaviors that were performed at lower levels, as all other target behaviors occurred at lower rates during this time. Because of the lack of systemic correspondence, analyses are limited. Behavior appeared to be maintained or slightly enhanced, and somewhat more stable performance can be observed.

CAL. Mention of the customer appreciation list increased in a steady uptrend throughout the intervention phase (see Figure 19). The average of these data was 67.6%, range 12-100. Once high levels of the behavior occurred near session 18, they were maintained, indicating an enhancement side effect. It is difficult to determine, however, if these data are representative of clear response covariation due to the lack of explicit correspondence with other target behaviors.
Figure 18. Response covariation probe, check back with customer, for Location I.

Figure 19. Response covariation probe, mention customer appreciation list (CAL), for Location I.
Restroom cleanliness. The cleanliness of the restroom, as depicted in Figure 20, remained stable throughout the intervention (mean was 89.4, range 75-100). There were no detrimental side-effects observed for this covariation probe. Due to ceiling effect, claims of enhancement cannot be made.

Figure 20. Response covariation probe, cleanliness of restroom, for Location I.

Location II

Refer to Figures 21 – 24 for patterns of potential evidence of response covariation in Location II.

Greet. Due to initial ceiling effects, this behavior was monitored for any detrimental effects (Figure 21). This behavior occurred on a regular basis and the data show little variation or sharp trending for the duration of the intervention (mean was 83.8, range 75-98). A slight downward trend is evident beginning near session 19.

Check back. The behavior of checking back with a customer was quite variable, although stable for sessions that coincided with baseline (Figure 22). The average was 53%, range 20-80. There was a small increase in the behavior near session 14, but performance decreased somewhat following session 21. Behavior during intervention was similar or higher than baseline.
Figure 21. Response covariation probe, greeting behavior, for Location II.

Figure 22. Response covariation probe, checking back with customers, for Location II.

**CAL.** Mention of the customer appreciation list was observed at ceiling at the beginning of the study (Figure 23). Performance was observed to vary some, but remained generally stable overall. The mean equaled 92.8 percent (67-100). There were no detrimental effects observed.
Restroom cleanliness. Similar to the CAL measure, as represented by Figure 24, restroom cleanliness was near ceiling at the start and throughout the intervention. The mean was 93 percent (75-100). No detrimental effects were observed.

Overall, there were no detrimental effects found in the response covariation probes. All measures were either maintained throughout the study or were enhanced (e.g., CAL measure).
In other words, targeting specific behaviors for the Performance Matrix did not negatively interfere with other non-targeted measures.

Interobserver Agreement

Interobserver agreement data were collected for 38 percent of the total observation sessions by trained observers. Overall agreement across all conditions averaged 92 percent (number of agreements divided by number of agreements plus disagreements). Table 2 lists the overall average agreement scores for each Location and measure.

Social Validity/User-Satisfaction

Employee

A satisfaction survey was administered at the completion of the study to assess employee satisfaction and preference ratings for intervention (see Figures 25-26). Eleven of the 12 participants returned a completed survey (6 in Location I, 5 in Location II). Twelve Likert-type items were included that inquired about the employees’ perception of the Performance Matrix system, including fairness, stress level, impact on target behaviors, impact on non-targeted behaviors, and overall preference for type of weight distribution system. In general, support of any version of the Performance Matrix was reported. There were very few differences in the preference, and it is determined that this item is undifferentiated by Location. In terms of perceived fairness, one participant in Location I disagreed with the statement “I perceived the Performance Matrix with the equally-distributed task weights to be fair.” Participants were also asked one open-ended question pertaining to perception of increased demand or stress due to a version of the Performance Matrix. No participants responded yes to this item.

Manager/Owner

Satisfaction measures were also collected from the managers and owner (see Figures 27-28). Only two of the three participants in this category returned surveys. Because the surveys were anonymous, references to which manager or owner cannot be made. Similar to the employee survey results, there was general support for the program. Unlike the employee preference data, managers and/or owner indicated a preference for a Performance Matrix with a prioritized weight distribution, including comments about the flexibility to emphasize a
particular behavior over another with this type of approach, thereby increasing perceived control over the system.

In summary, while there are subtle differences between employee and manager/owner opinions, the manager/owner showed slight preference for a prioritized weight distribution whereas the employees were undifferentiated. Both parties concurred on the general feasibility and end-user friendliness of the intervention, indicating they would support its use and generally liked the program.

Table 2. Percent interobserver agreement data for dependent variables across both Locations.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Location I</th>
<th>Location II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greet</td>
<td>98</td>
<td>90</td>
</tr>
<tr>
<td>Add on</td>
<td>96</td>
<td>88</td>
</tr>
<tr>
<td>Promo</td>
<td>99</td>
<td>91</td>
</tr>
<tr>
<td>Name</td>
<td>93</td>
<td>83</td>
</tr>
<tr>
<td>Sales Goal</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Check Back</td>
<td>83</td>
<td>80</td>
</tr>
<tr>
<td>CAL</td>
<td>89</td>
<td>85</td>
</tr>
<tr>
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<td>98</td>
</tr>
<tr>
<td>TOTAL</td>
<td>95</td>
<td>89</td>
</tr>
</tbody>
</table>
Figure 25. Employee responses to satisfaction survey questions 1-6 for Location I and II.
Figure 26. Employee responses to satisfaction survey questions 7-12 for Location I and II.
Figure 27. Manager/owner responses to satisfaction survey questions 1-6.
Independent Variable Integrity

Independent variable integrity measures were collected to ensure proper administration of the Performance Matrix incentive program.

Employee Signoff

Prior to the kick off a new version (i.e., weight distribution) of the Performance Matrix, employees were asked to sign slips indicating they understood what was expected of them and how they could earn incentives. Following completion of the Matrix trial, employees again signed a slip that indicated whether they received a bonus, if so, how much, and when they would see the money added to their paycheck. One hundred percent of slips were signed and returned.
Incentive Distribution

Following the notification of any incentives earned, verification was made with the owner and accountant to verify amounts due were paid out when promised. One hundred percent of incentives earned were paid out on time.

Feedback Verification

Verbal data were collected from the managers on the posting of the feedback graphs. Managers verified the content of the graph and checked to ensure proper posting was maintained. This was done for each posting in each Location.

Data Handling

All observations were entered twice by separate trained research assistants and the researcher. Random checks were made to ensure data was entered properly and calculations used were correct. Reliability for data entry was 97%, while calculation reliability was 100%.

These data indicate that the intervention was conducted as planned and was consistently implemented in both Locations. This high level of treatment integrity provides assurance to the reader that the authenticity of the protocol was upheld and indeed produced effects found in this study.
DISCUSSION

This study was the first to investigate and demonstrate experimental control of weight distributions within the Performance Matrix on the customer service behaviors of retail sales associates. The study used a tiered incentive system, assigned goals, daily graphic feedback, and manipulated three distinctive weight distributions, while measures were taken to assess the impact of the intervention on non-targeted response covariation probes.

This most important finding of this study is the answer to the primary research question: Is the Performance Matrix an effective intervention for changing workplace behaviors? Based on the findings in the present study, yes, the Performance Matrix, with the inclusion of assigned goals, feedback and incentives, has been demonstrated to be effective in changing, specifically enhancing, employee work behavior in a small business.

Like previous discussions by Abernathy, 2001, priority weight has little reliable influence on changing behavior until it reaches a particular level. Here, a weight adjustment of at least 15 in either direction most reliably supported behavior change of at least 10 percent. Eighty percent of the time, a change in weight of 15 in this study produced this magnitude of a performance change, but also did so in the corresponding direction of change. In other words, if the weight increased by 15, the behavior increased by at least 10 percent. This is valuable information for future reference of setting up similar incentive programs with prioritized weight distributions.

Also discussed in Abernathy, 2001, the influence of performer control to effectively change behavior was important. Here, too, it was recognized that in order to promote the most efficient performance change, the performer must have complete and direct control over the behavior. The measure of “meeting the sales goal” failed to clearly identify the exact behaviors responsible for completing a sale. It is possible that the targeted behaviors were unable to change the sales data, due to insufficient motivating contingencies (i.e., even while high levels of incentive pay were proportionately available in this condition, performance was not superior). Lack of performer control could also be to blame, or, it is entirely possible that the targeted behaviors were unrelated to making a sale. That is, behaviors such as greeting customers, mentioning promotional offers, using the customer’s name, and setting sales goals may not be effective in actually completing a sale. Research would need to be done to evaluate other variables that may be operating to prevent a customer to purchase a particular item. Perhaps
there are specific behaviors a sales associate would need to engage in for different types of
customers and further, for different occasions that same customer may present.

It is interesting to note that while other behaviors thought to support meeting sales goals,
such as increased duration of customer-sales associate interaction, similar to the target behaviors,
were ineffective in actually making a sale with a customer. Managers and businesspeople should
be cautious in regards to using only financial outcome measures as a way of accounting for
success, assessing needs, and establishing incentive systems for their employees. Obtaining
measures that are under the direct control of the individual are much better suited for improving
performance. Perhaps managers should examine broader ranges of behavior, or if known, more
specific behaviors that effectively produce a sale. Further research is warranted to determine
what variables and what behaviors a customer may engage in, specifically discriminative stimuli,
that a sales associate would need to be aware of and respond to accordingly in order to complete
a sale. In this study, while sales were not enhanced, improvements were seen in:

- use of customer’s name (50.7% increase, overall, for Location I, 28.1 for Location II),
- mention of promotional items (36.9 percent for Location I, 31.4 for Location II),
- add on attempts (24.1 in Location II),
- greeting behavior (19.1 percent in Location I).

Other important findings are related to the secondary research questions: How does
prioritizing job tasks influence performance vs. non-prioritizing? How does adjusting the
weights of the targeted tasks (those included in the Performance Matrix) effect job tasks not
targeted for incentive earnings? What type of weight distribution do employees and managers
prefer?

Weight Distribution

With the exception of the sales goal data in Location II, all of the other conditions in both
locations produced an enhanced effect over baseline. In most instances, (10 out of 12 in each
store, total 20 out of 24, or 83% of the time) when the behavior had an increase or decrease in
weight, the performance of that behavior also increased and decreased respectively. In most
cases (5 out of 8, or 63% of the time), the condition with the highest weight was the condition of
highest performance, indicating that the higher weight difference can promote a greater behavior
change. It is interesting to note that some behaviors observed decreased or changed very little
when the weight changed in the opposite direction (e.g. Location II, Promo, Phase B & C). This
suggests that there is insufficient differentiation in the weights to support behavior change and that in order to change behavior a greater difference in weights is necessary (or to alter other elements of the Matrix, such as the goals or base rate levels).

In Location I, the first prioritized-weight distribution condition produced the highest mean performance in all target behaviors except the sales goal. (The sales goal data were highest in the last condition, which emphasized the sales goal.) In Location II, opposite effects were observed regarding the sales goal, the lowest performing condition was the second prioritized phase, with the emphasis on the sales goal. Again, the lack of performer control in this condition should be noted. While emphasis on achieving a sales goal is evident, the actual sale is somewhat out of the control of the sales associate, leaving only “sales-related” behaviors to be engaged, some of which may have been the other targeted behaviors, such as attempting an add-on, however, this was not observed. During this condition, what did change, from anecdotal reporting on the data sheets, was that the duration of the customer-sales associates interactions appeared longer. That is, contact with the customer did not necessarily increase in frequency, but the time sales associates spent with the customer did lengthen. It is interesting to note, however, that this did not appear to help increase sales.

In Location II, the highest mean performance was observed in the equal-distribution conditions for all but the attempted add-on behavior. This behavior was highest in the first prioritized, and most heavily weighted, condition. This delay in effect may be due to an acquisition of behavior as this target had very low frequency in baseline as well as equal-distribution phases. A heightened emphasis (by weight increase from 25 to 40) could have also helped to increase this measure. During this particular phase, it was observed that the sales associates taped a note to the register screen to prompt them to attempt an add-on. The researcher did not program this prompt. To emphasize a behavior the performer has little control over is an interesting approach to changing other behaviors. If the targeted behavior is not under the control of the performer, other behaviors, those that are related to the target, but under the control of the performer may develop. In essence, what was tested was the sales associates’ definition of how to make a sale and to observe what behaviors they might engage in to help achieve the target.
Response Covariation

It is important to note that this study was not designed to test response generalization, per se, but to explore any potential detrimental or supportive effects the Performance Matrix system may have had on non-targeted behaviors. The data obtained in this study indicate there were no detrimental effects on non-targeted behaviors while targeted behaviors were intervened upon. In some instances, the non-targeted behaviors improved, as in the case of the customer appreciation list (CAL) in Location I. This could be due to one or more of the target behaviors functioning as a discriminative stimulus for the related non-target behavior to occur and/or the history of reinforcement the non-target behavior had in relation to a target behavior. If a target behavior and non-target behavior were trained in the same way and occasion, it is possible the non-target behavior was emitted due to the similar reinforcement history and covariation with the target behavior.

These non-target behaviors may also be maintained through the same reinforcing stimulus, which may have been available in addition to the controlled incentive variable. By virtue of not having been formally intervened upon, but altered in a sense of covariation to the target behavior, this promotes discussion on the possibilities of the occurrence of response generalization. However, as argued by Austin and Wilson (2001), response generalization is a sub-part of response covariation, and only under explicit conditions can we refer to this phenomenon in a technically precise way. To have true response generalization, as indicated by Stokes and Bear (1977), a response must occur related to the training of specific behaviors, although not directly trained itself, but appear as a result of training (see Houchins & Boyce, 2001, for discussion). In order for this to occur, the behaviors must belong in the same functional operant class, that is, having the same functional relationship in terms of being maintained, (i.e. reinforced) by the same reinforcing stimuli. In this description, “work behavior” could be defined as an operant class, therefore making all types of responses that fall in this class maintained by the same reinforcer, (i.e. money from one’s paycheck). However, this study did not aim to define such parameters. Therefore, while arguments can be made about whether behaviors belong in the same operant class, it is only speculation in this study and this topic requires further investigation of specific classes of behavior and their corresponding contingencies of reinforcement.
Preference Assessment and Social Validity

It is interesting to note that the preference for type of weight distribution was not distinctive among employees. Both manager/owner responses indicated preference for prioritized, commenting on the amount of control they felt with this set-up. Employees generally liked and found all three types of weight distribution conditions to be fair and non-stressful. No employee in either location reported any type of stress due to the Performance Matrix system. All agreed that they found the Performance Matrix with incentives (regardless of weight distribution) to be useful and beneficial to the organization. There was some range in answers, reflecting individual experiences or specific interpretation of the question item. Some commented that it clarified their job responsibilities and allowed them to focus on what was expected of them. These types of social validity and end user-satisfaction measures are important in determining the overall value of such a program and long-term suggestion for maintenance.

Contributions

Similar to other investigations of incentives (see Bucklin & Dickinson, 2001; Honeywell-Johnson & Dickinson, 1999; Plowman, 2004 for reviews), this study found small group incentives to be effective in increasing productivity. Related, while other studies examining equal and differential distribution of incentives (this study distributed of incentives equally, but accounted for individual contribution), including Weinstsein and Holzback (1973), Farr (1976), Allison, Silverstein, and Galante (1992), the equal-distribution of incentives was preferred. This study differed in the distribution of how incentives were prioritized were manipulated. From employee responses, all conditions in this study were found similar in preference, with slight preference towards prioritized. Both responses from manager/owner indicated preference for prioritization/differentiation of weight distribution.

Results of closer relation are found in the Allison, et al. (1992) study in which higher performances were observed in the “cooperative” or equal-distribution of incentives condition. This was true for one of the two Locations in this study. While differential-distribution of incentives was not investigated in this study, a parallel can be drawn in with the Weinstsein and Holzback (1973) and Farr (1976) studies in that highest performance in differential conditions was observed in one Location. This study also supports claims made by Honeywell, Dickinson, and Poling (1997), London and Oldham (1977), and Stoneman and Dickinson (1989) that
equally-distributed incentives in both lab and applied settings are satisfactory to performers and effective in promoting behavior change.

**Limitations**

Wages were available throughout the study and therefore presented a competing contingency for incentive pay. Regardless of performance, the employees would still receive pay, making the incentives only desirable for mere discretionary income. Similarly, the availability of incentives and magnitude of monetary earnings may have not provided the intended motivation for the employees. Unless investigations including incentive and non-incentive conditions are explored, the inclusion of monetary incentive may be unnecessary entirely. If results can demonstrate comparative effectiveness of the Performance Matrix with and without incentives, there may be no need to include them. Other variables present might control the behavior just as effectively (e.g. feedback, goal-setting, praise for goal attainment, etc.). Without a component analysis, answers are only speculative.

The issue of intervention timing has subtle implications. While it was best intentioned to change phases according to the stability of the data, as typical protocol, the simultaneous intervention across four independent behaviors made this very difficult. Decisions for phase changes were made based on the majority of the behaviors being stable and attending to the general trends of the most heavily weighted item at the time. That is, in the event a behavior was downtrending, and the weight was to decrease, a lost sense of experimental control is apparent, due to methodological consideration for the other variables. This situation is not ideal and should carefully be considered in future practice. Predetermined weights to be administered at predetermined times may prohibit effective phase change opportunities and lesson the flexibility the system is intended to offer. While the researcher and owner/operator tried to control this as best as possible, some non-desirable phase changes did occur.

Another potential weakness was the form of data collection: direct observation. While this is standard practice in the field of OBM, and no other data collection technique was available, it could be argued that some degree of obtrusiveness by the observer possibly affected the employees’ behavior. This is often referred to as reactivity. In order to control for reactivity, baseline measures were lengthened to promote more realistic behavior among employees, similar to conditions prior to the study. It should be noted that observation alone might enhance an
employees work behavior. In this event, observation should be considered part of any performance improvement initiative, which would then promote consistency across applications.

Another item of discussion related to data collection is the partial dichotomous scoring system. Cooper, Phillips, Sutherland, and Makin (1994) suggest that when only two scores are available, floor and ceiling effects are often evident. Some measures in the current study, (i.e. register behaviors and restroom cleanliness) were scored as either “occurred” or “did not occur”, or “acceptable” or “not acceptable”, respectively, therefore possibly contributing to such variance in the data and promoting a floor/ceiling effect. In order to control for such effects, the present study reported a percentage score across occurrences of the particular behavior within an observation session. This allowed for more variation among the data reported. That is, the scores were simply not reported as 0% or 100% exclusively, but averaged over a period of time, given a minimum criterion for inclusion.

Last, variability in customer volume and purchasing behavior by customers could also be viewed as a limitation. While the effects were displayed as percentage, and the percentages were respective to location, it is possible that the overall percentages could be equated more precisely if both locations had an exact customer traffic volume and similar net sales. Even within industries, this is very difficult to find given the characteristics of location, time of traffic flow, clientele base, staffing, seasonal demands, etc. In doing so, while replication effects might be more evident, any possible external validity and application to other business is more limited. It is felt by the researcher that the small differences in the two businesses examined in this study support external validity.

Future Research

Because there is little research in this area, the results and limitations of this study encourage further research and logical extensions in many areas. For example, future studies could investigate occurrence of response generalization. By doing so, we would have even more meaningful ways to describe the functions and controlling variables for particular responses, therefore heightening our understanding of intervention effectiveness and allowing for more efficient applications. The Performance Matrix should also be investigated in a component-analysis fashion, where conditions with incentives and without-incentives are explored to rule out possibilities of superfluous interventions.
Also, the exploration of differing reinforcement schedules (perhaps daily, monthly, weekly), reinforcer magnitudes (ratio alterations of percentage of base pay to incentive pay), and reinforcer choice (monetary vs. non-monetary incentives) in respect to the Performance Matrix would be warranted. Such examination would allow for better understanding of the best component design for the Performance Matrix. While this type of program is intended to be flexible, it would be beneficial for business owners to know what would most likely work best for their organization based on data related to their industry.

Further, the investigation of various goal-setting techniques such as participative and assigned, as well as other forms and combinations of feedback delivery would be valuable to explore within the context of the Performance Matrix. Future research is also recommended in the area of differential top and low performers, to determine which type of employee is most appropriate for this type of program, who might benefit the most, etc.

Additionally, this study lends itself to the field of consumer behavior, by means of the sales goal data and interesting side-effect increase in length of interactions with customers. To promote such a result as “increase sales” and be vague about the specific behaviors required to achieve that result, necessitates speculation on behalf of the performer as to what they need to do. To successfully increase a variable such as sales in a retail environment, one must be knowledgeable of customer service skills. It is not clear at this time what specific behaviors a sales associate would need to engage in, given a particular customer. Once these variables were identified, this sort of recognition would require specific training, forcing the performer to attempt to understand customer behavior to a more detailed degree. However, this may be viewed as dangerous, time consuming, or simply ineffective, if gross generalizations are made about “type” of customer or if approaches are matched to the wrong type of customer. Given the diversity of the customer population, more research is needed on consumer behavior and the relations to sales associates, specifically those engaging in “selling” behavior. Here, extensions of discriminative stimuli research may offer skill to the performer to have selective approaches to selling that best suit the customer, and thereby effectively increasing sales.

Conclusion

This study closed a gap on the lack of applied research in both the use of the Performance Matrix as well as incentives. Since little research has been done on the Performance Matrix, and
none specifically on its weight distribution, the results of this study serve as primary foundation to further exploration. Research opportunities in this area are lush.

The data obtained in the present investigation have significant implications for organizations’ short and long term successes. With movements towards teamwork and the growing importance of recognizing employee satisfaction, this type of program, while further research is needed, has promising purpose and function to effectively change employee work behavior. If there are needs for an objective measurement system with an emphasis on pay-for-performance incentive programs, a well-tolerated program at all levels of the organization, and a program that will not infer detrimental effects to non-targeted behaviors, the Performance Matrix may be a viable solution.
APPENDIX A

Human Subjects Committee Approval Letter
Office of the Vice President For Research  
Human Subjects Committee  
Tallahassee, Florida 32306-2763  
(850) 644-8673 • FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 11/2/2004

To:  
Jeanine Plowman  
3354 Sedona Rd  
Tallahassee, FL 32308

Dept.: PSYCHOLOGY DEPARTMENT

From: John Tomkowiak, Chair

Re: Use of Human Subjects in Research  
An evaluation of the Performance Matrix

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Exempt per 45 CFR § 46.101(b) 4 and has been approved by an accelerated review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If the project has not been completed by 10/31/2005 you must request renewed approval for continuation of the project.

You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is IRB00000446.

Cc: Jon Bailey  
HSC No. 2004.632
APPENDIX B

Employee Consent Form
INFORMED CONSENT FORM: Employee
Title of Study: An Evaluation of the Performance Matrix.
Researcher: Jeanine Plowman

I freely and voluntarily and without element of force or coercion, consent to be a participant in the research project entitled “An Evaluation of the Performance Matrix.”

This research is being conducted by Jeanine Plowman, who is a graduate student in the Department of Psychology, Florida State University as her Doctoral Dissertation, supervised by Dr. Jon Bailey. I understand the purpose of her research is to evaluate an employee incentive program involving the Performance Matrix. The program may create a better working environment.

I understand that if I participate in the project my performance data will be used to evaluate the program. I understand my participation will involve normal employment responsibilities, including customer service and general store cleaning duties. I will not be asked to do anything outside of my current job description. I understand there will be different versions of the program offered and I will have an opportunity to partake in each program. I understand group graphs of employee customer service and store cleaning performances will be shared with my employer. I understand this project may last four to eight weeks. I will receive results of the study upon completion.

I understand that participation, nonparticipation or withdrawal from this study will not affect my employment status or current pay schedule. I understand that there are no foreseeable risks if I agree to participate in this study. I understand I must be at least 18 years of age to participate in this program.

I understand the possible benefits of my participation in this research study include: 1) I will be eligible to earn monetary incentives (3-5% of my base pay) not currently available to me, 2) I will receive information on my performance, 3) I will be providing my manager, the researcher, and the retail industry valuable information into the importance of incentive programs and their effect on performance, 4) I may experience a positive changes in my work environment.

I understand the results of this research study may be published but my name or identity will not appear on any of the results. All of my performance data will be kept confidential and coded by the researcher. I understand all master codes of employees will be destroyed after participants have been assigned codes to ensure confidentiality of reported results. I understand data will be stored in a locked file cabinet kept in the possession of the researcher, and will be destroyed 3 years after project completion or publication. Information obtained during the course of the study will remain confidential, to the extent allowed by law.

I understand I may contact Jeanine Plowman, Department of Psychology, Florida State University, (850) 644-7240, plowman@psy.fsu.edu and her supervisor, Dr. Jon Bailey, Department of Psychology, Florida State University, (850) 644-6443, bailey@psy.fsu.edu if I have any questions about this research. If I have questions about my rights as a subject/participant in this research, or if I feel I have been placed at risk, I can contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Office of the Vice President for Research, at (850) 644-8633.

I understand that I may withdraw my consent and discontinue participation at any time without penalty or loss of benefits to which I may otherwise be entitled. In signing this consent form, I am not waiving any legal claims, rights or remedies. My questions, if any, have been answered to my satisfaction at this time.

I have read and understand this consent form.

Participant’s Signature __________________________________ Date ____________________

FLORIDA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD

57
INFORMED CONSENT FORM: Business Owner
Title of Study: An Evaluation of the Performance Matrix.
Researcher: Jeanine Plowman

I freely and voluntarily and without element of force or coercion, consent to be a participant in the research project entitled "An Evaluation of the Performance Matrix."

This research is being conducted by Jeanine Plowman, who is a graduate student in the Department of Psychology, Florida State University as her Doctoral Dissertation, supervised by Dr. Jon Bailey. I understand the purpose of her research is to evaluate an employee incentive program involving the Performance Matrix. The program may create a better working environment.

I understand that if I participate in the project my employees' performance data will be used to evaluate the program. I understand my participation will involve normal employment responsibilities. Neither I or my employees will be asked to do anything outside of current job descriptions. I understand there will be different versions of the program offered and I will have an opportunity to participate in each program. I understand I will be viewing group graphs of employee customer service and store cleaning performances. I understand this project may last four to eight weeks. I will receive results of the study upon completion.

I understand that participation, nonparticipation or withdrawal from this study will not affect any employed party's employment status or current pay schedule. I understand that there are no foreseeable risks if I agree to participate in this study. I understand participants must be at least 18 years of age to participate in this program.

I understand the possible benefits of my participation in this research study include: 1) greater employee satisfaction due to recognition of their performance, 2) I will receive information on my employees' performance 3) I will be providing my employees, the researcher, and the retail industry valuable information into the importance of incentive programs and their effect on performance, 4) I may experience a positive changes in my work environment.

I understand the results of this research study may be published but my name or identity will not appear on any of the results. All of my performance data will be kept confidential and coded by the researcher. I understand all master codes of employees will be destroyed after participants have been assigned codes to ensure confidentiality of reported results. I understand data will be stored in a locked file cabinet kept in the possession of the researcher, and will be destroyed 3 years after project completion or publication. Information obtained during the course of the study will remain confidential, to the extent allowed by law.

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I have read and understand this consent form.

Owner Signature __________________________________ Date ____________
APPENDIX D

Behavioral Definitions
<table>
<thead>
<tr>
<th>Area</th>
<th>Item</th>
<th>Definition</th>
<th>EE</th>
<th>Antecedents</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Customer Service: Greeting/Assistance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anywhere N=3</td>
<td>Greet</td>
<td>&quot;Welcome to Blue Abaco&quot; or some sort of welcome/recognition &lt;5 seconds of customer walking through door. Must walk out from behind counter area. Ex: Hello, how are you!; Hi there!, etc. 2 = above criteria; 1 = &quot;Hey&quot; or equivalent or 6+ sec; stay behing counter; 0 = no greet</td>
<td>Anyone, closest to door, or when asked.</td>
<td>When each customer enters - within 5 seconds. Or when told.</td>
<td>2, 1, 0 per C/opp</td>
</tr>
<tr>
<td></td>
<td>Promo</td>
<td>Name 2 items in the store (weekly promotional items). Can mention engraving onsite and costs. *inappropriate if customer in a hurry and asks for something specific. 2 = mention 2+ items; 1 = mention 1 item or just point to [sale] signs without item description; 0 = do not mention</td>
<td>Anyone, closest to door, or when asked.</td>
<td>Immediately after greet *Exception: if ALL are with a C' then should occur later.</td>
<td>2, 1, 0 per C/opp</td>
</tr>
<tr>
<td></td>
<td>Check</td>
<td>Associate approach after 5 min. of customer shopping and make comment about a piece, ask if they need help, what's the occasion, start conversation, etc. Could engage in add on/upsell. 2 = min 1-5; 1 = 6-10, 0 = 11+</td>
<td>Anyone near area. Or when asked.</td>
<td>5 min of greeting. Stop observing this after 10 min.</td>
<td>2, 1, 0 per C/opp</td>
</tr>
<tr>
<td><strong>Customer Service: Register/Checkout</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reg 1 &amp; 2 N=3</td>
<td>Add on</td>
<td>Associate offers matching or complimentary item for purchase. Offers some other piece of merchandise. 1 = occurred; 0 = did not occur</td>
<td>Person running register.</td>
<td>Every transaction.</td>
<td>1, 0 per C/opp</td>
</tr>
<tr>
<td></td>
<td>CAL</td>
<td>Associate asks for C’ name, offers to be added to CAL, mention discount, or ask to update the ca list. 1 = occurred; 0 = did not occur</td>
<td>Person running register.</td>
<td>Every transaction. Before ring up purchase.</td>
<td>1, 0 per C/opp</td>
</tr>
<tr>
<td></td>
<td>Use C’ name</td>
<td>Associate uses C’ name when handing back receipt, credit card, and/or purchase. &quot;Thank you Mr./Ms. _______.&quot; First name OK. 1 = occurred; 0 = did not occur</td>
<td>Person running register.</td>
<td>Handing back CC or receipt or purchase. If customer did NOT want to be added to list, and did NOT use CC, ignore.</td>
<td>1, 0 per C/opp</td>
</tr>
<tr>
<td><strong>Restroom Cleanliness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bathroom N=8</td>
<td>Sink/counter</td>
<td>free of debris, dust</td>
<td>Near area, asked</td>
<td>15 minute interval checks. As needed</td>
<td>+ or -</td>
</tr>
<tr>
<td></td>
<td>Toilet</td>
<td>tank, seat, bowl- free of dust, debris</td>
<td>Near area, asked</td>
<td>15 minute interval checks. As needed</td>
<td>+ or -</td>
</tr>
<tr>
<td></td>
<td>Floor</td>
<td>&lt;2 items smaller than dime</td>
<td>Near area, asked</td>
<td>15 minute interval checks. As needed</td>
<td>+ or -</td>
</tr>
<tr>
<td></td>
<td>TP</td>
<td>&gt;1/4 roll</td>
<td>Near area, asked</td>
<td>15 minute interval checks. As needed</td>
<td>+ or -</td>
</tr>
<tr>
<td></td>
<td>Paper Towel</td>
<td>&gt;1/4 roll</td>
<td>Near area, asked</td>
<td>15 minute interval checks. As needed</td>
<td>+ or -</td>
</tr>
<tr>
<td></td>
<td>Soap</td>
<td>&lt;1/2 full</td>
<td>Near area, asked</td>
<td>15 minute interval checks. As needed</td>
<td>+ or -</td>
</tr>
<tr>
<td></td>
<td>Trash can</td>
<td>&lt;1/2 full</td>
<td>Near area, asked</td>
<td>15 minute interval checks. As needed</td>
<td>+ or -</td>
</tr>
<tr>
<td></td>
<td>Mirror</td>
<td>free of fingerprints, dust (both mirrors)</td>
<td>Near area, asked</td>
<td>15 minute interval checks. As needed</td>
<td>+ or -</td>
</tr>
</tbody>
</table>
APPENDIX E

Data Sheet
Observer__________ Time Enter________ Time Exit________ Date__________ Reliability Checker:____________

CS: 2 correct, 1 incorrect but occurred, 0 no attempt/missed  Register: 1 correct,  0 no attempt

<table>
<thead>
<tr>
<th>Cust</th>
<th>Greet</th>
<th>EE</th>
<th>Promo</th>
<th>EE</th>
<th>Check</th>
<th>Time</th>
<th>EE</th>
<th>Add</th>
<th>CAL</th>
<th>Name</th>
<th>Reg</th>
<th>EE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
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Overall Reliability

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<th># total:</th>
<th>%:</th>
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Notes:

Store: + to standard, - not to standard (start & after 15 min)

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<th>Sink</th>
<th>Toilet</th>
<th>Floor</th>
<th>PT</th>
<th>Trash</th>
<th>TP</th>
<th>Soap</th>
<th>Mirror</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
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</tbody>
</table>

63
APPENDIX F

Employee Satisfaction Survey
Satisfaction Survey: Sales Associates

We are interested in your feedback and opinions of the Performance Matrix project. The questions below will be used to assess the value of this incentive program. Please do not put your name on this as we’d like anonymous responses. Please circle your answers. Thank you.

1. I would like to continue the Performance Matrix incentive program in some form.
   1   2   3   4   5
   Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

2. I feel the incentives offered in the Performance Matrix program motivated me.
   1   2   3   4   5
   Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

3. I believe the Performance Matrix program helped me improve my customer service.
   1   2   3   4   5
   Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

4. I believe the Performance Matrix program helped to improve the cleanliness/appearance of our store.
   1   2   3   4   5
   Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

5. I believe the Performance Matrix program helped to improve our sales.
   1   2   3   4   5
   Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

6. I believe the Performance Matrix program helped me perform a better at my job.
   1   2   3   4   5
   Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

7. It is generally easy to get my work done each day.
   1   2   3   4   5
   Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

8. I believe the Performance Matrix program increased my awareness of items important to my work.
   1   2   3   4   5
   Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree
9. I perceived the Performance Matrix with equally weighted tasks (first Matrix) to be fair.
   1  2  3  4  5
   Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

10. I perceived the Performance Matrix with prioritized tasks (2nd & 3rd Matrix) to be fair.
    1  2  3  4  5
    Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

11. I believe the Performance Matrix program improved some tasks not targeted for incentives (e.g. I think some performances other than Promotions, Add ons, Using customer’s name, and Sales goals were improved).
    1  2  3  4  5
    Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree

12. I prefer the Performance Matrix incentive program with the tasks _______.
    A  B  C
    Equal  Prioritized  No preference (either one)

13. Did you find any version of Performance Matrix to be more demanding or stressful than the other? If so, which one and please explain how:_________________________  
__________________________________________________________________________  
__________________________________________________________________________

Additional Comments:
__________________________________________________________________________  
__________________________________________________________________________  
__________________________________________________________________________  
__________________________________________________________________________

Please seal this survey in the envelope provided and return to Jeanine Plowman or your manager.

*Thank you for your valuable time, feedback and cooperation!*
APPENDIX G

Manger/Owner Satisfaction Survey
Satisfaction Survey: Managers & Owner

We are interested in your feedback and opinions of the Performance Matrix project. The questions below will be used to assess the value of this incentive program. Please circle your answers. Thank you.

1. I found the Performance Matrix program to be overall beneficial.
   1  2  3  4  5
   *Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree*

2. I would support continuing this incentive program.
   1  2  3  4  5
   *Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree*

3. The Performance Matrix is generally easy to use and follow.
   1  2  3  4  5
   *Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree*

4. I believe the Performance Matrix program improved our customer service.
   1  2  3  4  5
   *Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree*

5. I believe the Performance Matrix program improved the cleanliness/appearance of our store.
   1  2  3  4  5
   *Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree*

6. I believe the Performance Matrix program improved our sales.
   1  2  3  4  5
   *Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree*

7. I believe the Performance Matrix program increased my awareness about important issues of our business.
   1  2  3  4  5
   *Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree*

8. I believe the Performance Matrix program helped me perform better at my job.
   1  2  3  4  5
   *Strongly Disagree  Disagree  Neutral  Agree  Strongly Agree*
9. I believe the Performance Matrix program improved some tasks not targeted for incentives (e.g. I think performances other than Greeting, Promotions, Using customer’s name, and Sales goals were improved).

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

10. I prefer the Performance Matrix with the tasks _______.

A  Equal
B  Prioritized
C  No preference (either one)

Additional Comments: ___________________________________________________
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

Please return to Jeanine Plowman.

Thank you for your valuable time, feedback and cooperation!
APPENDIX H

Written Notification of Incentive Earnings
PERFORMANCE MATRIX FEEDBACK

Employee: ____________________________

Congratulations! You’ve earned ________ points for the week of _________.

You’ve earned the ________ level.

Since you worked _______ hours during this week, at $__________ per hour, you’ve earned $__________ in incentives.

*Note: we will now be starting a new Matrix with different weights of _____________ on _______. Please see postings.

_____________________________  ______________________
Employee signature              Date
APPENDIX I

Location I Phase B Performance Matrix
Performance Matrix #1

*All items are weighted equally, meaning items contribute equally to your point total/bonus.*

<table>
<thead>
<tr>
<th>Behaviors or Results</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>Weight</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greeting (% opportunities)</td>
<td>60</td>
<td>70</td>
<td>75</td>
<td>80</td>
<td>82</td>
<td>85</td>
<td>90</td>
<td>98</td>
<td>100</td>
<td>25</td>
<td>90</td>
</tr>
<tr>
<td>Points = Column Weight x Weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 \times 25 = 250</td>
<td></td>
</tr>
<tr>
<td>Mention Promo (% opportunities)</td>
<td>40</td>
<td>45</td>
<td>55</td>
<td>65</td>
<td>75</td>
<td>80</td>
<td>85</td>
<td>90</td>
<td>100</td>
<td>25</td>
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</tr>
<tr>
<td>Points = Column Weight x Weight</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9 \times 25 = 225</td>
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<tr>
<td>Use customer's name (% opportunities)</td>
<td>20</td>
<td>25</td>
<td>40</td>
<td>50</td>
<td>65</td>
<td>75</td>
<td>85</td>
<td>90</td>
<td>100</td>
<td>25</td>
<td>70</td>
</tr>
<tr>
<td>Points = Column Weight x Weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8 \times 25 = 200</td>
<td></td>
</tr>
<tr>
<td>Sales Goals (% met)</td>
<td>95</td>
<td>100</td>
<td>102</td>
<td>105</td>
<td>110</td>
<td>112</td>
<td>115</td>
<td>120</td>
<td>130+</td>
<td>25</td>
<td>111</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>8 \times 25 = 200</td>
<td></td>
</tr>
</tbody>
</table>

**Point System:**

- Bronze: 850 - 900 = 3% of base pay
- Silver: 901 - 1000 = 4% of base pay
- Gold: 1001 - 1200 = 5% of base pay

Total Points 875
APPENDIX J

Location II Phase B Performance Matrix
Performance Matrix #1

*All items are weighted equally, meaning items contribute equally to your point total/bonus.*

<table>
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<th>Behaviors or Results</th>
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<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<th>10</th>
<th>11</th>
<th>12</th>
<th>Weight</th>
<th>Score</th>
<th>Points = Column x Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mention Promo (% opportunities)</td>
<td>45</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>75</td>
<td>80</td>
<td>85</td>
<td>95</td>
<td>100</td>
<td>25</td>
<td>90</td>
<td>10 x 25 = 250</td>
</tr>
<tr>
<td>Attempt Add On (% opportunities)</td>
<td>5</td>
<td>6</td>
<td>20</td>
<td>40</td>
<td>60</td>
<td>80</td>
<td>85</td>
<td>98</td>
<td>100</td>
<td>25</td>
<td>20</td>
<td>6 x 25 = 150</td>
</tr>
<tr>
<td>Use Customer's Name (% opportunities)</td>
<td>20</td>
<td>25</td>
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<td>50</td>
<td>65</td>
<td>75</td>
<td>85</td>
<td>98</td>
<td>100</td>
<td>25</td>
<td>66</td>
<td>8 x 25 = 200</td>
</tr>
<tr>
<td>Sales Goals (% met)</td>
<td>95</td>
<td>100</td>
<td>102</td>
<td>105</td>
<td>110</td>
<td>112</td>
<td>115</td>
<td>120</td>
<td>130+</td>
<td>25</td>
<td>145</td>
<td>12 x 25 = 300</td>
</tr>
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</table>

Point System:

- **Bronze:** 850 - 900 = 3% of base pay
- **Silver:** 901 - 1000 = 4% of base pay
- **Gold:** 1001 - 1200 = 5% of base pay

Total Points: 900
APPENDIX K

Location I Phase C Performance Matrix
# Performance Matrix #2

*All items are prioritized, meaning items contribute differently to your point total/bonus.*

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<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<th>10</th>
<th>11</th>
<th>12</th>
<th>Weight</th>
<th>Score</th>
<th>Points = Column x Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greeting (% opportunities)</td>
<td>60</td>
<td>70</td>
<td>75</td>
<td>80</td>
<td>82</td>
<td>85</td>
<td>90</td>
<td>98</td>
<td>100</td>
<td>50</td>
<td>98</td>
<td>11 ( \times 50 ) = 550</td>
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<tr>
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<td>40</td>
<td>45</td>
<td>55</td>
<td>65</td>
<td>75</td>
<td>80</td>
<td>85</td>
<td>95</td>
<td>100</td>
<td>30</td>
<td>93</td>
<td>10 ( \times 30 ) = 300</td>
</tr>
<tr>
<td>Use customer's name (% opportunities)</td>
<td>20</td>
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<td>40</td>
<td>50</td>
<td>65</td>
<td>75</td>
<td>85</td>
<td>98</td>
<td>100</td>
<td>15</td>
<td>77</td>
<td>9 ( \times 15 ) = 135</td>
</tr>
<tr>
<td>Sales Goals (% met)</td>
<td>95</td>
<td>100</td>
<td>102</td>
<td>105</td>
<td>110</td>
<td>112</td>
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<td>120</td>
<td>130+</td>
<td>5</td>
<td>107</td>
<td>7 ( \times 5 ) = 35</td>
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</table>

**Total Points** 1020

**Point System:**

- **Bronze:** 850 - 900 = 3% of base pay
- **Silver:** 901 - 1000 = 4% of base pay
- **Gold:** 1001 - 1200 = 5% of base pay
APPENDIX L

Location II Phase C Performance Matrix
Performance Matrix #2

*All items are prioritized, meaning they contribute differently to your point total/bonus.

<table>
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<td>49</td>
<td>7 × 40 = 280</td>
</tr>
<tr>
<td>Use Customer’s Name (% opportunities)</td>
<td>20</td>
<td>25</td>
<td>40</td>
<td>50</td>
<td>65</td>
<td>75</td>
<td>85</td>
<td>98</td>
<td>100</td>
<td>20</td>
<td>61</td>
<td>7 × 20 = 140</td>
</tr>
<tr>
<td>Sales Goals (% met)</td>
<td>95</td>
<td>100</td>
<td>102</td>
<td>105</td>
<td>110</td>
<td>112</td>
<td>115</td>
<td>120</td>
<td>130+</td>
<td>5</td>
<td>124</td>
<td>11 × 5 = 55</td>
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100 Total Points 825

Point System:

- Bronze: 850 - 900 = 3% of base pay
- Silver: 901 - 1000 = 4% of base pay
- Gold: 1001 - 1200 = 5% of base pay
APPENDIX M

Location I Phase D Performance Matrix
Performance Matrix #3

*All items are prioritized, meaning items contribute differently to your point total/bonus.

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<th>6</th>
<th>7</th>
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<th>11</th>
<th>12</th>
<th>Weight</th>
<th>Score</th>
<th>Points = Column x Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greeting (% opportunities)</td>
<td>60</td>
<td>70</td>
<td>75</td>
<td>80</td>
<td>82</td>
<td>85</td>
<td>90</td>
<td>98</td>
<td>100</td>
<td>15</td>
<td>82</td>
<td>8 x 15 = 120</td>
</tr>
<tr>
<td>Mention Promo (% opportunities)</td>
<td>40</td>
<td>45</td>
<td>55</td>
<td>65</td>
<td>75</td>
<td>80</td>
<td>85</td>
<td>95</td>
<td>100</td>
<td>15</td>
<td>69</td>
<td>7 x 15 = 105</td>
</tr>
<tr>
<td>Use customer's name (% opportunities)</td>
<td>20</td>
<td>25</td>
<td>40</td>
<td>50</td>
<td>65</td>
<td>75</td>
<td>85</td>
<td>98</td>
<td>100</td>
<td>10</td>
<td>72</td>
<td>8 x 10 = 80</td>
</tr>
<tr>
<td>Sales Goals (% met)</td>
<td>95</td>
<td>100</td>
<td>102</td>
<td>105</td>
<td>110</td>
<td>112</td>
<td>115</td>
<td>120</td>
<td>130+</td>
<td>60</td>
<td>128</td>
<td>11 x 60 = 660</td>
</tr>
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</table>

Total Points: 965

Point System:

Bronze: 850 - 900 = 3% of base pay

Silver: 901 - 1000 = 4% of base pay

Gold: 1001 - 1200 = 5% of base pay
APPENDIX N

Location II Phase D Performance Matrix
### Performance Matrix #3 for

*All items are prioritized, meaning they contribute differently to your point total/bonus.*

<table>
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<tr>
<th>Behaviors or Results</th>
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<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>Weight</th>
<th>Score</th>
<th>Points = Column x Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mention Promo (% opportunities)</td>
<td>45</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>75</td>
<td>80</td>
<td>85</td>
<td>95</td>
<td>100</td>
<td>15</td>
<td>72</td>
<td>7 × 15 = 105</td>
</tr>
<tr>
<td>Attempt Add On (% opportunities)</td>
<td>5</td>
<td>6</td>
<td>20</td>
<td>40</td>
<td>60</td>
<td>80</td>
<td>85</td>
<td>98</td>
<td>100</td>
<td>15</td>
<td>21</td>
<td>6 × 15 = 90</td>
</tr>
<tr>
<td>Use Customer’s Name (% opportunities)</td>
<td>20</td>
<td>25</td>
<td>40</td>
<td>50</td>
<td>65</td>
<td>75</td>
<td>85</td>
<td>98</td>
<td>100</td>
<td>10</td>
<td>35</td>
<td>5 × 10 = 50</td>
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**Total Points:** 545

**Point System:**

- **Bronze:** 850 - 900 = 3% of base pay
- **Silver:** 901 - 1000 = 4% of base pay
- **Gold:** 1001 - 1200 = 5% of base pay
REFERENCES


manuscript, Florida State University.


BIOGRAPHICAL SKETCH

JEANINE M. PLOWMAN

Education

Doctor of Philosophy, Psychology: Defend March 2005
Florida State University
Dissertation: Measuring and changing Employee work Behavior:
An Application of the Performance Matrix.

Master of Science, Cognitive and Behavioral Sciences: April 2001
Florida State University
Specialty: Applied Behavior Analysis, Organizational Behavior Management

Bachelor of Science: April 1999
Western Michigan University
Psychology, Business Management, Organizational Communication

Certification

Board Certified Behavior Analyst
Certificant 1-04-2034
Dec 2004

Professional Experience

Spring 2005: Visiting Professor, Furman University, Department of
Business and Accounting, Greenville, SC.
Develop Performance Management program and instruct related courses
sponsored by Aubrey Daniels.

Spring 2005: Education Consultant, Leon County Schools, Behavior
Management Consultants, Inc., Tallahassee, FL.
Initiate teacher team focus groups and provide training to Elementary school
teachers with behavioral principles.

Spring 2005: Consultant, Aubrey Daniels, International, Atlanta, GA.
Develop consulting materials, internal processing.

Fall 2004 – Current: Director of Workshop Training, Behavior
Management Consultants, Inc., Tallahassee, FL.
Develop and manage internal processing and supervision of company
workshop training.

Spring 2004 – Current: Reviewer and Research Consultant, Prentice Hall.
Review new editions of Introductory Psychology Texts including Kassin,
Ciccarelli.
Fall 2002 – Fall 2004: Senior Teaching Assistant in Department of Psychology, Florida State University, Tallahassee, FL.
Supervise new graduate teaching assistants; review textbooks for General Psychology; derive and organize Teaching resources; advise undergraduate students. Supervised by Drs. Ellen Berler, Mark Licht, Jon Bailey.

Summer 2001 – Current: Tallahassee Memorial Hospital Behavioral Health Center, Behavior Management Consultants, Inc., Tallahassee, FL.
Behavior Analyst for Child and Adolescent Unit. Design and implement group and individualized behavioral programs for children and adolescents with such diagnoses as ADHD, Bipolar, Depression, ODD, Schizophrenia. Supervised by Dr. Maxin Reiss.

Director of Training and Development for Child and Adolescent Program. Construct education protocol for staff and conduct training, competency testing, computer-based proficiency testing.

Summer 2001 – Current: Behavior Analyst, Leon County Public Schools, Behavior Management Consultants, Inc., Tallahassee, FL.
Behavioral Consultant for Leon County E.S.E. classrooms, including developmentally delayed. Work with teachers, parents, and administration to conduct functional assessment and implement practical behavioral programs for children in elementary classrooms. Supervised by Dr. Maxin Reiss.

Fall, 1999-2000: Departmental Assistant, Psychology Department, Florida State University, Tallahassee, FL.
Sustained and supplemented instruction of undergraduate psychology courses: General Psychology, Research Methods.

Involved in analyzing teaming behaviors, improving teaming repertoires following ideas of Kaplan & Norton, Rummler & Brache. Implemented performance matrix, reviewed profit sharing protocol.

Fall, 1998: Organizational Consultant, Pharmacia and Upjohn, Kalamazoo, MI.
Tested pilot program for employee self-directional modules in company’s intranet system.

Winter 1999: Teaching Assistant, Western Michigan University, Department of Psychology, Kalamazoo, MI.
Assist with Introductory Psychology courses.

Publications

**Presentations**


Symposium presented at the 27th Annual Convention of the Association for Behavior Analysis, New Orleans, LA.


**ACTIVE RESEARCH**


Primary Investigator: “Response Covariation Effects with Non-Intervention Behaviors in OBM Interventions.” Investigating cases of side effects of interventions on behaviors not targeted for change.


**TEACHING EXPERIENCE**

**FURMAN UNIVERSITY, VISITING ADJUNCT PROFESSOR**

- **Primary Instructor**, BA 95, Behavior Analysis and Performance Management, Spring 2005, 2006
- **Director, Summer Fellowship Research Program** Summer 2005, 2006
- **Primary Instructor**, PSY 21, General Psychology, Winter – Spring 2006

**FLORIDA STATE UNIVERSITY, TALLAHASSEE CAMPUS**

- **Primary Instructor**, INP 3313, Behavior Analysis in Business and Industry, Fall 2002
- **Primary Instructor**, EAB 3703, Applied Behavior Analysis, Fall 2001 – Spring 2004
- **Primary Instructor**, PSY 2012, General Psychology, Fall 2000 – Fall 2003
- **Interim Instructor**, INP 3303, Business Psychology, Summer 2003
- **Instructor of laboratory**, EXP 3422L, Conditioning and Learning Lab, Fall 2000, Spring 2004
**FLORIDA STATE UNIVERSITY, PANAMA CITY CAMPUS**

**Primary Instructor**, INP 3313, Behavior Analysis in Business and Industry, Spring 2004

**FLORIDA INSTITUTE OF TECHNOLOGY, INVITED ADJUNCT PROFESSOR**

**Primary Instructor**, PSY 5292, Seminar in Organizational Behavior Management, Spring 2003

**FLORIDA STATE UNIVERSITY: COURSES ASSISTED**

PSY 6945, Teaching Psychology Practicum: Spring 2002 - Spring 2004
PSY 2012, General Psychology: Fall 1999 - Summer 2000
EXP 3000 Approaches to the Study of Behavior: Spring 2000

**WESTERN MICHIGAN UNIVERSITY: COURSES ASSISTED**

PSY 100, Introduction to Psychology: Winter 1999

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<th><strong>AWARDS</strong></th>
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<th><strong>Year</strong></th>
<th><strong>Achievement</strong></th>
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<td>Feb 2005</td>
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<td>Nominated for Florida State University Graduate Student Leadership Award (under review)</td>
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<td>Nominated for OBM Network Research Award</td>
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<td>Nominated for Dissertation Research Award, FSU</td>
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<td>Jan 2004</td>
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<td>April 2003</td>
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<td>Recipient of Mentor Award from Psi Chi National Honor Society</td>
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<td>April 2003</td>
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<td>Recipient of Performance Management Mentor and Recognition of Outstanding contribution from Society for Performance Management</td>
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<td></td>
<td>Jan 2003</td>
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<td>Nominated for Outstanding Teaching Assistant Award</td>
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<td>Nov 2001</td>
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<td>Feb 2001</td>
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<td>Nominated for Outstanding Teaching Assistant Award</td>
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<tr>
<td></td>
<td>April 1999</td>
<td></td>
<td>Recipient of Western Michigan University College of Arts &amp; Sciences Undergraduate Research &amp; Creative Activities Award</td>
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</table>

**ORGANIZATIONS & SERVICE**

Association for Behavior Analysis (member since 1997)
Florida Association for Behavior Analysis (member since 1999)
OBM Network (member since 2000)
Graduate Student Action Committee (Cognitive Behavioral Sciences Representative, 2002 – 2003)
Capital City Area Chapter of the Florida Association for Behavior Analysis, *(Treasurer 2002 - 2003, member since 1999)*
Society for Performance Management, FSU Chapter, *(Graduate Student Sponsor 2000-2005)*
Society for Performance Management, WMU Chapter, *(Account Manager 1997-1999)*

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