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Effectiveness of the Navy's Cyberspace Recruiting Efforts During CY 1998

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In the Spring of 1998, CNA became involved with an experiment at Commander of Navy Recruiting Command (CNRC) to determine the best and most cost-effective practices for using the Internet to post job ads. We tracked the activity of both the free and fee-based sites for August through November 1998. This research memorandum summarizes our findings and recommendations. We found the growing use of the Internet in general justifies a continuation of cyberspace recruiting and the results of the 4-month trial support this conclusion.

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Summary

Background

The unprecedented growth and popularity of the Internet has forced companies to rethink how they advertise and recruit. Over the years, we have made recommendations to the Commander of Navy Recruiting Command (CNRC) on how to use this medium in the recruiting process [1, 2, 3]. Although the Navy has had a successful recruiting web page for several years, it has never fully incorporated Internet job-posting activities.

In the spring of 1998, CNA became involved with an experiment at CNRC to determine the best and most cost-effective practices for using the Internet to post job ads. This paper summarizes these efforts.

Internet growth

In recent years, more and more of the Navy's potential recruits have turned to the Internet as a source of information and entertainment. Almost 96 percent of all American public primary and secondary schools will have Internet access by the end of the 1998-1999 academic year, and virtually all colleges have access [4]. For the general public, 73 percent of public libraries offer access to the Internet [5].

In an economy that has the lowest unemployment rate in almost 30 years, the Internet offers a relatively inexpensive way of reaching a large segment of the youth labor market. Currently, there are over 4,000 job-posting sites; some of these are free to post ads, but virtually all are free to search for jobs. An overwhelming number of companies are recruiting via the Internet. A recent survey found that 70 of the human resource personnel surveyed now use the Internet for job postings, compared to just 21 percent in 1996 [6].

Cyberspace recruiting

In 1998, CNA became involved with a CNRC experiment to assess Internet job-posting sites as a means of recruiting. At about the same time, CNRC established a "cyberspace recruiting" office, manned by two recruiters whose job it was to search the Internet for resumes in order to generate leads. In April, CNA began to post ads to several free sites and to use the cyberspace recruiters as the point of contact to process leads and make referrals to the field.

We posted ads to several free sites and also provided information to the cyberspace recruiters about other sites to search for resumes. For the next several months, we learned more about this medium, and made adjustments. Specifically, we improved our methods for posting and updating jobs, requested that additional job ads be written for this medium, and improved on methods of tracking leads.

During this time, we made recommendations to CNRC for using paid job-posting sites on the Internet. These recommendations were accepted, and in August we began to post to ten paid sites (two of which are medical sites). Another paid site was added in November.

Summary findings

We have tracked the activity of both the free and fee-based sites for August through November 1998. These are our findings:

- The two cyberspace recruiters referred 255 leads to the field.
  - — A Career Recruiter blueprints[1] leads and gives them a chance to ask questions before referring them to the field.
- There have been 12 enlisted and 4 officer contracts (3 were Medical Service Corps and 1 was a Nuclear Propulsion Officer Candidate (NUPOC)).
- The cost per enlisted contract is $993. The cost per officer contract is $4,817. This latter includes the cost for all officer

1. Blueprinting involves verifying eligibility based on age, education, health, weight, and height, as well as criminal and drug use criteria.

activities, including medical. In FY 1996, the national leads costs per contract were $1,232 and $3,530 for enlisted and officers, respectively.[2]

- The Production Per Recruiter (PPR), per month, for the cyberspace recruiters is 2.0 (this includes both enlisted and officers). The PPR for all enlisted recruiters was approximately 1.10 during the same time period.[3]

Discussion

We believe that the cost-effectiveness of this medium for recruiting will improve over time for a variety of reasons. Specifically:

- A complete set of jobs for all recruiting programs has yet to be written. The annual cost for almost all of these sites is for unlimited jobs. Therefore, more jobs posted will result in more leads for no additional cost.
- We expect that graduating high school and college seniors will intensify their job search efforts in the first half of the calendar year, and these months are not included in the analysis.
- The field will require more time to learn the value of leads from this source, and to appreciate the value of responding in a timely fashion.
- Cyberspace is still a new recruiting environment for CNRC. There likely is more to learn about maximizing the returns from this medium.

Recommendations

Internet

The growing use of the Internet in general justifies a continuation of cyberspace recruiting, and the results of this 4-month trial support

2. Source: CNRC Cost Per Lead Report FY 1996 Funding.
3. Source: December 1998 Monthly Recruiting Brief to CNP.

this conclusion. With this in mind, we offer the following recommendations:

- Increase the staffing of cyberspace recruiting to keep up with the volume of responses generated by the job postings.
- Create a complete set of job titles and summaries for all recruiting needs for this medium. Periodically analyze the effectiveness of these job titles and summaries.
- Consider treating the cyberspace recruiters as recruiters rather than leads personnel, and goal them. As the field personnel become aware of the high quality of these leads, they will learn the value of more timely followup, and the field and cyberspace recruiters will work more closely as a team.

Lead processing

Cyberspace recruiting has provided an experiment not only of Internet recruiting, but of a different method of leads followup, which may benefit CNRC if used as a general model of lead processing. When fully staffed, the cyberspace model is one that blueprints leads, puts them in quick contact with a recruiter, and provides additional followup. We believe that these features have the potential to benefit Navy recruiting, regardless of the source of the lead.

Introduction

Background

CNA has been working with personnel from the Commander of Navy Recruiting Command (CNRC) for the past 3 years on issues related to the use of the Internet for recruiting purposes. For instance, in 1996 we introduced CNRC personnel to America's Job Bank (AJB), a free online job-advertising site sponsored by the Department of Labor. CNRC began posting two jobs to that site in February 1996 and added more jobs throughout the year. At that time, and for the following years, we made recommendations for additional sites and Internet uses for recruiting for CNRC's consideration [1, 2, 3].

Using AJB was CNRC's first experience with posting jobs to the Internet. For the next few years, CNRC had various levels of involvement with this recruiting medium[4] but never fully incorporated it into the recruiting mechanism, both in terms of budget and personnel. In April 1998, CNA became involved with an experiment with both free and fee-based sites to evaluate the effectiveness of these sites for recruiting. This research memorandum summarizes our experiences and findings in this experiment. This section provides an overview of some Internet features.

Internet basics

Internet growth

The Internet is rapidly becoming more important as a medium for commerce, information exchange, and entertainment. The amount

4. The Navy has had a successful Internet recruiting site for several years, but we are referring here to the use of Internet job-posting sites.

of information and number of web sites on the Internet are increasing at an astounding rate.

The rise in the number of web sites, however, is a consequence of the concurrent growth in access to the Internet. Although good statistics are hard to find, one estimate is that Internet users have increased from 30 million to 65 million in the past year [7]. Currently, 82 percent of K-12 schools in the United States have Internet access, and about 96 percent of public schools will be connected by the end of the 1998-1999 school year [4]. An overwhelming majority of colleges are connected. For instance, 95 percent of community colleges have Internet access [8]. And the general public has increasing access, with 73 percent of public libraries offering access to the Internet [5]. The majority of Internet users are college-educated, affluent, and relatively young. But this increased access has contributed to the trend for the Internet population to look increasingly more like Americans as a whole, in terms of gender, age, race, and income levels. This suggests that posting Navy jobs has the potential for attracting both enlisted and officer candidates.

Job sites

Companies are turning to the Internet as a means of recruiting. One recent study found that 70 percent of the human resource personnel surveyed use the Internet for job postings, as compared to just 21 percent in 1996 [6].

Job-posting sites have plenty of options. Roughly 4,000 job-posting web sites cost anywhere from nothing to over $70,000 per year. But cost does not necessarily correlate well with traffic. For instance, probably the largest job-posting site, both in terms of visitors per day and volume of jobs posted, is America's Job Bank, which as of late December had over 824,000 jobs advertised and a resume bank of over 400,000. Part of the reason for the volume of activity on this site is that every unemployment office in the country is required to provide access to jobs posted on AJB to job seekers, which is typically through online access in local offices. This site is also available in many post offices, libraries, and even in some shopping malls. In addition, in 1996 the American Association of Community Colleges (AACC) and

the U.S. Department of Labor announced an agreement in which all 1,100 community colleges that AACC represents would become Internet "access zones" for AJB. This means that all of these colleges have made AJB available to their students, primarily through Internet access in college placement offices.

Posting jobs to free sites is cost-effective because the time involved in posting is minimal. Free sites abound, but even fee-based sites can be cost-effective, depending on the number of accessions they generate.

One must choose sites with care, however. There are numerous ways to measure how many people are actually using a site. It is not enough to simply choose those with the most "traffic," as reported by the publishers of the site [9]. Another way to judge a site is by the type of users it attracts. For instance, some sites target primarily college students (such as JobTrak and College Grad Job Hunter), or physicians, or mid-level executives. And, sites can be evaluated based on other criteria, such as number of jobs and resumes posted. There is no universally held "right choice"; the point is to ensure that sites are a cost-effective way of producing contracts.

Resume searches

Two other features of most Internet job sites are useful in recruiting. One is the ability of employers to have access to the resumes of job seekers who have posted their resumes on that site. Even this feature varies by site. For instance, some sites simply contain a bank of resumes for the employer to search, whereas some sites allow the job seeker to attach a resume to an e-mail response to a particular job. Other sites allow an employer to specify key words or phrases to search all newly posted resumes, and to notify the employer of all resumes matching those words (for instance, "engineer" or "information systems analyst").

In addition to job-posting sites with this capability, numerous colleges and universities are adding student resume banks to their web sites. Because many community colleges also offer this service, resume searches should be a good source for high-tech enlisted, as well as officer, candidates.

Names and contact information obtained from resumes posted on the Internet are referrals, rather than leads. As such, they tend to be less productive. However, this capability offers a unique opportunity for recruiters to have access to literally thousands of resumes of people who are actively seeking employment.

Banner ads

Another feature of job-posting sites is banner advertising. Banner ads can be thought of as a type of Internet billboard system. They are relatively small displays (typically less than 3 inches by 1 inch), often with changing pictures or words, meant to attract attention. Therefore, they are usually placed in a prominent position on a page.

The banner ad is meant to pique interest so that the viewer clicks on the banner to find out more information. The employer can then specify where the viewer is directed after clicking on the banner ad, such as to the company's homepage, to a particular job, or to all jobs listed on that job-posting site. Banner ads are usually much more expensive than simply posting jobs on the site.

The growth of options and opportunities to use the Internet for recruiting has presented some interesting challenges to the Navy as CNRC seeks to incorporate this new medium into its recruiting practices. CNA has assisted CNRC in these efforts in a number of ways. We turn now to a discussion of CNA's recent involvement in establishing a CNRC Internet job-posting presence.

Overview of CNA's efforts

Job posting

AJB and other sites

We have worked with CNRC since April 1996 to establish an Internet job-posting presence, with various degrees of success. We assisted in the original posting of job ads to America's Job Bank in the spring of 1996 and attempted unsuccessfully to track the effectiveness of this site.[5] In January 1997 the jobs on AJB expired, but they were reposted over the next few months. Again, in January 1998, most of the jobs expired on this site. In April 1998, CNRC tasked us to repost these jobs to AJB and to assist in establishing a greater presence, both on free and fee-based sites.

Based on our experience in the original postings to AJB, we decided that it was important to be able to track the effectiveness of job postings to the Internet. In addition, we felt that directing the job seeker to an individual point of contact (POC) instead of to the toll-free number or Navy Jobs web site would enhance effectiveness.

At the same time, CNRC was experimenting with "cyberspace recruiting" by establishing two billets at headquarters for recruiters to search the Internet for resumes to generate leads. The timing was fortuitous. CNRC personnel agreed to make the cyberspace recruiters the point

5. The original tracking mechanism turned out to be ineffective. We attempted to track only two of the jobs posted by establishing a unique job code, to be mentioned when the lead called the toll-free number. Unfortunately, people who called in response to the job often did not use the code, and the operators did not attempt to elicit the code. We also learned that many of the leads were credited to the Navy Internet recruiting site, which was the default for anyone mentioning the Internet as a source. See [2] for more information.

of contact for each of the jobs that we posted to America's Job Bank. For each job posted, we included the name, phone number, and e-mail address for cyberspace recruiting.[6]

In April we began to repost all of the jobs to AJB. In addition, we added several other free sites that we thought would be productive, and gave the cyberspace team the web address of several sites that provided resumes free of charge.

We found numerous other free sites, and chose six for job posting. Appendix A contains information on all sites to which we have posted Navy ads, including both free and fee sites. Appendix B contains a list of the job titles and category of enlistment (enlisted, Medical Service Corps, etc.) that have been written for the Internet job sites. Table 1 summarizes the categories and corresponding number of jobs.

Table 1. Summary of jobs written for the Internet

Category of enlistment	Number of jobs
Enlisted	16
Medical Service Corps	9
Medical Corps	5
Dental Corps	1
Nurse Corps	3
General Officer	6
Total	40

6. Only one recruiter's name has been provided on all of the jobs: Chief Getty. He is in the career recruiting force (CRF) and is the most senior member of the cyberspace team. We believe that this is the most effective procedure at this point. If more recruiters were added, it might be beneficial to assign job sites to individual recruiters. But it is extremely time-consuming to change contact information on thousands of jobs. Unless the assignments were on a long-term basis, we see no particular compelling reason to change the POC.

College-related sites

One of the most interesting group of free sites that we discovered were those that served colleges exclusively. One of these sites is Resume Expert, which allows both posting ads and resume searches of over 250 colleges. This site has proved to have numerous glitches in terms of maintaining the jobs once posted. However, the free access to resumes of over 250 colleges provided by this site is invaluable. The employer can use a search engine that allows specification of the grade point average, degree, major, range of dates of graduation, foreign languages spoken, and computer skills required.

The second college related site is Employer Central (called Student Central for current students, and Alumni Central for graduates). Posting ads to this site is free to nonprofit organizations, but searching resumes involves a fee. We posted jobs to this site for a 1-year period, and they require no further maintenance. They serve over 1,800 colleges and universities (including community colleges). In addition to being able to access the jobs on the Internet, many college placement offices will print these jobs and post them on their bulletin boards.

Leads tracking

Throughout this process, we continued to learn more about this medium and to make modifications. One lesson we learned was the necessity to improve the method for identifying the site to which the lead was responding. We knew this would be vital when the Navy began using cyberspace as a POC for fee-based sites. So, we decided to create individual e-mail accounts for each web site. For instance, jobs on AJB direct the job seeker to e-mail the cyberspace recruiters at *navy_ajb@ntserv.nrc.navy.mil*, and jobs on Head Hunter ask the user to send e-mail to *navy_hh@ntserv.nrc.navy.mil*. There is no question which site is the source of a lead if the person first contacted cyberspace via e-mail. And, if the person makes first contact via the telephone or fax, the cyberspace recruiters make every effort to elicit the exact Internet site where the respondent first saw the job ad. As we will discuss later, this still has not eliminated the uncertainty of the source of the lead. Unless individual fax numbers and phone num-

bers are established for each site, we believe that the identification of the exact source of the lead cannot be improved significantly.

At the same time that we were helping to establish the cyberspace recruiting efforts, CNRC Code 80 had been conducting a 3-month experiment with posting ads to a number of fee-based Internet sites, using the toll-free number and the Navy Jobs web site as points of contact for additional information. Based on the results of their experiment, and on our work with cyberspace, the decision was made to continue to post to fee-based sites, but to use cyberspace as the POC. We made our recommendations of which sites these should include, and in August we began posting to 11 fee-based sites with cyberspace as POC. At that time, separate leads codes were created for all of the Internet job-posting sites. Each time a lead was referred to the field, the cyberspace recruiters also faxed information pertaining to the lead to the Navy's leads tracking center.

The next subsection describes in detail our methodology for choosing these sites, a summary of some lessons learned, and an analysis of the cost-effectiveness of these efforts for August through November 1998.

Criteria for choosing paid sites

In this initial effort, we took a qualitative approach to choosing sites. We took this approach because we had no historical baseline to determine which criteria are most important for a productive site. Our goal was to choose a limited number to begin posting job ads, to track their cost-effectiveness over a short period of time, and to use this information as a benchmark for future sites. These criteria include:

- **Cost.** This can range from as low as a few hundred dollars to as much as $70,000. The cost of most sites includes posting an unlimited number of jobs, which in most cases best suits the needs of the Navy.
- **Availability of resumes.** If the site did not include resumes, we did not automatically exclude it. However, this factor was weighed against the yearly cost. We tended to rule out very expensive sites without resume searches.

- **Types of jobs listed.** Are a majority of the jobs for mid-level executives, or are there a sufficient number of entry-level positions? Also, does the site include jobs for both high school graduates and college graduates?
- **Volume of jobs.** The rationale is that a larger volume of opportunities implies a larger volume of users.
- **Volume of traffic.** This is always a difficult measure, especially for comparison purposes. Each site has a different way to measure traffic, as we discussed previously.
- **Hotlinks.** Most high-volume sites pay to be hotlinked on other sites. This is yet another measure of potential users of the site, with more hotlinks implying greater volume.
- **Organization of jobs.** Some sites require the user to specify one city or a limited number of particular cities in the search. Other sites allow the seeker to look for jobs statewide or nationwide. Sites that require the job seeker to specify a city have a few disadvantages when posting a large number of jobs for nationwide viewing. Each job needs to be posted in as many as 150 to 200 individual cities (allowing for 3 to 4 large cities per state). With about 30 unique jobs, that means posting 4,500 to 6,000 entries on that particular site. In addition to posting, these jobs require updating or refreshing, as will be discussed later. This makes these types of sites very time consuming. Even so, they can be cost-effective. But their organization may also be related to the types of people using the site. For instance, those who choose to search for jobs on a site that requires a specific city may only be interested in working in their hometown, or be willing to relocate in only a limited number of cities. These types of people may not be as interested in joining the Navy, for which relocation is almost a certainty.

Cannibalizing

Another consideration in our selection of paid sites, particularly in choosing the mix of top sites, is the potential for cannibalizing. Cannibalizing refers to the fact that Internet job seekers will, most likely, search more than one site. The probability is high that seekers who

search multiple sites will hit at least one of the top sites. So to post ads on more than one of these sites might not generate a significant increase in the total number of leads. Instead, the same people who would have responded to a single-posted Navy job will be responding on multiple sites. Thus, the other sites cannibalized the leads that would have resulted from only one site, with little or no increase in total leads.

What is the best way to know whether such a phenomenon is occurring? We chose what we believed to be the least expensive of the top sites — Online Career Center and Espan (now called Job Options)— for the Navy to begin posting, both of which cost less than $6,000 for unlimited jobs for one year. We ruled out some of the other top web sites because of their cost. These include Monster Board and Career Mosaic, both of which would cost over $60,000 per year. We thought that it would be more cost-effective to learn from less expensive sites and to become more proficient with this recruiting medium. We have now been tracking the success of these sites for several months. With this historical data, the Navy could begin to post on some of the other, more expensive top sites to determine whether cannibalizing is an issue. If the leads from these two sites decreases drastically with the addition of other sites, this may not be enough reason to discontinue advertising on the more costly sites. It may prove to be the case that, even with cannibalizing, the cost per lead or cost per contract is still much better than for other types of lead-generating activities.

Maintenance costs

The amount of labor it takes to maintain the site is a factor that we did not include in our original assessment of sites, primarily because this piece of information is not usually available before actually posting on the site. Some sites, because of the way jobs are organized or the method for posting or for refreshing, can be much more labor intensive than others. For instance, sites that require jobs to be posted by city involve significant additional time not only to post but to refresh jobs. And sites with a large volume of jobs in which the most recently posted appear first in a job search will result in a far greater number of leads if they are refreshed more frequently. The greater

the volume of jobs on a particular site, the more often jobs need to be refreshed.

Some sites require the jobs to be reposted on a fairly regular basis (say, every 3 months) or else they expire. These sites require more time than those in which the jobs will remain active until the contract runs out.

We also note that sites differ as to whether the site allows the employer to post the job, whether the site itself posts the job, or whether there is an option. At this point, we have no evidence as to whether this, in itself, should be a determining factor. For those sites that do not allow the employer to post, the time involved in putting the job together in a format that is necessary for that individual site and monitoring how the job is then ultimately listed is just as time consuming as actually posting the job yourself. This also means that the response time in changing information or adding or deleting jobs is slower for these sites—but most will respond within 24 hours.

Finally, sites also differ as to whether the employer has direct access to such information as the number of accesses to each job or to the resumes of those responding, whether the employer can request this information on a biweekly or monthly basis, or whether this information is available at all. While such information is nice to be able to have, ultimately the most important criterion is the number of leads and contracts a site produces, which is information that CNRC personnel can produce and track.

Internet site activity

Before we present data pertaining to the activity of these job sites, we would like to make a few points. First, as is the case with almost all lead-tracking efforts, it is not possible to correctly identify the source of all leads. In the case of the Internet job sites, we can point out a variety of reasons. We know with some certainty the source for individuals who first contact the Navy via an e-mail message because each site has a unique e-mail address.[7] But even this can be misleading because many of the sites cross-post to other, usually free, job-posting sites as part of their service. So, a lead could be responding via the e-mail address for Careerweb because he or she saw the job posted on

Head Hunter. This will cause some inaccuracies in the data, but we presume that these errors are relatively small.

However, when someone first responds to a job either by telephone or fax (and in some rare cases, by mail), the chore of identifying the precise source of the lead is more difficult. The recruiters in cyberspace ask specifically on which Internet site the lead first saw the job posting, but often they are unable to recall correctly. For the period under analysis, almost 28 percent of all referred leads are in this category.

Summary statistics

Our detailed analysis covers August through November, which is the period in which jobs were posted to both free and paid sites. But first we want to summarize the data across all sites for the *entire* period of April through November:

- Enlisted contracts number 26
  - A significant portion were in critical ratings/fields: 3 - Nuclear Field, 2 - Advanced Electronics/Computing Field (AECF), 1 - CTI, and 1 - SEAL.
  - At least 16 were from free sites.
  - Almost all were contracted within 30 days of referral to the field.
- Officer contracts number 9
  - The breakdown follows: 3 Medical Service Corps (all have Master's degrees), 3 NUPOC, 1 Dentist, 1 Pilot, and 1 Surface Warfare Officer.
  - At least 3 came from free sites.
  - Most took about 3 months to process from the time they were referred to the field.

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7. In rare circumstances, even this is not accurate. For instance, there is only one e-mail account that has been assigned for all trial sites *(recruiter@ntserv.nrc.navy.mil)*. Therefore, it is not possible to determine the exact source of leads who first contact the Navy at this e-mail address.

Now for the summary statistics for the period under analysis, August through November only:

- Of 5,205 gross leads generated, 260 were referred to the field.[8] Of these 260 leads, 65 were enlisted.
- 12 enlisted and 4 officer contracts have resulted. The conversion rate of the enlisted leads to contracts is 18.5 percent. The national enlisted Program Eligible Lead (PEL)[9] conversion in FY 1998 was 5.4 percent. The cyberspace conversion rate for officers is 2.05 percent, compared to a national rate of 1.87 percent in FY 1998.[10]

Site-specific analysis

Table 2 presents information pertaining to the activity of each of the sites, both free and fee-based, as well as the cost-effectiveness of these sites. While the free sites are free to the employer to post jobs, the Navy still incurs a cost in personnel time to input, monitor, and edit jobs on these sites. We estimated an annual cost of $40,000 for these activities,[11] or $13,333 for the 4 months under analysis, and apportioned this evenly over all of the sites.[12] In addition, our analysis

8. A lead is referred to the field after the person is blueprinted by a cyberspace recruiter and given the opportunity to ask questions about the job. Blueprinting involves determining eligibility based on age, education, health, weight, and height, as well as criminal and drug use criteria. If the person meets these eligibility standards and, after having initial questions answered, are still interested in joining the Navy, he or she is then referred to a local field recruiter.

9. PEL leads are screened on the basis of age and education only.

10. Source: CNRC Code 80 personnel.

11. We assume that it would require one full-time person (e.g., a GS-6 government employee) full-time to perform these duties. The 1999 pay for this paygrade is about $23,000. With this as a base, we use an estimate of $40,000 to include the cost of total compensation.

12. We defined 16 different sites: 15 are actual Internet sites, and the last is a combination of many free sites that either require little maintenance or were only posted to for part of the year. These sites include Yahoo classifieds, Help Wanted, JobSurfShop, Resume Expert, Monster Board (which was provided free of charge to the Navy for a 2-month trial period), and Employer Central.

includes only the cost to post jobs on the site, and does not include the cost of banner advertising. No banner ad was purchased on any of these sites during the time under analysis, so our evaluation is only of the effectiveness of the job ads. Banner ads were posted to some of these sites during the month of December, but it is beyond the scope of this project to incorporate an analysis of Internet banner advertising.

Table 2. Analysis of Internet job-posting sites for August through November

Internet site	No. of leads	No. of referred leads[a]	Percentage of total leads who are referred	Cost ($) Per year[b]	Cost ($) To date	Cost ($) Per referred lead[c]
Nonmedical sites						
American Jobs	51	2	3.9	5,200	1,733	866.50
America's Job Bank	390	43	11.0	2,500	833	19.37
Career City	233	10	4.3	4,965	1,655	165.50
CareerWeb	196	13	6.6	6,250	2,083	160.23
College Grad Job Hunter	53	7	13.2	3,300	1,099	157.00
E-Span	190	8	4.2	8,065	2,688	336.00
Head Hunter	309	15	4.9	2,500	833	55.53
Job Trak[d]	122	7	5.7	42,340	3,528	504.00
JobBank USA	909	7	0.8	4,400	1,466	209.43
JobWeb	211	10	4.7	6,820	2,273	227.30
Nation Job	337	19	5.6	7,175	2,391	125.84
Online Career Center	1,226	21	1.7	7,220	2,406	114.57
Unknown or other[e] source	825	89		2,500	833	N/A
Total	5,052	251		103,235	23,821	94.90
Medical sites						
Med Bulletin	48	4	8.3	2,500	833	208.25
Physican's Employment	36	1	2.8	11,980	3,993	3,993.00
Practice Link	69	4	5.8	7,600	2,533	633.25
Total	153	9		22,080	7,359	817.67

a. We define referred leads as those that have been blueprinted by the recruiters in cyberspace recruiting, and who are still interested in the Navy after a preliminary discussion with a cyberspace recruiter.
b. The cost of each site includes a $2,500 annual administrative cost ($40,000/16).
c. "Totals" in this column are actually averages, calculated as the cost to date divided by number of referred leads.
d. The Navy began posting to Job Trak in November.
e. We have assigned this category the cost of a free site only. But because many of the leads are from unknown sources, it is not appropriate to calculate a cost per qualified lead for this category.

Referring to table 2, we have calculated the cost of a blueprinted, referred lead to be $95 for nonmedical and $817 for medical leads for all sites throughout this period. All medical and nonmedical sites have generated both officer and enlisted leads.

The most cost-effective sites, in terms of cost per referred lead, are two free sites: America's Job Bank and Head Hunter. The cost of a referred lead for the next most cost-effective site, Online Career Center, is over twice as expensive as Head Hunter, and almost six times the cost of America's Job Bank. These are relative costs, however. In comparison to the cost for eligible leads at a national level, almost all of these sites are cost-effective. For instance, in FY 1996, the cost per eligible national enlisted lead ranged from $5 to over $2,000. For officers, this range was between $8 and $8,000.[13]

The ultimate measure of cost-effectiveness is the cost per contract. The simplest way to calculate this is to divide the total cost for the sites to date by the number of contracts, which yields an average of $1,949.[14]

These contracts are a mix of enlisted and officers, and we can refine this number to assign costs to enlisted versus officer recruiting in a variety of ways. We offer the simplest. If we divide the cost of the nonmedical sites evenly among officer and enlisted recruiting, but assign all of the cost of the medical sites to officer recruiting, the average cost of a contract is $993 for enlisted and $4,817 for officers. (This may not seem equitable because some Hospital Corpsman jobs are posted on the medical sites, but most likely the Navy would not pay for these sites if these were the only jobs that could be posted. In other words, the Navy is posting on these sites primarily to attract officers.)

But it is not necessarily the case that the cyberspace efforts should be evaluated based only on the perspective of a lead-generating activity. In other words, the cyberspace recruiters perform more of a recruiting duty than simply blueprinting leads. Much of the time that is

13. Source: CNRC Cost Per Lead Report FY 1996 Funding.

14. The total cost to date is $31,180. This sum divided by 16 equals $1,949.

spent in either e-mailing or talking to leads on the phone is devoted to recruiting—answering questions, allaying concerns, advising, and so on. So, in that respect, these two recruiters can be thought of as a mixture of leads personnel and recruiters. It seems reasonable then to also compare their performance to field recruiters. The metric that is usually used for productivity of field recruiters is the Production Per Recruiter (PPR), measured as the number of contracts per recruiter per month. Thus, for the 4 months under analysis, the PPR for the two recruiters is 2.0 each. This includes both enlisted and officer contracts, and is significantly higher than the 1.10 national PPR for enlisted recruiters during the same time period.[15]

Discussion

The cost-effectiveness of the Internet job-posting efforts should improve over time for the following reasons:

- When we first started to post to the paid sites, it took several weeks to completely post all of the jobs to a large number of geographic areas on all of the sites.
  - A complete set of jobs, covering all of recruiting's needs, did not exist when we posted ads in the fall of 1998. For instance, no nurse ad was written until late January 1999, and an ad for the engineering corps was not provided to cyberspace until June 1999. All ads should be periodically inventoried to verify that they are current and comprehensive.
- We have been learning new techniques as we go. More experience is needed to perfect this type of recruiting.
- Four months is a relatively short period of time for analysis because of the seasonal nature of employment. For instance, graduating high school and college seniors will probably intensify their job search efforts in the first half of the calendar year, and these months are not included in the analysis.
- The field, in general, does not value national leads as much as other lead-generating activities. When the cyberspace recruiters

15. Source: December 1998 Monthly Recruiting Brief to CNP.

first started referring leads to the field, they often met with resistance, wariness of the Internet as a source of good leads, and so on. Much of their time was spent in explaining what cyberspace recruiting was and how they obtained the name of the lead. Over time, the reputation of these leads as being good ones has spread, but more time is required to make the field more comfortable with leads from this source, and to appreciate that this type of lead may require a more rapid response than others.

Lessons learned

Our experiences have taught us much about using the Internet as a resource, as well as the use of cyberspace recruiters. We describe these findings in this section.

Staffing

The cyberspace effort has been understaffed, relative to the volume of responses generated by the job postings. Until mid-June 1999, only two recruiters had been assigned to this effort. The primary duties of one of these was phone followup and blueprinting of leads, but he was also the command career counselor. The other recruiter primarily managed responses via e-mail and performed administrative duties. Even though they frequently took turns answering e-mails over the weekend, there have been many days in which the cyberspace team was missing one or both of the recruiters. For instance, of the 82 weekdays available from August 1 through November 30, leads were sent to the field on 63 days, or 77 percent of the time. Many of the remaining days were unmanned or undermanned either because of annual leave, other collateral duties, or sick leave.

This also means that the resume-searching capability of these sites has not been exploited. As mentioned previously, these referrals are typically not as productive as leads, but they do have the potential to generate contracts. Because the cost of this service is included in the total cost of the paid sites, CNRC personnel may decide that this is a cost-effective use of the cyberspace recruiters' time.

Since we first wrote this paper, CNRC has made significant manning increases. Six cyberspace recruiters are currently on board, and three more should arrive by mid-July. CNRC has also authorized one GS-6 billet and one GS-11 billet for administrative functions, such as job posting and updating.

Technology glitches

If the telephone or mail service was nonfunctional for only a fraction of the time that the Internet or e-mail capability is, most companies would find the situation intolerable. Yet, difficulties with servers are a fact of life for the Internet and electronic mail, and they create some interesting problems for cyberspace recruiting. We outline some of these glitches in appendix C.

Upkeep of sites

As we discussed previously, each site varies in the way that jobs are entered, are listed in a job query, are updated, and expire. For sites that list jobs in order of entry—with most recently posted first—the number of leads generated can be significantly increased by refreshing or reposting on a fairly frequent basis. Whether to refresh (usually this means hitting the edit button for each job but not changing anything on the job) or to repost depends on the job query protocol, and whether refreshing is even an option. We have found some sites that order jobs by date of last modification and some that order them only by date of entry, regardless of modifications. And for some sites, jobs are listed alphabetically in a job search query, in which case there is no need to refresh.

For sites that will not allow the employer to post, we recommend that frequent reposting or refreshing be a part of the contract. The Navy is currently posting job ads to two sites that do not allow the employer to post jobs directly. The first, Nation Job, orders jobs alphabetically. For the other, American Jobs, jobs are ordered chronologically. This latter site has not proved to be very cost-effective for this reason, in addition to the fact that it does not currently support resumes, and that its keyword search and geographic search capabilities do not seem to work very effectively. In recent discussions with the POC for this site, the POC has indicated that American Jobs is interested in working with the Navy to improve the performance of the jobs.

Shortcuts for posting and maintaining sites

As we have stated, it is time-consuming to post and maintain jobs on each of these sites. The time required can be cut drastically with the use of site-specific programs to automate the process. This requires writing a program for each site, which may take one or two days, at most, but the time can be used to repost or refresh throughout the year, or until the site changes its procedures.

We have written automation programs for web sites that are relatively difficult or time-consuming to post to manually or to update. We used Borland C++ Builder for a few programs, and JAVA for text and database parsing. We believe that JAVA is the preferred language because of its cross-platform compatibility and because it is nonproprietary. We have provided these programs to the cyberspace recruiters, but we would like to note some lessons we learned in this process:

- Write programs for the harder-to-manage sites. It saves time in the long run.
- Check sites to see if they have any major changes planned in the near future before writing the programs.
- For sites that require updating or refreshing manually, allow several days to refresh so that they do not expire before you are able to attend to all of them (this is very important on sites where the Navy is maintaining 1,000 or more jobs).
- Keep track of when jobs expire, and make sure that they are refreshed before that happens. It is far more time-consuming to post jobs than to refresh them.

Cyberspace recruiting model

In addition to providing a basis for experimenting with recruiting on the Internet, the cyberspace recruiting efforts have also been an experiment in a different method of processing leads. Adopting some aspects of this model of lead processing and applying it to national as well as cyberspace leads could prove beneficial to the Navy's recruiting efforts. These aspects include:

- **Blueprinting.** The higher conversion rate for cyberspace-referred leads may well be a result of blueprinting and the fact that cyberspace leads are more thoroughly screened than other national leads. The better screened that leads are, the more incentive it provides for field recruiters to quickly follow up on them, which may translate into more new contracts from the same set of leads.

- **Response.** When fully staffed, cyberspace recruiters provide timely *recruiter* response to a lead. For instance, those who call the cyberspace toll-free number are immediately in contact with a recruiter. In addition to blueprinting the lead, the recruiters routinely answer questions about the nature of the work, the Navy, promotion potential, and the like. In contrast, those who call the 1-800-USANAVY toll-free number do not speak with a recruiter until a later date.

- **Liaison.** Cyberspace recruiters act as a liaison between the field recruiters and the leads. The cyberspace recruiters follow up with the recruiters on each of the referred leads on a monthly basis. This is time-consuming, but it may be part of the reason for a higher cyberspace leads conversion.

- **POC.** Cyberspace recruiting provides a referred lead with an alternate point of contact in case problems arise in the communication between the field recruiter and the lead.

Recommendations

Internet

The question is not whether the Navy should continue to invest in the Internet as a recruiting and awareness tool, but rather how much and how fast. Based on the rapid growth of the use of this medium, particularly by the younger targeted age group for Navy recruiting, we urge CNRC to invest more, both in terms of money and personnel, in job posting on the Internet.

In this document, we have described the lessons learned from the relatively short experiment. Based on our experiences, we offer the following recommendations to increase the cost-effectiveness of this medium:

- Cyberspace recruiting has been seriously understaffed relative to the volume of responses generated by the job postings. Without an increase in personnel, the full value of the Internet job-posting efforts cannot be realized.
  - Additional recruiters are needed to make sure that there is always someone available to answer the phones during business hours and to ensure that e-mail messages are answered in a timely fashion (e.g., within 24 to 48 hours). CNRC is in the process of increasing to 9 cyberspace recruiters, which should address the current needs of cyberspace. However, if more sites or functions are added (chat rooms, online job fairs, etc.), additional personnel may be needed.
  - It is likely that many resumes of eligible leads available on the Internet are not being used. Searching the sites frequently for newly posted resumes would increase the chances of contacting these potential leads before they choose other employment opportunities. Some of these people may have previously been contacted by the Navy and

were not interested at that time. However, once they post their resume online, they are in an active job-seeking mode, at which time Navy opportunities may be more attractive.

— CNA has served the function of posting and updating jobs since April, for the purpose of this experiment. We believe that to maximize the number of leads generated from these sites, one person should be assigned full-time at headquarters to perform these duties to update, repost, and maintain the jobs. This would also include checking on a fairly regular basis to make sure that the jobs are accurate. And, another person should be assigned the job of liaison with Program Area Managers and Program Heads to ensure that jobs are accurate (in terms of eligibility, bonus amounts, etc.) and that a complete and accurate mix of jobs is posted; of keeping track of the activity of sites to ensure the cost-effectiveness of each site; and of keeping current with this market in terms of new sites to post to, new methods of using the medium, and so on. These job functions could be accomplished with civilians because they do not require specialized recruiting knowledge or expertise. It is our understanding that the GS-6 billet, cited earlier, will serve this function once it is filled.

- As the volume of leads increases, the cyberspace recruiting effort will require additional equipment. Specifically, more than the one fax currently being used will be required, and a better phone hardware would be useful.

- More job descriptions need to be written that cover all of Navy recruiting's needs. Because the fees for most of the sites are for unlimited jobs, an increase in posted jobs will result in more leads without additional cost. At minimum, more jobs need to be written for Medical programs, JAG, Civil Engineering Corps, and Intelligence, and enlisted programs.

- Experiment with different types of job descriptions to determine which job titles, occupational categories, or job summaries are the most effective. For instance, is it better to have one job titled "engineer" on a site or to have multiple jobs, all with

the same description, but with more specific titles such as "electrical engineer," "chemical engineer," etc. We have not been able to experiment with this to date.

- Improve the field's processing of these leads by spreading the word on the conversion ratio from blueprinted cyberspace leads into contracts. Internet users require timely response, but the field has not always responded in a timely fashion.

This experiment has also resulted in the following issue. Should cyberspace recruiters be treated as lead-generating personnel, similar to a district leads center? Or should they be evaluated more as field recruiters? As we have noted, they provide both functions. It is our firm belief that the timely response from a recruiter who can answer questions and do an initial sales job, which is what the cyberspace recruiters do, is very valuable.

Our recommendation would be to goal cyberspace recruiters in a similar way to field recruiters, and to treat them in all aspects as field recruiters are treated. As the field becomes aware of the high conversion rate of cyberspace leads, we believe that the two "recruiters" (cyberspace and the field) will work more closely as a team, ultimately resulting in more contracts.

Leads processing

Cyberspace recruiting has provided an experiment not only of Internet recruiting, but of a different method of leads followup, which may benefit CNRC if used as a general model of leads processing. When fully staffed, the cyberspace model is one in which leads are blueprinted, in quick contact with a recruiter, and provided with additional followup. We believe that these features have the potential to benefit Navy recruiting, regardless of the source of the lead.

Appendix A: List of Internet job-posting sites

Table 3 is an alphabetical listing of major job-posting sites on the Internet.

Table 3. Internet job sites

Name	Location
American Jobs	www.americanjobs.com
America's Job Bank	www.ajb.dni.us
CareerCity	www.careercity.com
CareerWeb	www.careerweb.com
College Grad Job Hunter	www.collegegrad.com
Employer Central	www.employercentral.com
Head Hunter	www.headhunter.net
Help Wanted	www.helpwanted.net
Job Bank USA	www.jobbankusa.com
Job Options (ESPAN)	www.joboptions.com
Job Trak	www.jobtrak.com
Job Web	www.jobweb.org
Med Bulletin	www.medbulletin.com
Nation Job	www.nationjob.com
Online Career Center (Monster)	www.monster.com
Physicians Employment	www.physemp.com
Practice Choice	www.practicechoice.com
Practice Link	www.practicelink.com
Resume Expert	www.resumeexpert.com

Appendix B: Job ads wrritten for cyberspace recruiting

Table 4 is a list of ads, by job title and category of enlistment, that have been written for Internet job sites.

Table 4. Job titles and enlistment category of cyberspace jobs

Title	Category
Administration, Clerical and Data Analysis	Enlisted
Aerospace Experimental Psychologist	Medical Service Corps
Air Traffic Controller	Enlisted
Aviation	Enlisted
Aviator	Officer
Biochemist	Medical Service Corps
Chaplain, Imam, Minister, Pastor, Priest, Rabbi	Officer
Civil, Mechanical, Electrical, Environmental Engineer or Architect	Officer
Clinical Laboratory Technician	Enlisted
Clinical Psychologist	Medical Service Corps
Communication and Telecommunications	Enlisted
Computer Opportunities	Enlisted
Critical Care Nurse	Nurse Corps
Dental Hygienist	Enlisted
Dentist	Dental Corps
Dietitian	Medical Service Corps
Electronics	Enlisted
Engineer	Officer
Family Practitioner (Resident Student)	Medical Corps
Financial Management	Officer
Foreign Language Specialist	Enlisted
Healthcare Administrator	Medical Service Corps
Infant Maternal Nurse	Nurse Corps
Information Systems Analyst	Officer
Intelligence	Enlisted

Table 4. Job titles and enlistment category of cyberspace jobs (continued)

Title	Category
Mechanics	Enlisted
Obstetrician/Gynecologist (Resident Student)	Medical Corps
Optometrist	Medical Service Corps
Orthopedist	Medical Corps
Pediatrician	Medical Corps
Pharmacist	Medical Service Corps
Pharmacy Technician	Enlisted
Physical Therapy	Medical Service Corps
Physician Assistant	Medical Service Corps
Radiographer	Enlisted
Radiologist (Resident Student)	Medical Corps
Rocket Engine Mechanic	Enlisted
Science, Math, Engineering Opportunities	Enlisted
Surgical Nurse	Nurse Corps
Surgical Technologist	Enlisted

Appendix C: Summary of technology glitches

The following paragraphs describe some of the difficulties we have encountered.

An individual job site may go out of service, perhaps for hours and maybe even days. Unless recruiting personnel monitor each site constantly, there is no way of knowing when these outages occur. It becomes more apparent when long-term outages occur because an e-mail account for a particular site receives no messages for one or more days. Little can be done about this problem. However, some sites will extend the contract, free of charge, for the number of days that a site was out of service.

A site "renovates" its look and the way that jobs are posted.[1] In some cases, the jobs no longer look the same and contain errors. In other cases (usually only for free sites), the new site is no longer attractive for Navy recruiting purposes. We have found that the personnel at the job sites are not very good about informing their clients of changes. For now, the best solution is for recruiting personnel to periodically access each site and try to conduct a few job searches that they are sure should result in Navy jobs.[2] We recommend that this be a biweekly activity.

The mail server at Navy headquarters was out of service for several days. This happened once during the period under analysis.

1. Since we began in April, ESPAN, AJB, Help Wanted, and Job Surf Shop have made major changes. Also, Online Career Center merged with Monster Board in January 1999.

2. For instance, we recommend that Navy personnel conduct a search query for an engineer, with a Bachelor's Degree in the state of Iowa. Iowa is a good choice because fewer ads will be placed on that state than in many others, and the recruiting personnel will not have to wade through hundreds of jobs to find the Navy's.

Fortunately, when the system was repaired, some and possibly all, of the messages that had been sent to cyberspace while the server was unavailable were accessible. However, this meant that some job seekers, who typically expect an almost immediate response to an e-mail inquiry, may have lost interest in the Navy. We do not know of a simple solution to this problem. One way to ease this problem is to provide as many means as possible for a job seeker to contact the Navy in each job, which is what we have done. However, while the server is unavailable, there is no way to let job seekers know that their e-mail messages did not arrive.

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Distribution list

Research Memorandum 99-14

SNDL

A5 CHIEF OF NAVAL PERSONNEL

FJB1 COMNAVCRUITCOM MILLINGTON TN

Attn: 00
Attn: 00B
Attn: 30
Attn: 35
Attn: 36
Attn: 70
Attn: 80

OPNAV

N13

OTHER

OSD OSD MILITARY PERSONNEL POLICY

Attn: VADM TRACEY

OSD OSD ACCESSION POLICY

Attn: DR STEVE SELMAN