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THESIS

AN ANALYSIS OF THE U.S. NAVY GOAL-BASED
RECRUITING SYSTEM

by

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June, 1996

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The author presents an alternative system, which is an incentive-based system, known as Production Recruiting Incentive Model (PRIME). PRIME is a mechanism designed to maximize market potential, provide an equitable reward program, and obtain important market information in order to allow for better resource allocation decisions. PRIME is currently being prototyped by the U.S. Army recruiting command. The author recommends the Navy Recruiting Command adopt and experiment with PRIME as it is designed to allow various incentive tools to be incorporated within its framework.

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AN ANALYSIS OF THE U.S. NAVY GOAL-BASED RECRUITING SYSTEM

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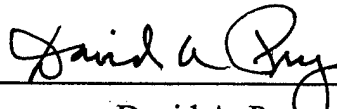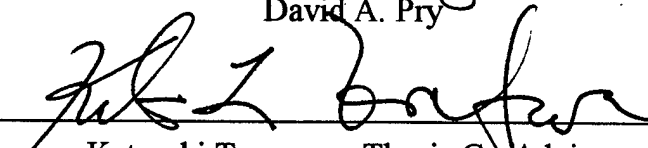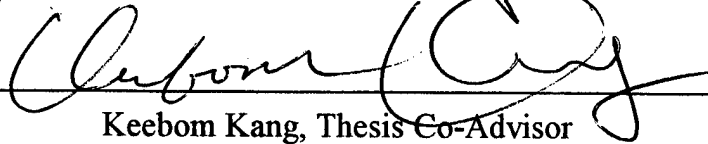
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ABSTRACT

Recruiting practices within the Department of Defense have received criticism during recent audits because of increased costs and inefficiencies. The General Accounting Office (GAO) reported many of the existing problems within the recruiting commands are caused by the goal-based recruiting systems used by the services. This thesis discusses management theories on goal-based systems and analyzes U.S. Navy recruiting data in order to identify possible explanations why individual recruiter productivity has declined since 1990 and why less than 20% of the Navy recruiting districts are achieving their assigned mission requirements.

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I. INTRODUCTION

A.   GENERAL

A recent General Accounting Office (GAO) report identified several discrepancies with Department of Defense (DOD) recruiting practices and provided several recommendations. All services were called upon to increase efficiency and reduce costs. One specific recommendation the report contained was an initiative to revise the recruiting goal-based system because the current system deters recruiters from maximizing their number of enlistments [Ref.1, pp.2,68].

B.   OBJECTIVE OF THE RESEARCH

The objective of this thesis is to examine the effectiveness and efficiency of the U.S. Navy enlisted recruiting goal-based system and propose a means to increase recruiter individual productivity. This thesis will focus on the shortfalls of the current goal-based system of assigning monthly new contract requirements and how the incentive structure fails to support these requirements. It will identify the advantages of using an alternative goal achieving method tied to an incentive plan based on the recruiters' individual performance.

C.   RESEARCH QUESTIONS

The primary research questions are: Are there inefficiencies built into a goal-based recruiting system and could productivity among recruiters increase by using an bonus incentive-based recruiting system, such as, the Production Recruiting Incentive Model

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(PRIME)? PRIME is a compensation system designed to reward recruiters equitably for their production levels and to assist in obtaining current and reliable field information on market potential.

The secondary questions are:

1. Are recruiters producing at their true level of potential?

2. Does the current incentive system support the U.S. Navy's goal-based recruiting system?

3. Can a system be more effective and more efficient if recruiters set their own goals vice having the goals set by upper management?

D. SCOPE AND LIMITATIONS

This thesis is limited to issues pertaining to enlisted recruiting in the U.S. Navy. It will not address officer accessions. It will be divided into two parts. First, it will examine the current goal setting practices and how the goals are accomplished through the current incentive programs. Second, it will propose an alternative to the current goal-based recruiting system. The alternative will be a bonus incentive-based system that will enable the U.S. Navy to identify true market potential and provide recruiters with an equitable payoff for their level of production.

E. METHODOLOGY

Historical research data will be obtained from Commander, Navy Recruiting Command (CNRC) and interviews with CNRC staff personnel, area and district staff personnel, and U.S. Navy recruiters will be the primary means of collecting research data.

Recruiter production data will be reviewed through the use of descriptive statistics and regression analysis.

F.   ORGANIZATION OF STUDY

The thesis is organized into six chapters. Following Chapter I, the introduction to the thesis, Chapter II is a discussion about the command structure within the U.S. Navy recruiting system and other pertinent recruiting information. Also, it will discuss the incentive system currently in place to motivate recruiters.

Chapter III discusses management theories and concepts which pertain to goal-based production systems.

Chapter IV provides an analysis of historical productivity data. Past data on contracts, recruiter productivity, and mission achievements will be discussed in this chapter.

Chapter V will discuss an alternative plan to the current system. The alternative plan will be based on PRIME, a payoff system, tied into an award system designed to increase productivity.

Chapter VI will provide conclusions and recommendations. These are provided to CNRC as a tool for motivating recruiters and achieving maximum productivity while attaining contract goals.

II. BACKGROUND

A. STRUCTURE

The head of the recruiting system for the U.S. Navy is Commander, Navy Recruiting Command (CNRC), which is located in Arlington, Virginia. The overall responsibility of recruiting management, recruiting policies and procedures, and recruiting issues belongs to CNRC. There are four commands which directly support CNRC and they are called recruiting areas. Under the direct leadership of the areas, there are recruiting districts, zones, and then, stations. These activities are located throughout the United States of America.

B. GOAL PLANNING

Every year, CNRC receives their accession total from Bureau of Personnel, Accession Policy Division. This is the total number of accessions the U.S. Navy is allowed for the next fiscal year. From this figure, CNRC will run a statistical model to derive the U.S. Navy's new contract objective. This objective will be broken down by district. This model takes into consideration the current depositions, number of recruiters, unemployment, propensities to enlist, seasonality, population, relative wages, advertising, and several other factors. The output of this model is used in another model called the Total New Contract Forecast Model. This model takes into consideration, such constraints as, gender, high school graduate, prior service, minority, etc. These constraints are important and may change annually depending upon the U.S. Navy's priorities. The new contract objectives broken down by district are

summed to produce the areas' objectives. CNRC provides the areas with their objectives and provides a recommended district objective, as well.

The areas provide the districts with their new contract objectives. The areas may use the CNRC recommended objective or may provide their own objective based on such criteria as the number of recruiters within the district, what the market will bare in the district, and the past performance of the district.

The districts have a dBASE program called Standardized Territory Evaluation Analysis Management (STEAM). This program computes the recruiters allocation factor (RAF) for each zip code within the district based on demographics, past production, past production compared to other services, and AFQT. STEAM is used to develop the new contract objectives for zones, who in turn, provide it to the stations. [Ref.2]

C.   RECRUITERS

Located at the recruiting stations, there are approximately 3500 recruiters within CNRC. These are the personnel responsible for making contact with the public and tasked with meeting accession goals. If a station is not achieving their assigned monthly goals, other stations within the same district must offset the shortfall by producing more recruits than assigned. There are three different categories of recruiters. They are production recruiters, career force recruiters, and specialized program recruiters.

1. Production Recruiters

Production recruiters are the recruiters assigned to duty at the recruiting stations. Their primary tasking is to enlist new recruits into the U.S. Navy. These recruiters are the primary source of recruiting productivity within the recruiting system.

2. Career Force Recruiters

Career force recruiters are enlisted personnel who are assigned to manage recruiters. At one time, they were most likely production recruiters and have several years of experience in recruiting personnel. Now, these senior enlisted personnel are full time recruiters who are assigned to be in charge of recruiting stations or assigned senior leadership positions within the recruiting system.

3. Specialized Program Recruiters

Specialized program recruiters are enlisted personnel who are temporarily assigned to recruiting duties. After recruiting duty, they return to their normal Navy job or rating. These enlisted personnel can either be on leave, on temporary duty, or performing some administrative function, such as, going to school while performing recruiting duty. [Ref.3]

D. QUALITY AND TYPES OF RECRUITS

There are two indicators or measures of quality in recruiting. They are the educational status of the recruit and the Armed Forces Qualification Test (AFQT) score. The educational status is defined in two categories: high school diploma graduate (HSDG) and non high school diploma graduate (NHSDG). The other measure of quality, the AFQT, tests the

recruits' aptitude in four areas: work knowledge, paragraph comprehension, arithmetic reasoning, and numerical operations. [Ref.4, pp.6-7]

The score achieved on the AFQT is used to produce several categories. First is the mental group category. If an individual scores a 50 or greater, he or she is considered to be in the upper mental group. If an individual scores below 50, he or she is considered to be in the lower mental group. The other categories are known as quality cells. These are created when educational status is combined with the AFQT score. These quality cells are defined as A-cell, B-cell, C-upper cell (CU), C-lower cell (CL), and D-cell. The various educational status and AFQT categories are presented in Table 1.

Table 1. Recruit Quality [Ref.3]

AFQT Score	Mental Group	HSDG Quality Cell	NHSDG Quality Cell
93 - 99	I	A	B
65 - 92	II	A	B
50 - 64	IIIU	A	B
31 - 49	IIIL	CU	D
24 - 30	IVA	CL	D
< 24		Not Accepted	

The U.S. Navy has put a priority on recruiting quality personnel. As a result, 95% of all recruits must have a high school diploma and at least 62% must score above 50% on the AFQT [Ref.5, p.2]. In the past few years, CNRC has taken primarily quality cell A, B, and

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CU. It is a rare exception for a quality cell CL or D to be accepted into the U.S. Navy [Ref.3]. These quality measures are instrumental in ensuring the U.S. Navy maintains the highest level of professionalism.

E.   INCENTIVES

Over the years, the U.S. Navy has tried several programs to entice recruiters into achieving new contract goals. These incentive plans were designed to motivate recruiters to increase the quantity of recruits. There have been programs implemented to reward recruiters with medals, recruiting duty extensions, meritorious advancement in pay grade, certificates of commendation, etc. [Ref.4, pp.10-14]. These awards were all designed to increase recruiter productivity by rewarding individuals for being successful. Today, there is an incentive system in place to reward recruiters for producing. Not only does it provide individual awards, but group awards are available, as well. Group or unit awards were developed to promote team work. As such, stations, zones, and districts are rewarded on the success of their team. The current award system is as follows:

1.   Unit and Individual Awards at CNRC Level

Currently, there are several unit and individual awards within the CNRC incentive system. Table 2 lists the recipient and corresponding awards within CNRC. [Ref.6]

2.   Unit and Individual Awards at the District Level

Within CNRC, all the districts have an incentive system of their own. Currently, area commanders receive appropriated funds for the purpose of yearly conferences and awards. These awards are based on superior productivity by recruiters. This funding is distributed

Table 2. CNRC Awards Table (for Enlisted Recruiters)

UNIT AWARDS	MERIT-ORIOUS ADV	NAV COMM MED	NAV ACH MED	LTR OF COMM	ROY WEEK	TROPHY
UNIT AWARDS (NATIONAL WINNER)						
Recruiting District of the Year (Runner-Up)						X
Enlisted Recruiting District of the Year						X
Overall Station of the Year			X		X	X
SM/MED/LG Stations of the Year					X	X
Most Improved District of the Year						X
Best District in Minority Recruiting						X
INDIVIDUAL AWARDS (NATIONAL WINNER)						
Recruiter of the Year	X	X			X	X
Chief Recruiter of the Year		X			X	X
Zone Supervisor of the Year		X			X	X
Nuclear Field Recruiter of the Year		X			X	X
INDIVIDUAL AWARDS (AREA WINNER)						
Recruiter of the Year		X			X	
Chief Recruiter of the Year		X				
Zone Supervisor of the Year		X				

and managed at the district level. The districts hold conferences annually for their zones and stations. Normally, the conferences are a two-day event that includes training and an awards banquet. Every district receives an allocated amount usually ranging from $4K to $18K per year per district to cover the expense of the conference which includes travel and per diem of the attendees. In addition, the districts receive approximately $10K yearly in appropriated funding for the procurement of trophies, watches, and/or statues. The criteria for the recipients of the awards are similar to that of CNRC which are listed in Table 2, such as, Recruiter of the Year for the District and so on. However, the awards are given on a monthly, quarterly, and yearly basis at the district level. [Ref.7]

3.   Gold Wreath Award

In addition to the awards listed in Table 2, CNRC established the Gold Wreath Award for Excellence in Recruiting program. The objective of this program is to recognize recruiters for their efforts to increase productivity. Even though the program awards on an individual basis, CNRC emphasizes teamwork and striving for excellence is a team effort. Therefore, recruiters should focus on teamwork to achieve their station's mission.

Recruiters become eligible for the gold wreath award when they sign eight potential recruits to a contract for entry into the U.S. Navy. These eight contracts must be within a three consecutive month period. The first level of this award is a gold wreath to be placed around the recruiter's badge. The recruiting badge is received by all recruiters when they are assigned to duty as a recruiter and is worn on the left breast of the recruiter's uniform. Once the recruiter attains eight contracts, his or her three consecutive month counter starts over. If eight contracts are not attained by the end of the three consecutive month period, the

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recruiter's counter for recruits returns to zero and he or she must start all over again. Additional awards may be earned for superior performance during subsequent three month period. Currently, there are forty levels to the sequence of awards [Ref.8]. Since the three consecutive month period may lap fiscal years (FY), this incentive system does not fully support CNRC's goal-based recruiting system. For example, a recruiter's three consecutive month period may be on September, October, and November. The recruiter has no incentive to put forth the level of effort to get eight recruits and receive the Gold Wreath Award by the end of September, which is the end of the fiscal year and the last calendar month to achieve mission objectives for the year.

4.   Special Duty Assignment (SDA) Pay

To further entice recruiters to perform well, the U.S. Navy recently increased the recruiter SDA pay by $100 per month, not to exceed $375 per month [Ref.9]. Recruiters start off by receiving $275 after their first six months of recruiting duty. At the ninth month, recruiter SDA pay is raised to $325. At the eighteen month, the final increase of this incentive pay to $375 is provided. SDA is provided to all recruiters and isn't based on actual performance. Therefore, it is not directly tied to the productivity of the recruiter. However, if a recruiter fails to be productive, he or she may be released from recruiting duty and no longer eligible for the $375 per month.

F.   SUMMARY

Over the years, there have been significant changes in the size of the U.S. Navy. The challenges of recruiting to provide for a 600-ship Navy are much different from recruiting for

a downsizing Navy. Nevertheless, enlisting people into the Navy is a form of production and in order to produce at a maximum rate, recruiters must be enticed by a worthy incentive system. The U.S. Navy realizes an attractive incentive package is the key to ensuring productivity levels meet the organizational goals. These incentives must be equitable if the U.S. Navy is to attain its desired manning levels now and in the future.

III. U.S. NAVY'S GOAL-BASED RECRUITING SYSTEM

A. INTRODUCTION

This chapter will discuss management theories and concepts about goal-based production systems. The U.S. Navy's recruiting system can be identified as a centralized system which computes annual recruiting goals from a statistical model. This model was briefly discussed in the previous chapter. This type of production strategy contradicts successful human resource management concepts practiced in today's corporate world. This chapter will apply management theories addressing inefficiency and ineffectiveness caused by goal-based systems.

B. HUMAN RESOURCE MANAGEMENT

A human resource strategy is vital to an organization's performance. The strategy must take into account without people, an organization cannot function. In addition, it cannot function well without competent people, and it cannot excel without competent, motivated people. The bottom line is people are the backbone of any organization. Therefore, the success of an organization is measured by the direct output of human performance from competent, motivated people [Ref.10, p.480]. The objective of the U.S. Navy's human resource strategy should be to manage the recruiting system so recruiters are efficiently utilized.

Today, recruiters are the best and the brightest personnel the U.S. Navy has to offer [Ref.8]. As stated above, this fact only allows for the U.S. Navy's recruiting system to

function, but motivating the best and the brightest is what will achieve excellence. Within the U.S. Navy's goal-based recruiting system, there is not an effective human resource strategy in place resulting in recruiters lacking the motivation to achieve the yearly mission levels.

1. Risk Adverse by Nature

Recruiters are evaluated on their ability to produce. Annually, recruiters receive a performance evaluation based on his or her performance during the past twelve months. It is paramount recruiters receive a top rated evaluation in order to increase his or her chances of being promoted to the next pay grade. As the military continues to downsize, the competition between Navy personnel eligible for promotion becomes intensified.

If promotion is function of performance, recruiters are going to make every effort to achieve the standards or in this case, goals, that are expected of them. In addition to achieving their assigned goals, they are not going to behave in a way that would make the situation more difficult to achieve their assigned goals. Because of this behavior, it is correct to say people are risk adverse by nature. [Ref.11, p.10]

Recruiters can lower the overall burden of achieving their goals by not overproducing. If recruiters are forced to produce at a certain level with no real benefit to achieve higher than their assigned goal, the potential for overproduction is eliminated. Under the current strategy, recruiters strive to achieve their assigned goals and nothing more because they are penalized for overproduction. If a recruiter overproduces, he or she will have an increased assigned goal the following year because past performance is a variable in the model used for goal assignments. As a result, overproducing will increase the recruiter's burden and increase his

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or her variability in performance. Therefore, recruiters will always attempt to achieve their assigned goal but never try to overproduce.

2. Counter Productive

Goal-based systems are counterproductive. Once an assigned goal is achieved, recruiters will stop producing and "hip pocket" potential recruits in order to make it easier to achieve their assigned goal for the next month. This is not the ideal situation because "hip pocketed" recruits may change their minds and no longer desire to join the service in future months.

One of the biggest obstacles the U.S. Navy faces is trying to decrease the time from the date when a recruit signs up to the actual reporting date to "boot camp." [Ref.9]. The U.S. Navy's goal-based system encourages "hip pocketing" potential recruits, which only increases the time delay from the signed contract date to the report date.

3. Ownership and Job Design

A major factor in human resource management deals with the psychological components of job design. This practice focuses on how to design jobs that meet some minimum psychological requirements. The components of job design are: (1) Specialization, (2) Enlargement, (3) Enrichment, (4) Empowerment, and (5) Self-directed Teams. All components reflect increasing reliance on employees' contribution and increasing responsibility accepted by employees which are vital to the success of an organization. This method of job expansion will not only improve quality of work life and job satisfaction, but also, motivate employees to achieve organizational objectives. Job expansion coupled with an effective motivation and an incentive system, which rewards employees for superior

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performance and for developing solutions to problems with the process, will give a company the competitive advantage.

Hackman and Oldman have expanded on the components of job core design. They theorized jobs should include certain characteristics to ensure personal and work outcomes result in high motivation, high quality, and high satisfaction. Their research concluded jobs should include:

a) Skill Variety - Workers are required to use a variety of skills and talents on the job.

b) Job Identity - Workers perceive the job as a whole and recognize all the steps in the process to produce an end product.

c) Job Significance - Workers feel they are part of the process and their job has an impact on the end product.

d) Autonomy - Workers should feel independent and allowed to use discretion.

e) Feedback - The process should contain a loop that provides clear, timely information about performance. [Ref.10, pp.485-486]

The goal-based system does promote skill variety, job identity, job significance, and feedback; however, it doesn't provide autonomy to the recruiter. As a result, recruiters are not given ownership of the process. In addition, it doesn't allow for job expansion which negatively impacts the recruiter's job satisfaction resulting in underachieved organizational goals. Under the goal-based strategy, goals are dictated from higher levels of management to recruiters. Recruiters are not consulted with or encouraged to improve the process. They are only there to achieve a directed mission requirement. As a result, there is no autonomy for "deck plate" personnel.

4. Working Environment

The Hawthorne experiment of the 1920's provided one of the most famous behavioral research efforts of all time. After 3 years of conducting experiments, the study concluded it was impossible to change one condition or environmental factor without at the same time affecting other variables. The bottom line was employee motivation and work group morale seemed to be the only crucial factors. Further studies determined productivity was directly related to supervisor interest in the work group, no coercion for productivity improvement, and worker participation in changes to the process. [Ref.12, pp.44-45]

This triad is not evident in the U.S. Navy's goal-based recruiting system. In addition, negative effects in the working environment are created because recruiters are pressured to produce at a certain level and this disallows a cohesive workplace. The pressure and stress to achieve assigned goals establishes the thought the recruiters' well being is secondary to the processing of a recruit.

C. SUMMARY

Today's management philosophies and successful corporations with the competitive advantage do not subscribe to goal-based production concepts. A human resources strategy based on mutual commitment and trust from "top to bottom" which includes management's genuine respect for the recruiters and their contributions to the system can result in an efficient, effective system where recruiters have optimum job design. This strategy will give recruiters more autonomy, create a better working environment, reduce the stress felt by recruiters to achieve missions, instill job enrichment factors, maximize true market potential,

entice overproduction, eliminate "hip pocketing," reward recruiters equitably, and provide more accurate data for resource allocation.

IV. HISTORICAL DATA

A. GENERAL

During the period from FY 1990 to FY 1995, CNRC had made its total mission only four out of the last six years. Over the last two FYs, the Navy's recruiting production has plummeted. Throughout the course of a year, the mission changes; however, the data used in this analysis is the mission assigned to the districts at the end of a fiscal year. In addition, the data used pertains strictly to the Continental U.S. (CONUS). All data including the number of recruits and recruiters from Puerto Rico and the Phillippines have been omitted since the data would distort the overall mission and new contract figures, thus not accurately depicting the true production rates of the recruiters.

1. Achieving Mission

Analysis of production at the district level was performed to determine the success rate of each district. The missions assigned to the 31 CONUS districts from FY 1990 to FY 1995 were compared to the actual new contracts obtained by the districts. The percentage of districts achieving their assigned mission is shown in Figure 1. Also, Figure 1 identifies what percentage by which CNRC had obtained of its overall mission. In FY 1990, 65% of the 31 districts achieved their directed mission requirements. However, in 1995, the number of districts achieving their directed requirement has dropped to less than 20%. The success rate is determined by dividing the number of contracts by the mission. This decline in the success rate per district has made it more difficult for CNRC to achieve the overall mission requirements. When CNRC achieved its mission requirements, the districts over-achieving

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SUCCESS RATE

(Districts vs CNRC; Achieving Mission)
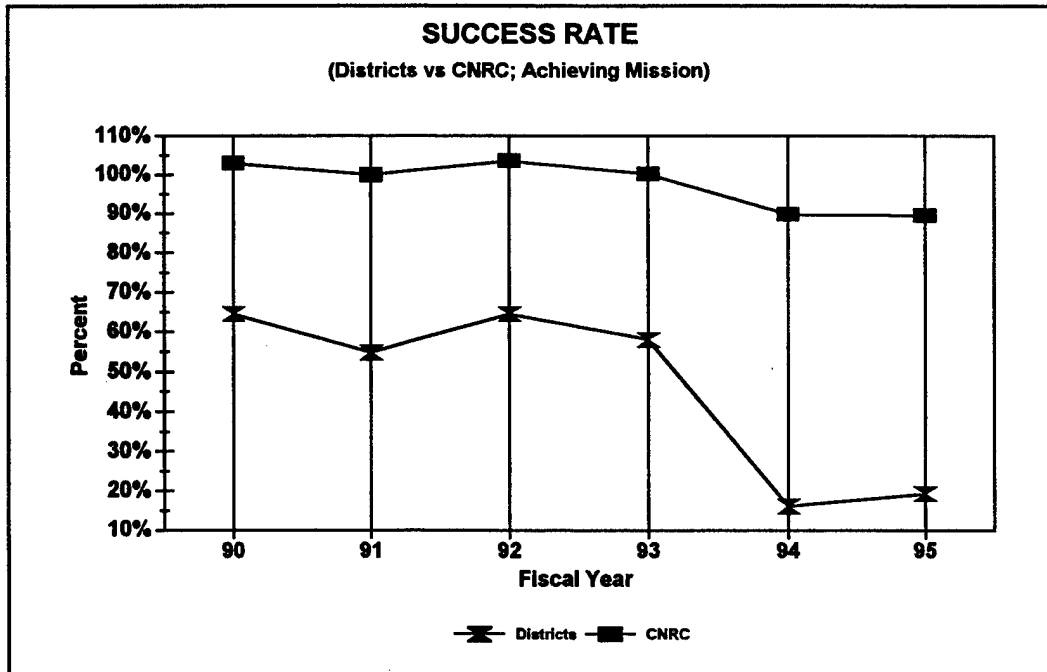
Figure 1.

picked up the slack for those districts not making their mission. This isn't a problem when more than 50% of the districts are achieving beyond their mission, as shown in FY 1990 through FY 1993; however, as the number of districts achieving mission decreases, there will be more pressure on the successful districts to make up for the unsuccessful districts. Detailed success rates per district are included in Appendix A.

2.   Productivity

A key factor in measuring the efficiency of an organization is to analyze its output or productivity. Productivity improvement in an organization reflects continuous review of their process in order to apply changes to produce a competitive advantage.

PRODUCTIVITY

(# of Contracts Per Recruiter)
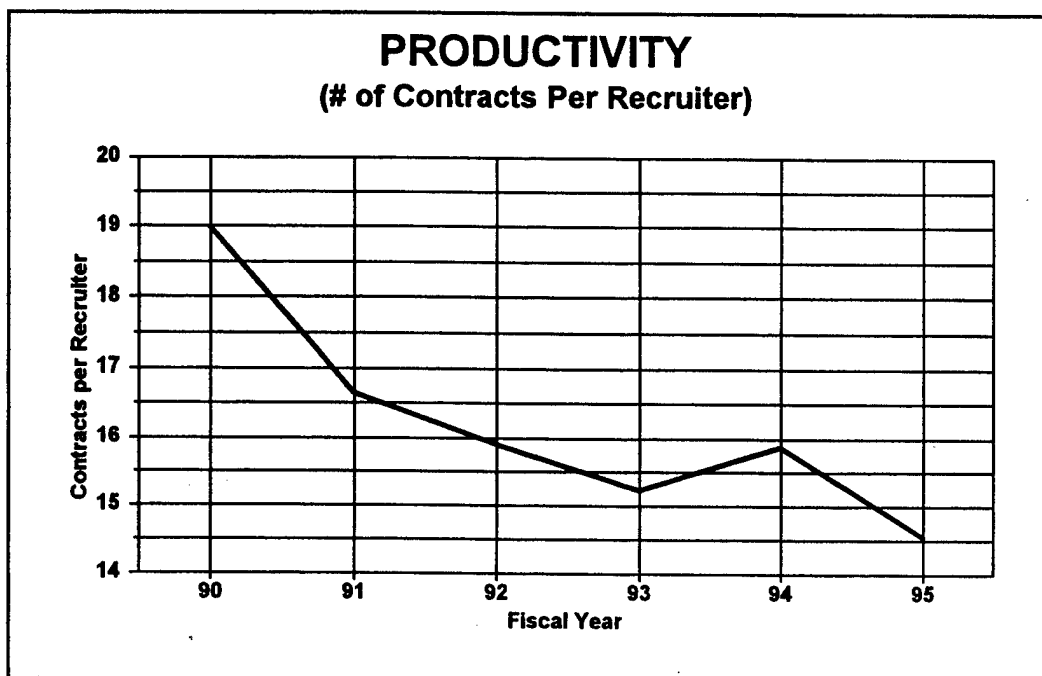
Figure 2.

Productivity is measured by dividing the total CNRC new contracts by the total number of recruiters. The overall productivity in CNRC has been on the decline. Figure 2 reflects the productivity of recruiters from FY 1990 through 1995. The number of recruiters change throughout a given year because of several different reasons. In this analysis, the number of recruiters amount was the average number of recruiters per district during the FY. Productivity data at the district level is included in Appendix B.

3. Disincentives for Overproduction

This study examined if there is a disincentive for overproduction in the current goal-based recruiting system. If a district would have an increase in mission assignment following overproduction in the previous year, there would be a disincentive for districts to

overproduce. This hypothesis, if proven, would reflect the effect over achievement has on the recruiters' behavioral patterns. As described in Chapter II, there are several variables affecting the outcome of CNRC's mission assignment model; such as, unemployment, propensities, etc. This hypothesis test would indicate whether or not, over achievement does contribute, in some way, to an increase in the district's assigned mission.

Several attempts were made in testing this hypothesis. One attempt included a regression analysis on each districts' missions per recruiter for a given year and the districts' success rates for the prior year. In addition, a regression analysis was conducted on each districts' missions per recruiter for a given year, the districts' success rates for the prior year, and the districts' success rates for two years prior. These tests did not provide any statistically significant results. One reason for this is due to the fact CNRC's mission decreases from some fiscal years to the next fiscal year. For example, the CNRC mission in FY 1990 was 77,332 and in FY 1991, the CNRC mission was 65,744. Regardless of a district overachieving in FY 1990, its FY 1991 mission decreased because the overall mission of the Navy decreased significantly.

In order to get a more accurate picture, the CNRC average mission per recruiter per year was needed. This was computed by dividing the CNRC mission by the average number of production recruiters within CNRC. The CNRC average mission per recruiter per year was required to reflect the variances in total CNRC mission from year to year. For this analysis, input data from FY 1990 to FY 1995 was used. The CNRC average mission per recruiter per year was subtracted from the district's mission per recruiter per year. The district's mission per recruiter per year was computed by dividing the district's mission by the

district's average number of production recruiters. The results of subtracting the CNRC average mission per recruiter per year from the district's mission per recruiter per year were the dependent variables in the regression analysis. The independent variables were the districts prior year success rates. The general form of the model used was as follows:

$$f(Z_{t-1}) = a (X_t - Y_t) + b$$

where:
  X = District's mission per recruiter per year
  Y = CNRC's average mission per recruiter per year
  Z = District's success rate
  t = year

This regression analysis of each district proved the hypothesis over achievement by a district in a given year may contribute to an increase in the district's mission, in relative terms, for the following year. The results of the regression analysis are presented in Table 3.

A graphic interpretation of the effects overproduction has on a district is displayed in Figure 3. Relative to the change in the Navy's overall mission from year to year, 77.4% of the districts had an increase to their mission assignment subsequent to overproducing in the previous year. With a 95% confidence interval based on a sample of 5 observations per district (FY 1990 to FY 1995), 16% of the districts were statistically significant. None of these districts had a decrease in its mission following overproduction in the previous year.

EFFECTS OF OVERPRODUCTION
(on Mission Assignment)

% of Districts

t Statistics

Increased Assignment   Decreased Assignment
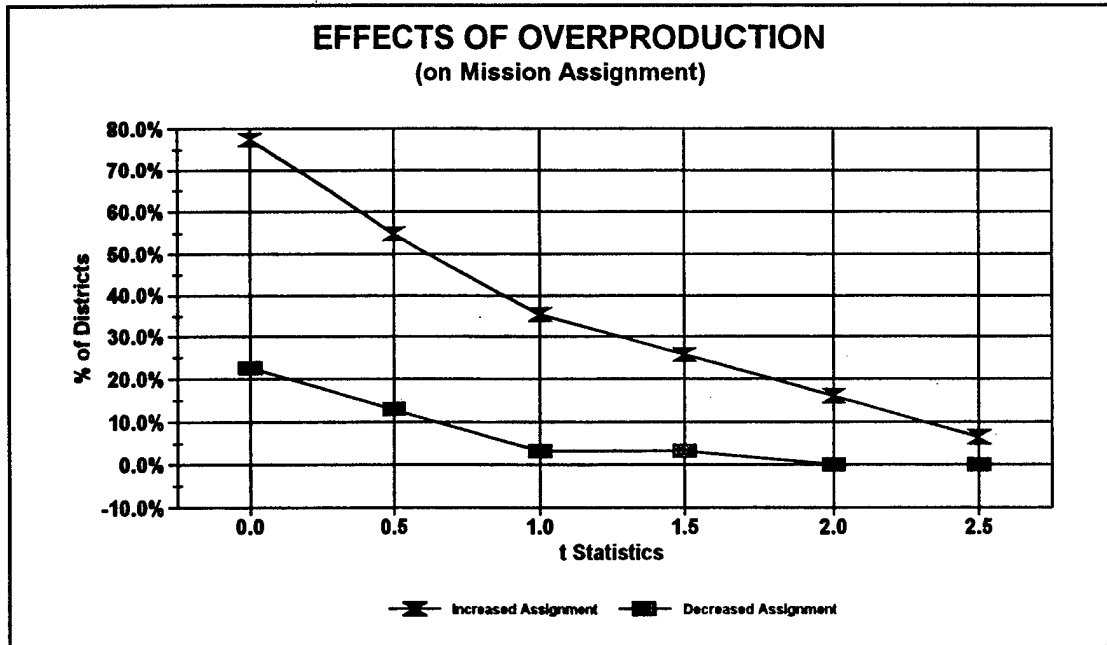
Figure 3.

B.   SUMMARY

In analyzing the historical recruiting data, the current method of assigning missions to the districts is not effective. This is evident by the fact less than 20% of all the districts are achieving their assigned mission. A possible contributing factor to this underproduction by recruiters is if they overproduce in a given year, their mission, in relative terms, will likely increase for the following year. In our opinion, the effect of overproduction by a district leading to higher missions is caused by the increased pressure to produce at every level within CNRC. The overachieving districts are relied upon to produce at higher levels.

Table 3. Regression Coefficients for District Missions
(By district from FY 90 to 95)

District	City	Coefficient	Standard Error	t Statistic
95N102	Boston	-1.7555	6.0441	-0.2904
95N103	Buffalo	-14.1234	15.1734	-0.9308
95N104	New York	15.2941	16.5592	0.9236
95N118	Columbus	-0.0123	3.3030	0.0037
95N119	Philadelphia	13.6355	12.9303	1.0545
95N120	Pittsburgh	-11.4895	7.4978	-1.5324
95N122	Michigan	8.8487	1.7456	5.0691*
95N310	Montgomery	12.5638	19.3402	0.6496
95N312	Jacksonville	2.4359	15.8669	0.1535
95N313	Atlanta	0.9575	2.8589	0.3349
95N314	Cumberland	-1.2613	3.5905	-0.3513
95N315	Raleigh	7.1772	3.2447	2.2120*
95N316	Richmond	7.0246	3.3644	2.0879*
95N334	New Orleans	4.8304	0.6042	7.9943*
95N348	Miami	7.0201	4.0911	1.7160
95N521	Chicago	10.8391	9.8796	1.0971
95N527	Kansas City	4.2563	5.0955	0.8353
95N528	Minneapolis	2.5207	3.6203	0.6963
95N529	Omaha	13.9136	10.1334	1.3730
95N531	Dallas	1.1825	12.0158	0.0984
95N532	Houston	-12.6094	15.4224	-0.8176
95N542	Indianapolis	0.7274	5.3350	0.1363
95N547	Memphis	3.8472	6.2106	0.6195
95N825	Denver	0.6145	4.5045	0.1364
95N830	Alabama	0.2908	3.2072	0.0907
95N836	Los Angeles	6.6299	11.9788	0.5535
95N837	Portland	14.4775	6.6485	2.1776*
95N838	San Francisco	-0.6638	8.7028	-0.0763
95N839	Seattle	0.8913	11.8708	0.0751
95N840	San Diego	-1.5712	2.2280	-0.7052
95N846	San Antonio	4.5889	2.5131	1.8260

* Statistically significant at 95% confidence interval.

V. PRODUCTION RECRUITING INCENTIVE MODEL (PRIME)

A.   INTRODUCTION

This chapter will provide information on PRIME and discuss the advantages of implementing a bonus incentive-based recruiting system. The focus of this thesis is to determine the effectiveness of the current system used by CNRC. Further research is required to determine the most effective payoff program for CNRC by taking into consideration their priorities.

B.   THE FREEMAN PLAN

In the past, the Navy has experimented with several initiatives to increase recruiter productivity. One initiative in particular, was the Recruiter Productivity and Personnel Management System (RPPMS), or more commonly known as the Freeman Plan. The Freeman Plan was a bonus incentive-based system developed in 1979 and remained in effect through 1989. The goal of the Freeman Plan was to increase the quality and quantity of recruits. By using a point accumulation system, recruiters were rewarded for individual productivity. The point accumulation system was based on a one year cycle and not broken down by months and quarters, as the current goal-based system in effect today.

The Freeman Plan was effective when the Navy was expanding and when there wasn't an emphasis on high quality recruits. When the quality of recruits became the Navy's priority, recruiters located in the more difficult markets felt the point totals for awards were

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out of their reach. When the rewards of a bonus incentive-based system becomes inequitable, the system will become ineffective.

Studies conducted on the Freeman Plan identified areas in the plan making it ineffective. One theory suggested competitive systems can provide incentives to induce greater productivity; however, there is greater variance in productivity when the environment is a factor. As it relates to CNRC, the group of winners was much smaller to the relative number of recruiters because regions have different market potential and the inequalities of opportunity will result in inequalities of outcome.

A second theory, which analyzed one of the most successful districts, suggested recruiters would seek high quality recruits in the early part of the cycle and settle for lower quality recruits during the rest of the cycle. Another pattern identified, productivity was the highest when recruiters became eligible for an award and productivity declined substantially immediately following the receipt of an award. Because of these behavioral patterns, this study suggested the best reward for recruiter productivity may be leisure time vice a materialistic item. [Ref. 4, pp. 10-13, 28-32]

C.   PRIME

PRIME is a bonus incentive-based system was developed at the Naval Postgraduate School. This system was developed to maximize market potential, provide an equitable reward program, and obtain important market information in order to allow for better resource allocation decisions.

Under the current top-fed goal-based recruiting system, the recruiters who possess the best market potential knowledge play a limited role in the mission allocation process. PRIME is designed to reverse that flow by requiring recruiters to forecast their production as accurately as possible. A payoff matrix indicating points assigned for accurate predictions will ensure recruiters are rewarded equitable.

The objectives of PRIME are as follows;

1.   Provides an incentive for recruiters to surpass top-fed goals, thereby maximize true market potential.

2.   Reward recruiters based on their work effort and their ability to forecast.

3.   Rewards recruiters equitably in the long run despite inherent regional market differences.

4.   Will provide, in the long run, CNRC with valuable market information allowing for efficient future resource reallocation to the productive regions.

5.   Will help reduce the tendency for recruiters to delay or hold applicants for future months, thereby improving market information for CNRC.

6.   Based on improved forecasting information, staff workload will be indirectly reduced and variance in the mission process may be minimized.

7.   The model is adjustable to reflect changing CNRC accession requirements.

8.   The model is capable of maintaining quality marks. [Ref.13, pp.28-30]

Under an incentive-based system, such as PRIME, recruiters are not only rewarded for productivity but for accurately forecasting their productivity as well. An example of a PRIME payoff table is shown in Table 4. As stated above, the recruiter's payoff is

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maximized when the recruiter's forecast matches his or her actual production. For example, if a recruiter's forecasted production is eight recruits for a given time period and he or she actually produces eight recruits, the payoff would be 360 points. However, if a recruiter forecasted other than eight recruits and produced eight recruits, then the payoff would be less than 360 points. Basically, if a recruiter knows he or she can produce eight recruits, there is no reason for the recruiter to hide information. Because of this concept, PRIME has a built-in truth telling mechanism. Also, PRIME encourages higher productivity because the table is constructed to provide a higher payoff for additional recruits. If a recruiter's forecasted production is eight recruits, but the recruiter could produce nine recruits, the recruiter could gain 30 additional points for producing nine recruits.

Table 4. An Example of a Prime Incentive Payoff Table

		Recruits Forecasted by Recruiter										
		3	4	5	6	7	8	9	10	11	12	13
	3	90	70	50	30	20	20	20	20	20	20	20
	4	120	130	110	90	70	50	30	20	20	20	20
	5	150	160	170	150	130	110	90	70	50	30	20
Actual	6	180	190	200	230	200	170	140	110	80	50	20
Recruits	7	210	220	230	260	290	260	230	200	170	140	110
Produced	8	240	250	260	290	320	360	330	300	270	240	210
	9	270	280	290	320	350	390	570	520	470	420	370
	10	300	310	320	350	380	420	600	670	620	570	520
	11	330	340	350	380	410	450	630	700	770	720	670
	12	360	370	380	410	440	480	660	730	800	880	830
	13	390	400	410	440	470	510	690	760	830	910	1,000

An advantage of PRIME is it can be tailored to particular needs. For instance, the Navy may want to provide recruiters with more incentive to produce quality recruits or nuclear field qualified recruits. If this is the case, an additional table with a higher payoff could be constructed or a multiplier can be used to provide the higher producing recruiter with a higher payoff to reward for selected criteria recruits. Further research conducted with CNRC representatives is needed in order to construct a payoff matrix with an equitable reward system while meeting the needs of the Navy.

D. CURRENT STATUS OF PRIME

The United States Army Recruiting Command (USAREC) operates under a goal-based system. In general, the Army is fighting the same battle the Navy is fighting, which is a continuous decrease in recruiter productivity. The Army has tried several initiatives to increase productivity within its recruiting command but none have met their expectations. Currently, one battalion (equivalent to a Navy recruiting district) is prototyping PRIME. The prototype time frame is for one quarter. Besides tailoring PRIME to meet the Army's requirements, it was decided the production period would be quarterly vice monthly. Since the goal-based system is on a monthly basis, this decision created a radical change within the USAREC structure. The decision was made on a quarterly time basis to remove some of the pressure recruiters receive in trying to achieve mission on a monthly basis. To date, PRIME has support from USAREC top level managers down to the recruiter level. Because of the flexibility with PRIME, the Navy can review the Army's version of PRIME and easily adopt a program to provide many benefits.

E. SUMMARY

Today's Navy is one that is smaller but more advanced. In addition, the demands on the Navy are much greater than ever before. This has created a target of Navy recruits to be of the highest quality. In order to meet this requirement, a bonus incentive-based system is required to maximize recruiter productivity. The Freeman Plan, a bonus incentive-based system, failed because it had a few serious shortfalls. These shortfalls are not imbedded in PRIME. In addition, PRIME allows for tailoring to particular needs and requirements.

VI. CONCLUSIONS AND RECOMMENDATIONS

A.   CONCLUSIONS

This study focused on the effectiveness and efficiencies within the US Navy recruiting system. Also, it has undertaken the initial research for the development of PRIME which can be tailored to meet the needs of the Navy.

As identified in the previous chapters, productivity is declining in CNRC. In the past two years, CNRC has failed to achieve its mission. More alarming, less than 20% of the districts achieved their assigned mission in 1995. This figure is on a steady decline since 1990, in which 60% of the districts achieved their assigned mission.

This study discussed modern management theories and the shortfalls imbedded within goal-based systems. These shortfalls are created because people are risk adverse, the system characteristics discourage overproduction, and the system disallows sense of ownership among recruiters. Under a goal-based system, recruiters are actually penalized, in a sense, for overproduction. They are penalized by CNRC increasing, in relative terms, their assigned mission for the following year.

CNRC has attempted many initiatives in the past to increase recruiter productivity and they continue to do so. One of their major initiatives, the Freeman Plan, fell short of expectations due to the inequities in the reward system and the length of the one year cycle evaluation period. These problems would not exist in the bonus incentive-based system, PRIME.

B. RECOMMENDATIONS

Based on this study, we recommend the following:

1. CNRC to abandon goal-based recruiting and implement the bonus incentive-based system, PRIME.

2. Further research is required to determine what factors should be used in the development of PRIME, tailored to meet the needs of the Navy. Factors to consider are quality of recruit, race, speciality fields, and geographical area.

One of the major characteristics of PRIME is its reward system is equitable. This was a significant flaw with the Freeman Plan. It is important a well thought-out strategy be define before the implementation of PRIME. The United States Army is currently prototyping PRIME in their northeast region of the United States. The Navy should seek "lessons learned" from the Army to assist in the development of PRIME and adopt a program tailored to the its needs.

APPENDIX A: Success Rate Per District

District	City	1990	1991	1992	1993	1994	1995
95N102	Boston	106.66%	114.47%	122.14%	105.10%	86.96%	76.88%
95N103	Buffalo	100.98%	97.21%	103.44%	101.94%	92.28%	79.74%
95N104	New York	104.41%	89.80%	98.27%	94.92%	99.43%	100.73%
95N118	Columbus	106.14%	102.48%	96.57%	97.36%	71.64%	70.41%
95N119	Philadelphia	96.49%	101.60%	102.32%	98.31%	100.26%	85.42%
95N120	Pittsburgh	101.43%	89.52%	97.71%	84.29%	91.60%	104.58%
95N122	Michigan	105.69%	100.00%	104.32%	95.58%	86.61%	63.37%
95N310	Montgomery	105.72%	103.58%	108.61%	103.85%	101.78%	94.23%
95N312	Jacksonville	89.83%	88.95%	96.57%	96.90%	97.50%	96.14%
95N313	Atlanta	131.24%	127.16%	126.51%	106.34%	94.33%	92.46%
95N314	Cumberland	104.99%	95.28%	95.90%	92.02%	71.65%	79.20%
95N315	Raleigh	108.63%	115.77%	117.65%	100.55%	92.83%	83.89%
95N316	Richmond	103.65%	102.51%	109.96%	97.58%	88.64%	89.72%
95N334	New Orleans	109.45%	104.33%	107.34%	101.96%	72.58%	85.32%
95N348	Miami	114.21%	105.82%	105.89%	103.70%	94.45%	83.72%
95N521	Chicago	98.55%	94.73%	98.80%	98.13%	89.67%	91.31%
95N527	Kansas City	98.27%	99.95%	102.73%	100.36%	83.32%	80.13%
95N528	Minneapolis	104.04%	90.37%	88.62%	82.43%	83.44%	86.69%
95N529	Omaha	95.63%	85.18%	99.65%	87.74%	82.16%	78.52%
95N531	Dallas	109.89%	105.82%	100.06%	103.91%	88.14%	91.56%
95N532	Houston	109.50%	104.22%	109.31%	117.19%	101.34%	102.52%
95N542	Indianapolis	100.86%	92.52%	104.96%	103.21%	89.90%	77.34%
95N547	Memphis	94.52%	94.58%	104.87%	99.22%	89.64%	85.91%
95N825	Denver	97.96%	86.37%	107.07%	104.40%	79.16%	85.70%
95N830	Alabama	99.89%	102.78%	104.90%	106.12%	86.55%	93.97%
95N836	Los Angeles	78.12%	105.04%	105.99%	102.21%	94.16%	96.16%
95N837	Portland	106.04%	89.38%	88.43%	100.36%	88.07%	98.32%
95N838	San Francisco	104.53%	101.61%	92.91%	100.38%	102.54%	100.38%
95N839	Seattle	95.89%	89.57%	92.95%	107.20%	86.92%	107.13%
95N840	San Diego	94.35%	105.91%	106.64%	114.30%	112.85%	118.61%
95N846	San Antonio	113.65%	110.42%	112.46%	96.06%	81.07%	94.96%

* Success Rate is measured by Contracts divided by Mission.

APPENDIX B: District Level Productivity Data

FY 1990

District	City	Number of Recruiters	Mission per Recruiter	Contracts per Recruiter
95N313	Atlanta	141.8	17.1	22.4
95N531	Dallas	99.8	20.2	22.2
95N825	Denver	89.0	22.0	21.6
95N529	Omaha	96.0	22.4	21.4
95N837	Portland	112.3	19.8	21.0
95N532	Houston	113.3	19.1	20.9
95N846	San Antonio	136.0	18.2	20.6
95N334	New Orleans	139.5	18.8	20.6
95N521	Chicago	140.3	20.7	20.4
95N830	Alabama	86.8	20.4	20.3
95N348	Miami	123.3	17.7	20.2
95N527	Kansas City	114.0	20.3	20.0
95N122	Michigan	161.5	18.7	19.8
95N838	San Francisco	178.5	18.7	19.5
95N102	Boston	130.8	18.3	19.5
95N315	Raleigh	125.3	17.9	19.4
95N840	San Diego	117.3	20.4	19.2
95N118	Columbus	176.0	18.1	19.2
95N310	Montgomery	152.3	18.0	19.1
95N104	New York	170.0	18.2	19.0
95N314	Cumberland	160.5	17.4	18.2
95N316	Richmond	131.5	17.5	18.1
95N120	Pittsburgh	139.0	17.7	17.9
95N547	Memphis	140.8	18.7	17.7
95N528	Minneapolis	153.0	16.7	17.4
95N119	Philadelphia	164.0	17.5	16.9
95N839	Seattle	133.8	17.3	16.6
95N103	Buffalo	164.5	15.5	15.6
95N542	Indianapolis	137.3	15.2	15.3
95N312	Jacksonville	161.8	16.7	15.0
95N836	Los Angeles	148.0	17.1	13.4

District	City	Number of Recruiters	Mission per Recruiter	Contracts per Recruiter
95N532	Houston	107.3	19.4	20.3
95N846	San Antonio	126.8	18.3	20.2
95N315	Raleigh	114.0	17.4	20.1
95N313	Atlanta	139.8	14.9	18.9
95N348	Miami	110.5	17.3	18.3
95N531	Dallas	99.0	17.2	18.2
95N102	Boston	134.0	15.6	17.9
95N830	Alabama	84.5	17.0	17.5
95N840	San Diego	111.5	16.4	17.4
95N527	Kansas City	110.3	17.2	17.2
95N334	New Orleans	136.5	16.4	17.1
95N310	Montgomery	143.0	16.0	16.6
95N122	Michigan	159.5	16.5	16.5
95N529	Omaha	91.8	19.4	16.5
95N316	Richmond	122.5	15.9	16.3
95N838	San Francisco	174.3	16.0	16.3
95N837	Portland	104.8	18.1	16.1
95N119	Philadelphia	153.8	15.9	16.1
95N547	Memphis	134.5	17.0	16.1
95N118	Columbus	180.0	15.4	15.8
95N825	Denver	93.0	17.6	15.2
95N104	New York	169.0	16.9	15.2
95N521	Chicago	155.5	15.9	15.0
95N314	Cumberland	150.5	15.5	14.8
95N542	Indianapolis	121.3	15.8	14.6
95N312	Jacksonville	152.3	15.6	13.9
95N528	Minneapolis	145.5	15.3	13.8
95N836	Los Angeles	132.5	13.0	13.7
95N103	Buffalo	159.8	13.7	13.3
95N120	Pittsburgh	128.3	14.7	13.1
95N839	Seattle	124.3	14.0	12.6

District	City	Number of Recruiters	Mission per Recruiter Contracts	Contracts per Recruiter
95N315	Raleigh	113.5	16.5	19.4
95N313	Atlanta	126.8	15.3	19.4
95N846	San Antonio	127.3	17.2	19.3
95N532	Houston	107.5	16.9	18.5
95N542	Indianapolis	104.8	16.0	16.8
95N527	Kansas City	107.8	16.3	16.8
95N102	Boston	149.5	13.7	16.8
95N547	Memphis	118.3	15.8	16.6
95N316	Richmond	124.0	15.1	16.6
95N531	Dallas	103.8	16.5	16.6
95N310	Montgomery	131.5	15.1	16.4
95N334	New Orleans	132.3	15.2	16.4
95N348	Miami	115.3	15.2	16.1
95N122	Michigan	150.3	15.4	16.1
95N830	Alabama	89.3	15.3	16.1
95N521	Chicago	133.3	15.7	15.5
95N825	Denver	92.0	14.5	15.5
95N840	San Diego	120.3	14.3	15.2
95N119	Philadelphia	148.5	14.8	15.2
95N118	Columbus	166.0	15.5	15.0
95N314	Cumberland	144.3	15.4	14.8
95N120	Pittsburgh	115.5	14.8	14.4
95N312	Jacksonville	148.0	14.8	14.3
95N529	Omaha	102.3	13.8	13.8
95N103	Buffalo	147.8	13.2	13.7
95N838	San Francisco	173.0	14.7	13.6
95N104	New York	179.3	13.2	13.0
95N839	Seattle	120.8	13.8	12.8
95N837	Portland	116.3	14.1	12.5
95N528	Minneapolis	142.0	14.1	12.5
95N836	Los Angeles	137.0	11.6	12.3

District	City	Number of Recruiters	Mission per Recruiter Contracts	Contracts per Recruiter
95N532	Houston	109.5	14.9	17.5
95N102	Boston	119.3	16.4	17.3
95N840	San Diego	108.8	14.0	16.0
95N348	Miami	112.0	15.2	15.8
95N312	Jacksonville	104.0	16.1	15.6
95N310	Montgomery	113.0	15.0	15.5
95N521	Chicago	98.3	15.8	15.5
95N542	Indianapolis	95.8	15.0	15.5
95N527	Kansas City	108.8	15.3	15.4
95N316	Richmond	107.5	15.7	15.4
95N119	Philadelphia	110.5	15.5	15.2
95N334	New Orleans	123.3	14.9	15.2
95N547	Memphis	110.8	15.1	15.0
95N104	New York	122.5	15.8	15.0
95N830	Alabama	83.8	14.1	14.9
95N315	Raleigh	122.0	14.8	14.9
95N846	San Antonio	128.0	15.3	14.7
95N836	Los Angeles	114.8	14.2	14.5
95N122	Michigan	129.5	15.0	14.4
95N838	San Francisco	148.5	14.2	14.2
95N825	Denver	97.0	13.3	13.9
95N313	Atlanta	155.0	13.0	13.9
95N314	Cumberland	120.8	14.9	13.8
95N531	Dallas	111.5	12.9	13.4
95N529	Omaha	74.0	15.2	13.4
95N118	Columbus	151.0	13.6	13.2
95N103	Buffalo	120.0	12.9	13.1
95N837	Portland	115.5	12.1	12.2
95N120	Pittsburgh	94.0	13.5	11.4
95N839	Seattle	120.5	10.0	10.8
95N528	Minneapolis	114.8	12.8	10.5

FY 1994

District	City	Number of Recruiters	Mission per Recruiter Contracts	Contracts per Recruiter
95N104	New York	95.5	20.3	20.2
95N840	San Diego	101.3	17.5	19.7
95N838	San Francisco	112.5	18.9	19.4
95N119	Philadelphia	104.0	18.3	18.4
95N836	Los Angeles	105.5	19.5	18.3
95N120	Pittsburgh	71.3	18.6	17.0
95N103	Buffalo	99.8	17.9	16.5
95N521	Chicago	94.3	18.4	16.5
95N532	Houston	105.8	16.3	16.5
95N313	Atlanta	137.3	17.4	16.4
95N542	Indianapolis	80.3	18.1	16.3
95N315	Raleigh	113.3	17.5	16.2
95N102	Boston	114.3	18.7	16.2
95N310	Montgomery	116.5	15.9	16.2
95N348	Miami	110.8	17.1	16.1
95N312	Jacksonville	100.5	16.4	15.9
95N837	Portland	89.0	17.9	15.8
95N547	Memphis	107.3	17.5	15.7
95N830	Alabama	72.0	18.1	15.6
95N316	Richmond	109.5	17.4	15.4
95N122	Michigan	120.5	17.4	15.1
95N839	Seattle	93.8	17.0	14.7
95N846	San Antonio	110.3	18.1	14.7
95N527	Kansas City	107.0	17.3	14.4
95N529	Omaha	71.0	17.4	14.3
95N825	Denver	84.0	17.9	14.2
95N314	Cumberland	100.8	19.2	13.8
95N531	Dallas	117.8	15.3	13.5
95N118	Columbus	115.0	18.6	13.3
95N528	Minneapolis	91.8	15.7	13.1
95N334	New Orleans	110.5	17.9	13.0

FY 1995

District	City	Number of Recruiters	Mission per Recruiter Contracts	Contracts per Recruiter
95N840	San Diego	132.0	16.4	19.4
95N104	New York	115.0	19.0	19.1
95N836	Los Angeles	144.8	18.2	17.5
95N839	Seattle	89.8	16.1	17.3
95N532	Houston	116.8	16.7	17.1
95N837	Portland	86.0	16.6	16.3
95N846	San Antonio	113.3	16.8	16.0
95N838	San Francisco	148.3	15.9	16.0
95N531	Dallas	109.3	17.0	15.6
95N830	Alabama	84.8	16.4	15.5
95N310	Montgomery	115.3	16.4	15.4
95N312	Jacksonville	108.0	15.9	15.2
95N120	Pittsburgh	86.0	14.2	14.9
95N119	Philadelphia	122.8	17.4	14.8
95N521	Chicago	102.0	15.9	14.5
95N316	Richmond	118.0	16.0	14.4
95N102	Boston	131.5	18.0	13.8
95N313	Atlanta	152.0	14.9	13.8
95N825	Denver	88.0	16.0	13.7
95N547	Memphis	127.8	15.9	13.7
95N528	Minneapolis	90.8	15.7	13.6
95N103	Buffalo	113.5	17.0	13.6
95N348	Miami	119.5	16.2	13.6
95N315	Raleigh	125.0	15.7	13.2
95N527	Kansas City	115.3	16.3	13.1
95N314	Cumberland	102.5	16.5	13.1
95N529	Omaha	77.3	16.6	13.1
95N334	New Orleans	110.0	15.1	12.8
95N542	Indianapolis	95.3	16.1	12.4
95N118	Columbus	127.8	16.2	11.4
95N122	Michigan	133.0	15.3	9.7

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