Designing a system for career development and advancement in the U.S. Navy

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Abstract

The Navy is undergoing fundamental changes that will likely alter the nature of work and worker requirements. At the heart of their human resource management strategy are five distinct competency areas: professional development, personal development, leadership, certifications and qualifications, and job performance. These five areas, called “vectors” by the Navy, form the foundation around which the Navy identifies the knowledge, skills, and abilities which Sailors need to succeed. As part of this HR transformation, the current research describes the design of a career development and advancement system. The primary component of the system is a weighting algorithm that links performance across all five areas to advancement to the next paygrade. The system is designed to compute an advancement score based on achievement of defined milestones across all five competency areas of concentration. It does so by defining the career paths associated with a member’s development across these five areas; and identifying the advancement potential for recruit, apprentice, journeyman, and master-level personnel across every occupation in the U.S. Navy. In addition, this scoring system will be transparent such that personnel can view their own record at any time and assess what they might do in their career to improve their relative standing for future advancement. These results will also be used by future promotion boards to guide their selections.

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Several years ago, in a special issue of Human Resources Management Review, Feldman (1999) commented that the notion of “managing careers” had entered the public consciousness as an important issue, in part because of the increased layoffs and restructuring of the 1980s. Brousseau, Driver, Eneroth, and Larsson (1996) suggested that careers and career opportunities are in pandemonium due to the progressive destabilization of relationships between people and organizations, and they argued for “hybrid structures and career cultures” that build bridges between organizational and employee needs. In fact, Hall and Mirvis (1995) have suggested that careers no longer belong to organizations, but to individuals, and that organizations will be unable to meaningfully plan a person’s career. Consequently, career ownership takes on new meaning; workers now must assume responsibility for their own career management, with a new strategic focus on self-directed and continuous learning of new skill sets and adaptability to change. In short, these authors suggest that new career is about experience, skill, flexibility, and personal development.

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Although the responsibility for career management may be coming to rest more with individual workers, it is in the best interests of organizations to assist with the process, because better career self-management can lead to less obsolescence and more motivated and satisfied workers (Sterns & Kaplan, 2003). Indeed, it is incumbent on firms to make sure that employees are exposed to a variety of challenging work assignments, develop not only performance-related skills, but the “meta-skills” needed for long-term adaptability (Hall & Mirvis, 1995). From an organizational viewpoint, strategic career management programs based on careful HR planning can help organizations keep valued employees. With careful foresight, career management functions can help organizations more nimbly adapt to changing circumstances by keeping accumulated expertise and experience while continuously refreshing skills.

Feldman (2002) pointed out that researchers have increasingly begun to examine how the nature of traditional career paths, individual career management strategies, and organizational career management practices are changing in conjunction with increasing environmental complexity. He also suggested that career plans are shaped by previous work histories, current skills and interests, and long-term plans for the future; and evolve over time.

A number of years ago, Hall (1986) defined a career as “a sequence of related work experiences and activities, directed at personal and organizational goals, through which a person passes during his or her lifetime, that are partly under their control and partly under that of others” (p. 13). Important components of this definition include: (1) a long-term perspective, (2) the notion that career effectiveness is linked to both personal and organizational goals, and (3) an understanding that career outcomes result from both individual efforts, and outside forces over which the individual does not have complete control.

1. Career development

The career development process, then, can be addressed from two complementary perspectives. The first is from the perspective of the individual employee who is attempting to plan his or her career in a productive and rewarding manner. This career planning process involves becoming aware of opportunities, constraints, choices, and consequences; identifying career-related goals; and engaging in work, education, and related developmental experiences aimed at attaining specific career goals.

The second perspective relates to the activities of the organization that will effectively select and develop employees to meet future organizational needs. This organization-level career management is an ongoing process of preparing, implementing, and monitoring career plans undertaken by the individual alone or in concert with the organization’s career systems (Hall, 1986).

Morrison (1986) suggested that a career development model should provide a bridge between the organization and the individual. Under such a scenario, the organization defines its long-term requirements in the form of target competencies, formulates opportunities for individuals to develop those competencies, and communicates this vision to its members. Individuals are then able to use the information to make career decisions and plan their own development and career moves.

Responsibility for career management, then, lies both with individuals and with the organization which employs them. Such a notion also assumes that employee career effectiveness will be greater when the individual and organization carry out their respective career management roles. Orpen (1994) specifically investigated the separate and joint effects of organizational career management and of individual career management on the career success of individual employees. He found that employees are more successful in organizations with formal policies for managing careers than in those with informal or no such policies. In addition, organizations which support the development efforts of their employees were found to be more successful.

Based on these findings, Orpen suggested that employees should be formally encouraged to manage that part of their careers over which they have control by identifying what they want from their careers, and deciding how to realize these goals in the light of their own strengths and weaknesses. He also suggested that when organizations and individuals share responsibility for the careers of employees, the employees are likely to have more successful careers, both objectively and in terms of their career experiences.

2. Strategic human capital management

In recent years, there has been a growing emphasis in the workplace on an organization’s ‘human capital’ as a way to underscore the notion that “people are an organization’s most important asset.” Yeatts, Folts, and Knapp (2000) discussed two philosophical models representative of human resource management practices. They labeled these two approaches the
“depreciation” model and the “conservation” model. The depreciation model implies that an individual’s value to an organization peaks early in a career, levels off at mid-career, and steadily declines until retirement. The alternative approach is the conservation model, which views employees of all ages as renewable assets that will yield a high rate of return over long periods of time, if they are adequately educated, trained, and managed.

This perspective suggests that everyone has the capability to grow in some way, at anytime during their career. Thus, an important component of strategic human capital management is understanding and helping each individual realize that potential. By understanding who is adding the different kinds of value, and who has the potential to add future value, investments in people development can be planned and managed intelligently (Mayo, 2000). Such a philosophy emphasizes that organizations must make a long-term commitment to valuing human capital as a strategic asset. Long-term commitment and focus is needed for the organization to achieve effective strategic human capital management.

The tremendous reservoir of intellectual capital residing in employees can be realized by creating an environment of lifelong learning and individual opportunity. Comprehensive planning and management of investments in training, education and career/professional job opportunity allows an organization to cultivate its human capital potential. The aim of virtually every organization is a productive workforce. One of the most challenging strategic actions, therefore, is the development of employees during their tenure with the organization.

3. The Navy’s sailor continuum and five vector model

Certainly, for the Navy, people are an indispensable element in mission accomplishment. They not only play a critical role in determining the organization’s performance capabilities, but they also represent its institutional knowledge base and help define its culture. Consequently, maximizing the value of human capital is a function not just of specific actions, but also of cultural transformation. Because there is an obvious link between personnel quality and operational readiness, an organization’s approach to strategic human capital management should be judged by how well that vision, strategy, and process help the organization achieve results and pursue its mission.

Currently, the Navy is in the midst of profound changes—philosophical, structural, and technological. Understanding that fundamentally new ways of thinking and acting were necessary to meet these changes has led to new strategies for revolutionizing Navy strategic human capital management. This includes a renewed emphasis on approaching a Sailor’s career as a lifelong learning continuum gauged toward producing motivated and well-trained Sailors who possess the knowledge, skills, and abilities to do their jobs (Executive Review of Navy Training, 2001).

The goal of this Navy transformation, then, is to provide Sailors the opportunity to succeed and prosper in their professional and personal lives. At the heart of this initiative is what is known as “The Sailor Continuum,” which incorporates five distinct competency areas of concentration, labeled “vectors” by the Navy. These five vectors form the foundation around which the Navy identifies the knowledge, skills, and abilities (KSAs) which Sailors need to succeed in today’s Navy, and include: professional development, personal development, leadership, certifications and qualifications, and job performance. The Professional Development vector focuses on a Sailor’s ability to acquire job knowledge and skills through such sources as formal schools, correspondence courses, and on-the-job training. Personal Development emphasizes “life skills” needed outside the workplace, including physical fitness, core values, and financial-management skills. The Leadership vector focuses on the ability of an individual to accomplish the mission as well as mentor and develop others. Certifications and Qualifications focuses on unit-level and professional requirements with related industry certifications that are directly tied to job proficiencies. The Performance vector focuses on the measurement of a Sailor’s workplace performance.

This broad vision, conceptualized as part of the Navy’s Executive Review of Training (2001), envisioned the Sailor Continuum as an executable career roadmap and resume that precisely maps and measures an individual’s career progress and identifies learning resources that lead to achieving career milestones, as they move through the Recruit, Apprentice, Journeyman, and Master career levels. The belief is that by allowing Sailors to identify and diagram different career paths they will be better equipped to apply for educational opportunities and future duty assignments. The Sailor Continuum, then, and its five vector model, provided the conceptual framework for designing a process of clearly defined career paths with milestones, that when achieved, lead to career advancement.

3.1. Basic system design objectives

It was within this “Sailor Continuum” context that work began on the research effort described in this article. Our overall objective is the design, development, and implementation of a career development and advancement system for
officers and enlisted personnel in the U.S. Navy. The first component of this approach included development of a weighting scheme that links performance across all five vectors of the Sailor Continuum to advancement to the next paygrade. Doing so will help define the career paths associated with a Sailor’s professional development, personal development, leadership abilities, certifications and qualifications, and overall performance in the workplace. This, in turn, will lead to the production of an advancement score based on achievement of defined milestones across each of the five areas of career concentration.

In order to accomplish this, vector-level factors important for career development and advancement across a sailor’s career must also be identified. Tied to this requirement will be the identification and weighting of indicators of each of these factors for each vector. The final model will be capable of scoring officer and enlisted members on advancement factors, and displaying them as a relative measurement against their appropriate peer groups. Further goals include making the scoring system transparent such that personnel can view their own record at any time and assess what they might do in their career to improve their relative standing for future advancement. These results would also be used by future promotion boards to guide their selections.

3.2. Overview of the current research plan

Several primary components comprise the basics of this research plan. Phase 1 addresses development of the weighting scheme, and involves a policy capturing study where workshop participants are presented with profiles of Sailors with preset “scores” on the different vectors and asked to rate their promotability. Analyses of data from these workshops will essentially determine the relative weight of each vector, across multiple skill levels of officers and enlisted personnel (i.e., for officers—junior, mid-level, and senior; for enlisted—apprentice, journeyman, master).

Phase 2 involves gathering information to identify the scorable factors that reflect officer or enlisted standing on each of the five vectors. These scorable factors and the procedures used to identify and gather the relevant data may be unique for each vector. The system developed and implemented for the performance vector will be presented here in detail. This will allow us to illustrate one example of how work can be accomplished within a vector. Once factors are identified for each of the five vectors (and indicators of success within those factors) across skill levels for officers and enlisted personnel, the system will be “reality-tested” using the records of officers and enlisted personnel.

4. Phase 1—Development of vector weighting systems

4.1. Methodology

As mentioned, the objective of Phase 1 was to develop a vector weighting system based on the Navy’s Five Vector Model for officers and enlisted personnel. This was addressed by gathering the perspectives of a cross-section of Navy personnel concerning how accomplishments in each of these five career concentration areas contribute to overall promotability. Through application of a policy capturing methodology, profiles of mock officer and enlisted individuals with preset “scores” on different vectors were developed and the participants were asked in the study to rate the promotability of each “Sailor.”

Essentially, the policy capturing methodology is a general procedure designed to describe statistically the unique information processing strategies of individual raters. Multiple regression analysis is used to calculate the extent to which overall ratings are predictable given scores on separate dimensions or components (in the current situation, vectors), and the relative importance of each component in determining overall ratings (Naylor & Wherry, 1965).

Thus, the policy capturing analyses provide estimates of each participant’s weights for each of the five vectors. These weights can be interpreted as the importance the participant believes should be given to each vector in making advancement decisions at that experience level. The analyses also provided an index of consistency of policy for each participant.

During the policy capturing workshops, participants were presented with 120 of these mock profiles that represented a snapshot of Sailors’ accomplishments or level of performance on each of the five vectors. Different workshops focused on different skill levels for officers and enlisted personnel, but the 120 quantitative profiles were the same for all workshops. In addition, in order to provide a standard frame-of-reference for raters making decisions about the five vectors, vector definitions were provided to participants prior to rating the profiles (see Table 1).

Each profile depicts how that individual was assessed on a 7-point scale (1=low; 7=high) regarding accomplishments on each of the 5 vectors. The task of the workshop participants was to review each profile, consider how that individual’s
score on all of the individual vectors together contribute to an assessment of the individual’s overall promotability, and then rate the overall level of promotability using the 7-point scale. Participants were told that when using the promotability scale, it might be helpful to apply the following rule-of-thumb:

6–7: outstanding accomplishments; definitely promotable;
3–4–5: average level of accomplishment; consider promoting;
1–2: below average accomplishments; should not be promoted at this time.

A sample profile is presented in Fig. 1.

### 4.2. Officer data collection

Several workshops were conducted to capture the policies of the participants. The policy capturing task was done for three levels of promotions for Officer personnel: junior Officers, mid-grade Officers, and senior Officers. To make the task more concrete, we provided participants with a representative rank (and prospective rank) for each of the levels. They were junior Officers = O-2 being considered for O-3; mid-grade Officers = O-3 being considered for O-4; and senior Officers = O-4 being considered for O5/O6.

In all, 7 workshops were conducted across the three skill levels. Participants included 35 raters for junior Officers; 27 raters for mid-grade Officers; and 26 raters for senior Officers. This resulted in a total of 9600 profiles being included for the final analyses. Demographics for participants appear in Table 2.

### 4.3. Results and discussion

Table 3 presents the pooled, summary results of the policy capturing study for Officer promotions. As the table indicates, for advancement for junior Officers, job performance was clearly the most important factor, followed by
leadership, professional development, and certifications/qualifications. For advancement for mid-grade Officers, performance was still the most important factor, and in fact increased markedly from the previous level. Leadership also increased (but only slightly) from the previous level, while the importance of both professional development and certifications/qualifications dropped (especially for certifications/qualifications). Finally, regarding advancement for senior Officers, the importance of performance is again the dominant factor, although it has dropped somewhat from its mid-grade high, while leadership increased slightly.

The policy capturing research described here provided a scientifically sound approach for pooling the judgment and wisdom of experienced Officers regarding the relative weights that should be placed on each of the Sailor Continuum vectors in making advancement decisions. This study provided a way for the Fleet to collectively offer their judgment about advancement policy in the U.S. Navy, using the five broad competency concentration areas identified as important for advancement in the Navy of the future.

The basic finding was that job performance is overall the most important factor, and continues to be the dominant factor as rank progresses, within the Officer corps. In addition, leadership becomes increasingly important across the three levels, while certifications/qualifications drop consistently across the three levels. Professional development is

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<td>3</td>
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<td>5</td>
<td>6</td>
<td>7</td>
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Fig. 1. Scoring algorithm policy capturing ratee profile.

Table 2
Demographics for officer policy capturing workshops

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also an important factor at each stage in a Navy career, but to a lesser degree than either performance or leadership. Finally, personal development was afforded very little importance for the advancement of Officers.

4.4. Enlisted data collection

Several workshops were conducted to capture the policies of the workshop participants. The policy capturing task included three levels of advancement for enlisted personnel: recruit to apprentice; apprentice to journeyman; and journeyman to master. To make the task more concrete, we provided participants with representative ranks for each of the three categories. They were recruit to apprentice (E-2 to E-3); apprentice to journeyman (E-4 to E-5); and journeyman to master (E-6 to E-7).

In all, five workshops were conducted across the three skill levels; for two of the three levels, we conducted two workshops. For the third, a single workshop was conducted. Twenty-seven Sailors participated in the recruit to apprentice workshops; 32 in the apprentice to journeyman workshops; and 30 participated in the journeyman to master level workshops. Demographics for participating personnel appear in Table 4.

4.5. Results and discussion

Table 3 presents the pooled, summary results of the policy capturing study for enlisted promotions. As the table indicates, for advancement from recruit to apprentice level, job performance is clearly the most important factor, followed by professional development, leadership, and certifications/qualifications. For advancement from apprentice to journeyman, performance is still the most important factor, but leadership increased considerably in importance, and the weight for professional development decreased. Finally, regarding advancement from journeyman to master, participants weighted leadership and performance about equally important, with the rest of the vectors accounting for less than 20%.

Just as with the officer study discussed previously, the policy capturing research described here provided a scientifically sound approach for pooling the judgment and wisdom of experienced enlisted personnel regarding the relative weights that should be placed on each of the vectors when making advancement decisions. The basic finding was that job performance is overall the most important factor, but as rank progresses, within the enlisted corps, leadership becomes increasingly important, to a point where performance and leadership are roughly equally important. Professional development is also an important factor, especially early in a Navy career. And, certifications/qualifications have some importance at the lower and middle advancement levels. Finally, personal development was afforded very little importance for the advancement of enlisted personnel.

The general point is that each vector must identify or develop indicators of success, as well as accompanying metrics, to score individuals on the vector with enough granularity to provide variability amongst their peer group. When these scoring systems are developed within each vector, overall advancement scores can be computed using the
policy capturing results. Specifically, if a Sailor is, for example, being considered for advancement from apprentice to journeyman, the scores within a vector are weighted by the policy capturing weights. Thus, his/her professional development score is weighted by a factor of 10.62, his/her leadership score by a factor of 31.26, and so on. This approach fully utilizes the individual vectors’ scoring systems, but the overall advancement score is computed using the policy weights.

In sum, the policy capturing work has provided a framework that will reflect the Fleet’s conception of what is important for promotion at each level of advancement. The specific advancement algorithms and scoring systems are now ready to be built. What is needed is to identify or develop indicators of success within each vector and equitable scoring systems. The resulting advancement system will be merit based, will represent the Fleet’s values of individual effectiveness, and will be consistent with the Sailor Continuum model.

5. Phase 2—Defining the performance vector

The next requirement in building the career development and advancement system was to identify factors and develop indicators of success for all five vectors. We began by focusing on the Performance Vector, with the goal of devising a system that would depict the important factors for officers and enlisted personnel, as well as produce accurate measures of performance over time. It should be noted, that different techniques can be used to identify factors and success indicators for each of the vectors, and that the techniques illustrated next for the performance vector may not generalize—and do not need to generalize—to the other four vectors.

5.1. Approach

Three primary objectives guided this performance vector research and development effort. First, the tools would need to provide Navy supervisors with a mechanism for evaluating performance and offering performance feedback, as well as provide management with a process for offering long-term career development opportunities. Second, it was decided that the approach to measure Sailor performance should be standardized and as broadly applicable across job families as feasible. Consequently, a procedure had to be identified for capturing the important components of the performance domains for jobs in the Navy in such a way that a single set of dimensions would be relevant for measuring performance in all non-supervisory jobs, and similarly, a single set of dimensions would be relevant for all supervisory jobs. Finally, it was deemed essential that the project adopt as a fundamental tenet, Fleet involvement in all
phases of the development process. The notion here was that previous performance appraisal initiatives had been seen as “headquarters solutions,” with little input from Fleet personnel. Therefore, a highly important requirement was to develop a performance appraisal system that would reflect the way experienced supervisors in the Navy conceptualized the performance requirements of Navy supervisory and non-supervisory jobs.

In particular, the previous performance appraisal systems for officers and enlisted were developed with no input from the Fleet. The Command staff that developed the systems was explicitly instructed not to “disrupt” the Fleet. The resulting systems incorporated some comparatively abstract dimensions (e.g., Professional Expertise, Equal Opportunity), and the belief among senior management, as well as the officers and enlisted personal we worked with, was that a more behavior-based system reflecting Fleet values was needed.

5.2. Defining the performance domain for supervisory jobs

An important first step in developing a framework for coverage of the performance domain for supervisory jobs in the Navy was to identify all of the behaviors that characterize these domains, and determine how they are related. Subsequently, it was necessary to reduce the universe of dimensions to a manageable number that would still represent the entire performance domain.

The process chosen was one that was recommended by Borman and Brush (1993), in their examination of managerial performance taxonomies. The first stage relied on subject matter experts (SMEs) to generate performance behaviors that were believed to capture the performance domain in question. The second stage required that a second group of SMEs categorize all these behaviors and definitions into clusters based on content similarity. The final stage relied on data analytic techniques to compare and pool the category solutions generated in Stage 2, and then provide a final performance category solution by means of principal components analysis.

5.2.1. Performance behavior generation

The first stage of defining the performance domain focused on gathering information about the important components that lead to superior performance by supervisory personnel. This process began with a series of workshops conducted with a representative sample of Navy Officers. Performance behavior generation workshops were conducted at Naval Station San Diego, CA and Naval Station Norfolk, VA; a total of 55 Officers participated. Details regarding the demographics for all of the supervisory workshop participants can be found in Table 5.

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<td>3</td>
<td>5.5</td>
<td>2</td>
<td>8.7</td>
</tr>
<tr>
<td>Black</td>
<td>6</td>
<td>10.9</td>
<td>2</td>
<td>8.7</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1</td>
<td>1.8</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>White</td>
<td>43</td>
<td>78.2</td>
<td>19</td>
<td>82.6</td>
</tr>
<tr>
<td>Educational Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School/GED</td>
<td>1</td>
<td>1.8</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Some College</td>
<td>7</td>
<td>12.7</td>
<td>1</td>
<td>4.3</td>
</tr>
<tr>
<td>4-year Degree</td>
<td>15</td>
<td>27.3</td>
<td>6</td>
<td>26.1</td>
</tr>
<tr>
<td>Some Grad School</td>
<td>6</td>
<td>10.9</td>
<td>4</td>
<td>17.4</td>
</tr>
<tr>
<td>Graduate Degree</td>
<td>26</td>
<td>47.3</td>
<td>12</td>
<td>52.2</td>
</tr>
</tbody>
</table>

Totals may not add to 100% due to missing data.
Participants were told that their task was to reflect on outstanding Officers they had known or served with in the past, focus on what qualities made them excellent Officers, and design their own performance management system by naming and defining those behavioral dimensions of performance.

The supervisory behaviors and definitions, produced by workshop participants, were reviewed and edited to a common format, and to reduce redundancy. In addition, each behavior was reviewed for multi-dimensionality, and where necessary, was separated into its constituent components to make it uni-dimensional. The end result of this review was 126 behaviors covering the performance domain for supervisory jobs in the Navy.

5.2.2. Sorting of performance behaviors

The next stage in defining the performance domain involved reducing the 126 behaviors to a smaller but representative set of performance categories. This was accomplished by using a sorting task that asked SMEs to independently sort the behaviors based on similarity of content, into categories.

The card sorting workshops were conducted with 23 Officers at Naval Support Activity Mid South in Millington, TN (see Table 5 for demographic information). Participants were instructed to sort the 126 behaviors that had been placed on 3 x 5 cards according to their similarity in content, and encouraged to, essentially, derive their own ideal performance measurement system for Navy supervisory jobs. After sorting all of the performance behaviors into summary categories, each group member labeled and defined the categories. Participants were encouraged to try to place all of the behaviors into a defined category, but were also allowed to place them in a “miscellaneous” or “does not fit” category if necessary.

5.2.3. Pooling of behaviors and principal components analysis

The final stage in defining the performance domain involved collecting and comparing participants’ solutions. This involved computing for each pair of behaviors the proportion of the officers who sorted both behaviors into the same category. Thus, if 10 of the 23 participants sorted behaviors 1 and 2 into the same category, the entry for that cell of the 126 x 126 matrix was 0.43. Then, an indirect similarity index was derived for each behavior pair by essentially computing the correlation of these proportions for each of the 2 behaviors and the 124 other behaviors. This index is referred to as an indirect similarity index because it indicates for any behavior pair the degree of correspondence between each of the two behaviors’ patterns of similarity with all other behaviors (Borman & Brush, 1993).

To clarify, when one behavior’s pattern of similarities with other behaviors corresponds closely to a second behavior’s pattern of similarities with these same other behaviors, then the indirect similarity correlation between these two behaviors will be high. When this correspondence between two behaviors’ similarities with the other behaviors is lower, then the indirect similarity correlation will be lower. In this manner, correlations between all pairs of the 126 behaviors were generated.

The resulting summary correlation matrix was then submitted to a principle components analysis (PCA) with orthogonal rotation of components to a varimax solution. As before, component solutions, ranging between 5 and 15, were analyzed and interpreted. Results from the PCA indicated that the nine-component solution was the most interpretable. The criteria for assigning a performance statement to a category was a loading of approximately 0.50 or greater and near zero loadings on the remaining components. In addition, the ninth component only had one behavior and was not included in the final model.

The eight performance categories that resulted from the PCA were reviewed, labels were applied, and definitions were written to clearly describe and differentiate the categories. These performance categories and their definitions are presented in Table 6.

5.3. Developing a performance appraisal system for supervisory jobs

After the performance domain for supervisory Navy jobs had been defined, the next step was to transform the performance categories that covered each domain into a set of performance appraisal tools. While a variety of approaches were possible, we felt it was important to produce a behavior-based system so that supervisors using the system could base both their evaluation and their feedback on concrete behaviors. Consequently, we chose to adopt the critical incident methodology (see Flanagan, 1954) for obtaining specific, behaviorally focused descriptions of work or other activities.

In order to develop rating scales for supervisory jobs, another series of workshops was conducted. These workshops were designed to (1) develop behavioral anchors for the eight dimensions to provide detailed behavioral definitions for
Table 6
Navy supervisory performance categories and definitions

<table>
<thead>
<tr>
<th>Label</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coaching/Mentoring</td>
<td>Providing guidance to subordinates; assessing strengths and weaknesses in personnel and providing them with honest and specific feedback; designing opportunities for subordinates to develop new skills and assisting them in establishing career plans; providing subordinates with strategic vision and goals; sharing knowledge and experience with subordinates; creating a work environment that makes individuals feel valued and motivates them to excel.</td>
</tr>
<tr>
<td>Resource Stewardship</td>
<td>Managing resources efficiently and effectively; ensuring deadlines are met through planning and effective communication of objectives; gathering information, identifying goals, assessing available resources, and developing innovative plans to complete projects on time and within budget; prioritizing tasks and delegating work appropriately; relating tasks/assignments to the overall unit mission; sorting through large quantities of information efficiently.</td>
</tr>
<tr>
<td>Displaying Professionalism and Integrity</td>
<td>Accepting responsibility for own and subordinates’ actions; always maintaining ethical principles and telling the truth, regardless of consequences; displaying uncompromising values (e.g., honor, courage, commitment, integrity); willingly undertaking necessary actions, even when physically risky; maintaining sharp military appearance and physical health/fitness; supporting Navy and Command missions and goals.</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>Practicing meaningful two-way communication (i.e., speaking clearly, listening attentively and clarifying information); providing timely and relevant information up and down the chain of command; tailoring presentations to the level of the audience; expressing opinions when appropriate; expressing oneself in a manner that produces a productive and harmonious environment; ability to evaluate the importance of information being communicated.</td>
</tr>
<tr>
<td>Leading Change</td>
<td>Being open to new ideas and new methods for accomplishing goals; ability to adjust to a rapidly changing environment, and modify goals and objectives based on emerging requirements; embracing change and looking for better methods/techniques to accomplish tasks; ability to adapt to new and changing missions, tasks, and situations; remaining calm, focused, and competent in changing or stressful situations.</td>
</tr>
<tr>
<td>Leading People</td>
<td>Effectively building and leading individual and team activities; persuading, inspiring, and motivating others, regardless of their relative positions in the hierarchy; creating a sense of enthusiasm and purpose in own team; demonstrating a positive attitude, team spirit and personality to inspire subordinates; effectively adopting different leadership styles as appropriate to individuals and settings.</td>
</tr>
<tr>
<td>Displaying Organizational Savvy</td>
<td>Having a thorough understanding of military regulations and initiatives and carrying them out in accordance with Navy standards; following policies, regulations, and orders, and defending them to subordinates; understanding the chain of command, and accepting and respecting the decisions of superiors; displaying appropriate courtesies to superiors, peers and subordinates; understanding how policies and actions fit into the overall mission scheme.</td>
</tr>
<tr>
<td>Embracing Personal and Professional Development</td>
<td>Continuously improving professional skills, knowledge, and abilities through formal and informal training, off-duty education, on-the-job training, etc.; ability to find purpose, personal benefit and growth in work; balancing self development and training with job completion such that performance does not suffer; maintaining superior technical skills through training.</td>
</tr>
<tr>
<td>Mission Accomplishment</td>
<td>(This factor was added during the Performance Appraisal development stage). Accomplishing the mission under all difficult conditions or when obstacles present serious difficulties; communicating a vision that reflects the command’s strategic goals and develops an implementation plan that aligns daily activities to that mission; consistently inspiring subordinates and peers to drive toward mission execution; continuously identifying means and methods to improve processes and sets an atmosphere that facilitates positive change; holding self and subordinates accountable, commensurate to their level of responsibility; developing and implementing measures of program and policy evaluation and emphasizes accomplishing results.</td>
</tr>
</tbody>
</table>

(1) After defining the performance domain, the next stage in this process involved designing a performance appraisal system based on these eight categories of performance. The first step was to collect critical incidents. This task involved asking experienced Officers to describe examples of performance that represented the eight categories described in Table 6. The supervisory critical incident generation workshop was conducted with 21 Officers at Naval Station Mayport, FL. Workshop participants averaged almost 18 years of active duty service in the Navy, had supervisory responsibilities for almost 15 years, and had been at their current command less than 2 years. They were primarily white (71%), male (91%), and had attained at least a four-year college degree. Approximately 52% of them were assigned to shore-based activities, and 38% were assigned to surface force activities. |
When writing performance examples, participants were asked to describe the circumstances leading up to the performance example, what the individual did (or did not do) that made the example effective, ineffective, or average in performance, and finally what happened as a result of the individual’s actions. They were also instructed to indicate which performance category the example represents and its effectiveness level (high, mid-range, or low).

These group members produced 161 critical incidents. On average, workshop personnel each wrote 7.7 critical incidents. The critical incidents were reviewed by project personnel for clarity and edited to a common format. In addition, in conversations with a number of workshop participants, and other Navy project personnel, it was suggested that Mission Accomplishment was seen as an important “bottom-line” component of performance. Upon further review, this perspective was confirmed, and it was decided that a ninth performance category should be added to our set of dimensions representative of the supervisory performance domain.

The critical incidents that had been generated in the workshop provided an average of 18 critical incidents per performance category, covering the range of performance effectiveness. Again, adopting the behavior summary scale approach developed by Borman (1979), the critical incidents were content analyzed within each performance category, and behavioral summary statements were written that reflected the important themes for that category at the high, mid-range, and low effectiveness levels. These 27 summary statements, then, became the initial behavioral anchors for the scales.

5.3.2. Anchor retranslation

A critical next step was to verify that these 27 behavioral summary statements written to anchor the three performance effectiveness levels for each of the 9 performance categories represented the behaviors associated with the intended performance category and effectiveness level. This was accomplished by means of an anchor retranslation process.

The anchor retranslation workshop was conducted with 11 Officers at Naval Station San Diego, CA. These Officers averaged almost 16 years of active duty service in the Navy, and had 14 years of supervisory experience. Eighty-two percent of the participants were White; 82% were Male. Most had a graduate degree. Fifty-five percent of the participants were assigned to shore-based activities, 27% were assigned to aviation activities, and the remainder was assigned to either submarine or surface force activities.

Group members were asked to read through each of the 27 summary statements, place them into a relevant performance category, and then rate the effectiveness of the behaviors described in each performance summary statement as high, mid-range, or low effectiveness. Overall, there was a high level of agreement across raters in terms of placement of anchors in categories and effectiveness levels. In 99.2% of the cases, Officers sorted the performance statements into the intended category and effectiveness level. As a result of this anchor retranslation process, minor wording changes were made. An example scale for one dimension of the final set of rating scales for supervisory jobs is presented in Fig. 2.

5.4. Defining the performance domain for non-supervisory jobs

Similar procedures as used for supervisory jobs were applied for domain definition and performance measurement system development for non-supervisory jobs. Use of a similar set of procedures for domain definition resulted in a 9-component solution. The nine performance categories that resulted from the PCA were reviewed, labels were developed, and definitions were written to clearly describe and differentiate the categories. These 9 performance categories and their definitions are presented in Table 7.

5.5. Summary of performance vector factors and success indicators

Use of the methods just described for identifying and verifying relevant performance constructs produced a set of factors representing the performance vector for both supervisory and non-supervisory personnel. Indicators for each of these factors resulted from development of a critical incident-based performance appraisal system (see Hedge, Borman, Bruskiewicz, & Bourne, 2004, for a description of this system). In summary, the performance vector used extensive Fleet input to develop non-supervisory and supervisory models of all important performance-related behaviors that in turn defined comprehensively the performance elements in these two types of jobs. The resulting behavior-based performance categories were then used to produce a new performance appraisal system that will provide the metrics for the performance vector.

The performance appraisal systems developed for non-supervisory and supervisory jobs were designed to provide a mechanism for formal performance evaluations annually. However, to benefit fully from this Performance Vector work within the context of the Navy’s philosophy of a Navy career being a lifelong learning experience, attention should also
be focused on evaluating and improving day-to-day performance on these important categories that comprise the job domain. Consequently, we developed two components of a performance feedback and employee development system that could serve as the foundation for such a system. First, we developed a set of performance feedback forms, that when linked to the important categories of performance identified earlier, provided performance themes for both supervisors and job incumbents to target for development. Second, we designed a performance feedback and
6. Identification of factors for other vectors across skill levels

Work still remains to be completed for identifying factors and success indicators for the other four vectors—leadership, professional development, certifications and qualifications, and personal development. While the factors and success indicators tied to the performance vector were identified and incorporated into appraisal and counseling tools for use across all job families, a wide variety of techniques are available for use with each of the other vectors. In addition, in terms of how generalizable these techniques might need to be, recall that the performance vector work was designed from the start to be generalizable, respectively, across all supervisory and all non-supervisory positions. The leadership vector may also find that a single scoring system is appropriate for most positions. For example, the leadership vector might identify a number of Navy leadership courses and assign points to them according to the courses perceived to be effective for developing leader skills. Individuals would earn points for performance in the course.

However, the remaining three vectors will likely need to use techniques tailored to the type of job, perhaps at the job family level. For example, for the Certifications and Qualifications vector, courses and exams may be identified as relevant indicators within factors for all relevant content areas at the job or job family level. Thus, the additional challenge for these vectors is to include indicators that are relevant for the content of individual jobs or job groupings, and, at the same time, scored so that the difficulty levels (i.e., how difficult or easy it is to obtain high scores) are similar across different communities and jobs.

7. Summary/conclusion

Once the performance metrics for the other vectors are determined, and decisions are made about how they will be weighted, the system will allow an individual to both see where he/she stands in terms of current performance levels across all vectors, and also view a broad-based, long-term but concrete roadmap that displays what actions are required to reach the next career stage. Also, by utilizing web-based technologies, the system is being designed such that the factors and success indicators at each level of a Sailor’s career are transparent and readily observable. The shift is a...
transformational vision that recognizes the performance of individuals, as well as the entire Navy. This will give “talent management” new organizational priority as the Navy recognizes personnel talents as a valuable form of capital.

The research and development work reported here advanced this vision by quantifying the importance of each of the five competency concentration areas at each stage of a Sailor’s career. The results of this work make logical sense, as well. For both the Officer and Enlisted systems, performance is seen as a critical factor throughout a Sailor’s career, with leadership assuming an increasingly important role as these Sailors advance in their careers.

In addition, detailed work on the Performance Vector has demonstrated one possible methodology for identifying factors and success indicators within a vector. While a variety of procedures may be used for the other vectors, the approach we used in the Performance Vector allowed us to identify factors relevant for all supervisory and non-supervisory jobs in the Navy, and develop behavior-based evaluation, feedback, and counseling tools in-line with this notion of a career roadmap and a Sailor’s career as lifelong learning.

This career development and advancement system recognizes that careers are neither static, nor do they develop in a vacuum. Individuals’ decisions about their career moves are determined by current skills and interests, as well as previous work histories and long-term plans for the future. Changes in organizations affect how individuals’ careers unfold; and changes in individuals’ expectations affect how organizations design and implement career development programs.

While the organizational landscape continues to change and become more complex, it is crucial that organizations become more collaborative and flexible in their career planning for individuals and not assume that organizational assessments of what is best for employees are always correct. The vision described here is an important part of the Navy’s strategic human capital management transformation, and reflects the Navy’s drive to adopt a systematic and comprehensive approach to their most important asset—their people. Certainly, a key factor in the success of the Navy’s human capital management strategy is the sustained attention of its senior leaders. In addition, however, success will require the linkage of human capital approaches with the accomplishment of organizational goals; implementation of recruiting, selection, training/development, and retention approaches that foster mission accomplishment; and transformation to a results-oriented organizational culture. Obviously, this Navy vision of valuing and investing in its people must be carried through to leaders and managers at all levels of the organization. This cultural transformation is critical in order for the Navy to create the conditions necessary for continuous improvement and high levels of mission accomplishment.

Acknowledgement

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References


