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The State's Information Technology Hiring Process: Suggested Reforms

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Requested by J. Clark Kelso
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TABLE OF CONTENTS

EXECUTIVE SUMMARY

State of California agencies increasingly must take advantage of advances in information technology (IT) to support their missions and efficiently deliver services to their constituents. Information is the lifeblood of state government, from emergency services and homeland security to issuing drivers' licenses. Having a qualified IT workforce is critical to effective e-government.

This report, which was requested by State Chief Information Officer (CIO) Clark Kelso, discusses reforms that have been suggested over the last several years to improve the state's information technology classification and hiring process. In addition, we draw on interviews with department IT managers, human resource staff, and recruitment staff.

California state government's civil service system covers over 200,000 employees. State employees work in over 4,000 job classifications in more than 70 departments; over 7,000 employees work in IT job classifications. Many of these employees will be eligible to retire soon--in five years over 50 percent of the state workforce, or more than 100,000 state employees, will be over 50 years old. In 2004, 25,000 state employees retired, and 30,000 are projected to retire in 2007, twice the number that retired in 1998.[1]

When we examined the state's IT hiring process in 1999,[*] we found that the state's personnel system relied on outdated IT job classifications and qualifications, a salary structure that was not tied to industry practices through salary surveys, and a slow and disjointed civil service examination and hiring process. In September 2005, the State CIO sponsored the IT Human Resources (IT HR) project to address these issues. The project team includes representatives from the State CIO's office, the Department of Personnel Administration (DPA), the State Personnel Board (SPB), and Service Employees International Union (SEIU) Local 1000. The project team is developing a proposal for IT civil service classification and selection system reform. In addition, the DPA bargained a five percent adjustment to the maximum pay rate for IT workers (plus the 3.5 percent overall raise) effective July 2007, which should help with retention.

Our review finds that recruitment practices, examination and hiring processes and inadequate training continue to hamper the state's hiring of well-qualified IT workers. The same issues also affect other state job classifications. Improving personnel practices is critical to enhancing state government productivity and operations. The Little Hoover Commission, the California Performance Review and others have analyzed these problems and suggested improvements. This report provides a summary of recommendations, considers the progress made, and discusses the remaining issues that must be addressed if the state is to effectively maintain a qualified IT workforce in the 21st century.

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[*] See Charlene Wear Simmons and Alicia Bugarin, *Building a Skilled State Information and Technology Workforce*, CRB-99-007, June 1999. Accessed at http://www.library.ca.gov/html/statseg2a.cfm.

STATE GOVERNMENT INFORMATION TECHNOLOGY WORKFORCE

INTRODUCTION

To be successful in a changing environment, all organizations rely on the efforts and skills of their employees and the experience and vision of their leaders. They must constantly be reinventing and improving themselves in order to survive in a competitive environment. State government relies on a skilled civil service workforce to deliver services to the state's citizens. As departments rely more on information technology (IT) to deliver services, the quality of the state's IT workforce becomes an increasingly important issue.

In the next ten years, over 57 percent of the state's IT workforce will be eligible to retire. This is a significant concern for state agencies that are already experiencing a ten to 15 percent IT employee vacancy rate. All six departments we surveyed indicate that they are having difficulty attracting IT professionals with the needed skill sets. The persons who apply may meet the minimum civil services qualifications but because of outdated job classifications do not possess the skills needed to effectively do the job. Departments also report that qualified candidates for IT positions are confused and discouraged by the state's lengthy and cumbersome two-step testing and hiring process, and by the lower compensation offered by state government relative to other public employers.

The Little Hoover Commission, the California Performance Review, the California Research Bureau, and other organizations have documented problems with the state's personnel system that are particularly acute for IT positions. These include recruitment, the testing and selection processes, outdated IT job classifications, and compensation issues. All these reviews highlighted the problems created by the state's outdated IT job classification system as inhibiting state government from hiring skilled IT staff.

Job classifications specify the knowledge, skills and abilities required of applicants and establish compensation levels. Most IT classifications were established in the late 1960s and 1970s, before widespread use of the personal computer, with limited changes in 1989, and the elimination and consolidation of some classifications in 1999. These outdated classifications specify minimum hiring qualifications that bear little resemblance to the current technology skills needed by state departments.

The DPA and the SPB, among others, recognize that civil service job classifications need to be updated, particularly for IT. The DPA attempted an IT re-classification effort in 1998 that was not successful due to concerns about how the positions were defined, classified, and selected. Under the sponsorship of the State CIO, the IT HR project is undertaking a new effort to modernize the state's IT job classifications. The SPB, DPA and SEIU local 1000 are partners in this effort. A key goal is to provide management with the flexibility needed to select qualified applicants while complying with the merit-based requirements of the civil service system process.

The IT managers we interviewed feel caught between a personnel system that does not work well to meet their needs and the mandate to complete critical projects within tight deadlines and budgets. These managers report that the state's outdated IT civil service classifications, and the slow recruitment and testing system, have contributed to an increasing reliance on outside contractors to get the job done. The proposed IT Classification and Selection Project will attempt to address these concerns.

Outsourcing creates considerable additional expense. Departmental estimates vary, but most calculate that outside contractors cost 50 percent more than doing the work in-house. This figure does not include the overhead involved with hiring contract employees working on-site. The average rate per hour for an IT contract worker is approximately $65, while special-skills contractors can demand $150 to $200 or more per hour. The comparable rate for a state IT employee ranges from $34 to $43 an hour including benefits.

IT managers assert that contracting out makes sense only in certain circumstances, such as when a project is of a short duration or requires unique skills, and it is still important to build in-house expertise to manage these projects. Contracting out can require state agencies to rely on contractors over the long term for systems maintenance if knowledge transfer is not provided for in the contract, and this contributes to inflated costs on future projects.

The IT managers we interviewed reiterate that without a flexible personnel system, the state will either continue to rely on outside contractors, jeopardize critical projects, or risk failures on major IT projects. In addition, the state's budget process makes it both lengthy and difficult to establish state positions for administrative support activities, such as information technology, which increases the reliance on out-sourcing. These conditions cost the state more in money, time to complete projects and loss of services to the public.

A SUMMARY OF RECOMMENDATIONS FOR REFORMING THE STATE'S INFORMATION TECHNOLOGY HIRING PROCESS

The following discussion summarizes recommendations made by various task forces, organizations and commissions over the last decade on how to improve the state's civil service hiring processes for information technology personnel. These include the California Performance Review (CPR),[2] the Little Hoover Commission,[3] the California Research Bureau,[4] and the State Personnel Board (SPB),[5] and at the national level, the National Academy of Public Administration,[6] the U.S. Merit Systems Protection Board,[7] and the Government Accountability Office.[8]

While this report focuses on the IT workforce, some recommendations address the entire state civil service workforce. There is considerable consensus as to the major issues confronting the state as it considers how to reform its IT classification and hiring processes. These include recruitment, civil service classifications, testing and selection, compensation and training, and staff development.

RECRUITMENT

Problem Summary

California state government IT recruitment efforts are fragmented and confusing and do not consistently attract candidates with the needed skills sets. In addition, the public image of state employment hinders the state's ability to attract skilled IT professionals.

Background

During the 1980s and early 1990s, the State Personnel Board (SPB) delegated most civil service recruitment activities to the departments. Currently the SPB has less than one full-time position allocated to statewide recruitment efforts, and consequently its efforts are restricted to coordinating and participating in a limited number of recruitment events.

Our review finds that IT recruitment efforts are sporadic and inconsistent. Some departments have been able to market themselves, whereas others are virtually unknown to the general public. Marketing and networking efforts with colleges, universities and vocational education institutions are very fragmented and there is no consistency in their quality. For example, the state has not developed an attractive set of marketing materials that could be broadly used by departments.

Most job searches are web-based, but the state's personnel information on the Internet is scattered. Some exam postings or job openings are posted on the SPB website; others are posted on over 60 departmental websites. This decentralized recruitment process makes it difficult for qualified IT and other job applicants to locate and apply for appropriate state jobs. Job applicants have a difficult time locating information about open positions, qualifying civil service exams, and the complex civil service eligibility process.

State government is entering a new era of having to compete for the same job applicants as other public and private employers as the baby boomers reach retirement age. According to the SPB, as of September 30, 2005, over 36 percent of the state workforce was over 50 years old. In five years over 50 percent of the state workforce, or more than 100,000 state employees, will be over 50 years old and many will be eligible to retire. State agencies will lose institutional knowledge, skills and experience that will be difficult to replace.

Some private companies, including Toyota, start the recruitment planning process for new hires three years before they open a new facility. They conduct demographic and local labor market research to develop a strategy for their labor force. They also meet with community colleges and trade schools to assess if they are training the needed labor pool in the required skills. Many private employers, and recently a few state agencies, establish partnerships with community colleges and trade schools to develop training programs in specific technical skills areas. The goal is to make sure that there is a skilled pool of applicants ready to apply for positions.

Recommendations

- Establish and staff a centralized state recruitment program for IT jobs that provides statewide leadership and coordinates departmental recruitment efforts. This would include developing recruitment initiatives and marketing the State of California as a desirable employer.

- Develop a single statewide Internet portal for all IT human resources information, to include, for example, an online IT job bank for departments to post openings and for potential and current employees to access this information in one place.

- Create a centrally advertised and coordinated statewide college recruitment program and a formal paid college internship program, and expand the use of the Student Assistant and Graduate Student Assistant classifications to facilitate entry into state service.

- Develop a testing mechanism for college interns to exam and be appointed into a regular civil service job after the successful completion of their internship.

- Develop training materials for IT managers on "how to hire."

Where Are We Now?

According to the SPB, these recommendations have not been implemented primarily because of a lack of resources. During the hiring reduction and freeze imposed from 2001 to 2005, the SPB and state agencies greatly reduced the number of people charged with carrying out departmental recruitment efforts. Nonetheless, some agencies have since re-allocated positions to improve their recruitment efforts, primarily for technical classifications such as engineers, surveyors, nurses, doctors, pharmacists, psychologists, and IT specialists, and the SPB is developing a recruitment plan and materials.

Departmental recruiters have formed a State Recruiters Roundtable Team. They generally meet every other month to network, share ideas and discuss resources and events. The Roundtable is in the process of developing training programs for departmental recruiters because so many are new and have not received training. The following are some deficiencies that the recruitment roundtable participants would like to see addressed:

- The SPB or another agency acting on behalf of all state agencies should be able to either contract with an outside organization or develop in-house expertise to undertake Internet recruitment efforts on multiple job-search websites. The current decentralized process is inefficient, costly and duplicative.

- A job applicant should have the ability to "subscribe" to state job or exam notices of interest and receive an email alert when the appropriate exams are being offered.

- Applicants currently need to search over 60 individual departments' websites to make sure that they do not miss new postings. This process is time-consuming and frustrating for both hiring state departments and interested job candidates.[*]

- The state should develop a coordinated, cost effective recruitment policy and provide sufficient resources to implement it. This could include, for example, developing and sharing recruitment materials and undertaking a coordinated statewide college recruitment effort to support all state departments. Internships and fellowship programs for students designed to transition into different civil service job classifications could be extremely useful in attracting new talent.

- The SPB should take the lead to promote the "State of California" as a brand with exciting employment opportunities. Agencies report that applicants have a perception that state government does not have challenging careers or is not hiring.

- The state should offer some form of recruitment incentive for certain professional occupations. For example, some private employers and the federal government provide tuition reimbursement for difficult-to-recruit professions such as engineers, lawyers, medical personnel, and some IT classifications. The employer typically reimburses an employee for a certain percentage of his or her student loan in return for the assurance that they will work for the company for a certain length of time.

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[*] All agencies and departments have been required since 2003 to post their examination materials on the SPB website (SPB regulation 50, *Merit Selection Manual*). A review suggests that many are not.

INFORMATION TECHNOLOGY CIVIL SERVICE CLASSIFICATIONS, TESTING AND SELECTION

Problem Summary

Classification

The state's IT classifications, which define minimum job qualifications, have not been thoroughly updated in nearly 30 years and do not accurately describe the work that state IT employees are doing or the skills that are required. In addition, the job classification structure is inflexible and overly segmented into specialized niches whose minimum qualifications do not meet today's changing business and IT needs.

Testing and Selection

Earlier reports[9] have found that the examination and selection process is too decentralized, time consuming, and costly to operate, is confusing for job applicants, and fails to identify the candidates with the best skills match. The cost and time involved encourage departments "to find ways around the system,"[10] such as contracting out, using other job classifications, or bringing in less qualified employees through lateral transfers from other state positions.

Background

Classification

In 1998, the DPA began an 18-month process to reclassify and consolidate the state's 65 IT job classifications, most of which predated widespread adoption of the personal computer. Some consolidation did occur, resulting in 37 IT classifications. However the DPA's IT job re-classification proposal was not formally submitted to the SPB for approval because of concerns about the proposed consolidated classification structure. In September 2005, as part of the IT HR Project, the DPA initiated another effort to update the state's IT job classifications to create, "…a more flexible structure that can be easily changed to reflect today's rapidly changing IT workforce and the state's work environment." [11] The proposal in draft would consolidate the current 37 IT classes into 12 IT classes (see Figure A beginning on page 12). These consolidations are possible because of the proposed changes to the selection system, as discussed below.

Testing and Selection

At one time, the SPB administered civil service job examinations for all state departments. In the 1980s and early 1990s, the SPB delegated most testing to individual departments and their personnel units, although the Board conducts some tests on a reimbursable basis. Currently the SPB offers some service-wide examinations, but individual departments give the majority of exams. Departments that are delegated this authority have the responsibility to ensure that all the examinations conducted, and all appointments and promotions made, comply with the civil service rules. Delegation of

authority is subject to review by the SPB and can be modified or withdrawn. The SPB is authorized to take appropriate remedial action to correct or void invalid appointments.

As a result of this delegation of authority, and because there are over 4,000 civil service job classifications, testing has become time consuming, repetitive, and very costly for departments. The sheer number of job classifications has created a heavy workload for departmental personnel, each of which has to recruit, test, and administer the examinations for the hundreds of classifications used by their respective departments.

We reviewed selected exams administered by departments and by the SPB between June 2000 and June 2005. During this five-year period, departments conducted 346 Information Systems Analyst (ISA) exams, while the SPB conducted seven exams for the same classification. However departments made only eight hires from the 346 examinations they offered. The state workforce hiring freezes imposed by the governor were one reason for the low hiring rate. During the same period of time, departments made 50 hires from the seven exams conducted by the SPB. The average departmental cost per candidate on the departmental lists was $300, while the cost per candidate for the SPB-administered exams was $28. The average hire from a departmental exam cost $696, while the average appointment from a SPB exam cost $270.[12] This data raises a major policy question as to whether or not the state should continue with its exam delegation/decentralization in light of the questionable cost/benefit ratio.

Recommendations

Classification

- The DPA should review and update IT job classifications on a regular basis to take into account the rapid evolution of technology, competition for skilled employees, and the state's business needs. Ideally the state's IT job classes should be kept in alignment with the IT job categories used in the private sector, thereby maintaining competitive salaries and facilitating recruitment and career development.[13]

- The DPA and the SPB should reduce the number of IT classifications and redefine them in order to permit more flexibility in the assignment of work and to improve opportunities for employee career advancement.

Testing and Selection

- The state should evaluate the cost-effectiveness of its policy to decentralize IT exams and reconsider if it continues to prove inefficient and more costly to administer.

- The SPB should centrally administer open,[*] statewide, continuous filing and testing for IT job classifications over the Internet.

- The SPB should modify the existing examination process to give departments on-line access to centralized eligible lists of IT candidates by skill set, consistent with the skills-based certification concept, and assist departments to develop hiring techniques to facilitate appointments as quickly as possible.

- The state's examination and selection process should be developed and coordinated according to the strategic needs of individual departments.[14] Currently, costly and time consuming procedures encourage managers and personnel officers to find ways around the system, making decisions based on ease rather than merit.[15]

Where Are We Now?

The state has begun an enterprise-wide project designed to improve and modernize its IT classification, selection and certification systems. The state's Chief Information Officer, the DPA, the SPB, and the Service Employees International Union (SEIU) are collaborating on the project, a promising development. The project has three components:

1. Consolidate and modernize the state's current IT classifications.

2. Provide certification lists based on the specific knowledge, skills, and abilities required for individual positions.

3. Modernize state civil service hiring systems.

The IT Classification and Selection Project is scheduled for implementation in early 2008, including testing the capabilities of the new certification system. The DPA anticipates that the project may be a first step in a larger reform of state civil service. It offers an ideal model to evaluate and replicate in other job classifications.

Classification

The DPA is in the process of completing its revision of the state's IT job classifications. The proposal under development would reduce the number of IT classifications and align them with the knowledge, skills, and abilities required of employees specializing in contemporary technologies. The proposal would also allow for the skills-based certification of job applicants, increase managerial flexibility in matching required job skills with individuals, and improve opportunities for career advancement. It would consolidate six existing technician classes into two classes, and 13 analytical/professional IT specialist classes into four classes. In addition, 18 existing IT supervisor/manager classes would be consolidated into six supervisor/manager classes. The examinations

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[*] There are both open and promotional civil service examinations. A person must already be a state employee to take a promotional exam.

would test for 12 or more functional skill sets (see Figure A). Managers would be able to request certification of eligible candidates possessing the specific knowledge, skills and abilities needed to perform in a specific job. This more efficient process would save time by reducing the number of interviews of candidates who do not possess the needed knowledge, skills, and abilities.
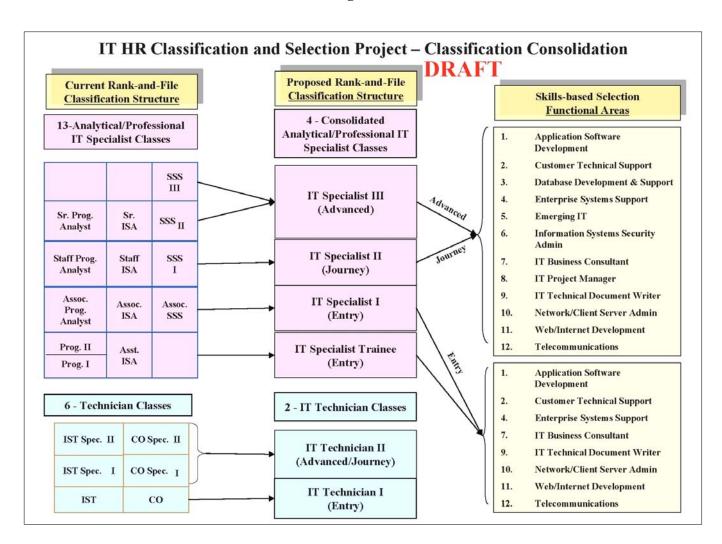
Figure A

IT HR Classification and Selection Project – Classification Consolidation

DRAFT

Current Rank-and-File Classification Structure

13-Analytical/Professional IT Specialist Classes

		SSS III
Sr. Prog. Analyst	Sr. ISA	SSS II
Staff Prog. Analyst	Staff ISA	SSS I
Assoc. Prog. Analyst	Assoc. ISA	Assoc. SSS
Prog. II	Asst. ISA	
Prog. I		

Proposed Rank-and-File Classification Structure

4 - Consolidated Analytical/Professional IT Specialist Classes

IT Specialist III (Advanced)

IT Specialist II (Journey)

IT Specialist I (Entry)

IT Specialist Trainee (Entry)

Advanced
Journey
Entry

Skills-based Selection Functional Areas

1. Application Software Development
2. Customer Technical Support
3. Database Development & Support
4. Enterprise Systems Support
5. Emerging IT
6. Information Systems Security Admin
7. IT Business Consultant
8. IT Project Manager
9. IT Technical Document Writer
10. Network/Client Server Admin
11. Web/Internet Development
12. Telecommunications

6 - Technician Classes

IST Spec. II	CO Spec. II
IST Spec. I	CO Spec. I
IST	CO

2 - IT Technician Classes

IT Technician II (Advanced/Journey)

IT Technician I (Entry)

1. Application Software Development
2. Customer Technical Support
4. Enterprise Systems Support
7. IT Business Consultant
9. IT Technical Document Writer
10. Network/Client Server Admin
11. Web/Internet Development
12. Telecommunications

Continued on next page.

IT HR Classification and Selection Project – Classification Consolidation

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Current Supervisor/Manager Classification Structure

18-IT Supervisor/Manager Classes

DPM IV			
DPM III			SSS III (Sup)
DPM II	Sr. PA (Sup)	Sr. ISA (Sup)	SSS II (Sup)
DPM I	Staff PA (Sup)	Staff ISA (Sup)	SSS I (Sup)
	Assoc PA (Sup)	Assoc. ISA (Sup)	Assoc. SSS (Sup)
IST Sup II	CO Sup. II		
IST Sup I	CO Sup I		

Proposed Supervisor/Manager Classification Structure

6-Consolidated IT Supervisor/Manager Classes

- IT Information Officer (Executive Unit)
- IT Manager (1st Manager)
- IT Supervisor IV (2nd Level)
- IT Supervisor III (1st Level)
- IT Supervisor II (Technical Support)
- IT Supervisor I (Technical Supervisor)

Skills-based Selection Functional Areas

CORE:

Executive Level

Management

2nd Level Supervisor

1st Level Supervisor

AND

FUNCTIONAL AREAS:

1. Application Software Development
2. Customer Technical Support
3. Database Development & Support
4. Enterprise Systems Support
5. Emerging IT
6. Information Systems Security Admin
7. IT Business Consultant
8. IT Project Manager
9. IT Technical Document Writer
10. Network/Client Server Admin
11. Web/Internet Development
12. Telecommunications

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Source: Department of Personnel Administration.

Testing and Selection

The selection or hiring process for regular civil service positions begins with an examination for a particular job classification followed by certification of a list of eligible potential job applicants. Persons are hired from the approved list or they may transfer from a similarly ranked civil service classification. Former employees may also be reinstated into their previous positions. When a manager has a job opening, persons who are reachable on the eligibility lists are contacted and interviewed.

Currently the SPB offers online job examinations for eight open IT job classifications. All departments that have job openings can use those lists. Departments also have authority delegated from the SPB to provide other open exams and departmental promotional examinations.

Skills Based Certification

A skills-based selection process is an essential component of the IT Classification and Selection Process Project. The Project proposal provides for examinations that will test for a range of knowledge, skills, and abilities in 12 functional areas. AB 2241 (Chapter 216, Statutes of 2006) permits the SPB to use skills-based certifications for IT positions. Selection standards are merit-based and job-related.

Candidates who successfully pass an examination that tests for a range of functional skills would be certified to apply for jobs based on a match of defined competencies and skills. The certification process would begin by developing a position description, based on an analysis of the type and nature of tasks required for a particular job. This position description would be used to generate a unique eligibility list of job applicants, created by weighing job applicants' scores in proportion to their importance to the job. Candidates would be certified as eligible to apply for a job based on how well they meet the required functional competencies and skills.

The new testing process would provide state departments with on-line access to centralized lists of eligible IT candidates by types of skills tested. Changing the way that applicants are scored and ranked, and providing managers with customized lists of qualified job candidates, should shorten the hiring process, which now can take up to six months. Equally as important, it will provide a better job/person match.

Continuing Problems

The state's current decentralized personnel system allows departments, under the authority and oversight of the SPB, to initiate recruitment and publicity efforts, administer tests, establish hiring lists, and conduct hiring. According to a 2001 SPB audit, some departments are not administering civil service tests properly. The audit found that departmental human resources staff are not properly trained and are overwhelmed by the number of exams they need to administer. The audit also found deficiencies in examination processes, including interpretations of minimum qualifications and scoring, and in the interview process.[16] These problems have generated numerous appeals. During the two-year period, fiscal years 1998/99 to 2000/01, 4,069 examination appeals of decisions made by 68 departments were filed with the SPB. Sixty percent of the appeals were filed against four departments: the Departments of Corrections, Transportation, and Employment Development, and the State Personnel Board.[17] This level of appeals is systematic of a personnel system that is flawed and in need of change.

Decentralization creates other problems. Departments may offer overlapping examinations for the same job classification, confusing job applicants, and lists of qualified applicants are not easily interchangeable. Some exams are written while others use an interview process, and they may not be sufficiently based on job-related criteria. Interpretation of the minimum qualifications required to take an examination for a given

classification may differ from department to department. The SPB is aware of many of these problems but contends it lacks the resources to address them.[*]

Department personnel we contacted assert that SPB's on-line examination scoring process negatively impacts their ability to process examinations in a timely manner. The system is slow and antiquated and can take months to generate a list, delaying hiring of needed employees. It needs to be updated to provide timelier processing of data and a greater capability to process complex examination scoring models. Departmental personnel also offer the following suggestions:

- The SPB should provide better customer service to departmental human resources staffs. Currently the SPB is unable to provide timely assistance in response to telephone calls and e-mails, and provides inconsistent information regarding interpretation of policies, rules, and regulations.

- The SPB should provide training to departmental examination staff on how to conduct sound, effective, and innovative testing processes, and the *Merit Selection Manual* should be updated.

- The SPB and the departments should automate the application and examination process. Software could guide applicants through a step-by-step process that would weed out unqualified applicants. For example, applicants would not be able to submit an incomplete application. Or if their experience did not meet the minimum qualifications, they would be notified that they do not qualify to take the examination. This would save departmental staff the costly and time-consuming task of individually reading and assessing each application and would also be helpful for job applicants.

- The SPB should provide more oversight of the state agency testing processes to ensure their validity, and hold departments accountable for compliance with SPB rules and regulations.

- Promotional exams should be used service-wide, not just for the individual departments. This would provide employees with more career advancement opportunities and would reduce workload since departmental human resources staffs would not have to test as often.

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[*] According to the SPB, it lost 35 percent of its staff resources to budget cuts in 2001-2002, greatly impacting its ability to fulfill its responsibilities.

COMPENSATION

Problem Summary

The state's IT salaries are not competitive with the private sector or with the salaries offered by other public agencies in California. In the last ten years, salaries of all state employees have not kept pace with the cost of living. At the same time, the demand for qualified IT employees has increased considerably. Turnover in IT staff is resulting in a significant loss of the departments' critical knowledge base.

Most public and private agencies regularly conduct salary surveys and upgrade their salary schedules in order to remain competitive in the IT job market. However the state does not consistently survey the IT salaries offered by competitor employers or consider comparable prevailing wages when establishing its salary schedules.

Background

Each of the state's 21 collective bargaining units individually negotiates salary increases for the rank-and-file employees working in the job classifications that the units represent. The negotiations do not rely on formal salary surveys to determine differential salary increases. As a result, California's civil service pay structure is not designed to respond quickly to market pressures.

The DPA recently conducted the first formal salary survey in over 20 years for a range of job classifications, including two IT classifications. The salary survey released in April 2006, found that in the majority of job classifications, state salaries lag behind other public and private sector organizations. In the two IT classifications surveyed, state salaries averaged eight percent less than those paid by other public sector employers (the survey generated only one private sector comparison).[*]

We contacted several cities and counties to determine how often they conduct salary surveys for comparative purposes to use in their salary negotiations. Our findings are summarized in Table 1. In general, they conduct an outside salary survey every two to five years to use as a benchmark.

- Yolo County conducts a general salary survey every two to three years in conjunction with Sacramento County and Solano County. The city of Woodland uses that salary survey to determine salaries for its IT personnel. Usually salaries are negotiated within five percent of the salary survey results.

- Sonoma County conducts salary surveys every four years and may conduct them more often if they have problems filling positions in a certain field. The county uses the salary survey as the basis for adjusting IT salaries.

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[*] The DPA compared the middle range of other public and private salaries to the state's maximum range, consequently not providing a true picture of the differential in salaries.

- The city of San Francisco generally conducts salary surveys every two to four years. The results are used to negotiate employee salaries.

Table 1
Salary Comparisons for Common IT Job Classifications, State of California and Selected City and County Governments

Classification	Yolo County	City of Sacramento	Sacramento County	Sonoma County	San Francisco (City and County)	State of California
Programmer Analyst I	$43,608 to $53,004			$46,560 to $56,592		**$36,576 to $43,658**
Programmer Analyst II	$50,496 to $61,380			$62,424 to $75,896	$71,760 to $79,118 (2)	**$45,216 to $54,972**
IT Analyst I & II		$43,872 to $67,908	$56,188 to $75,877	$53,712 to $71,856		**$34,824 to $62,964 (3)**
Senior IT Analyst		$53,076 to $74,688		$72,756 to $88,428 (1)		**$56,784 to $69,048 (4)**
Assistant Information Systems Analyst						**$34,824 to $52,356**
Associate Information Systems Analyst						**$51,792 to $62,964**
Staff Information Systems Analyst						**$56,784 to $69,048**
Computer Operator I		$35,255 to $49,607			$32,864 to $39,832	**$27,804 to $39,912**
Computer Operator II		$37,017 to $52,088				**NA**
Information Technology Support Specialist I		$46,079 to $64,838				**$39,192 to $47,628 (5)**
Information Technology Support Specialist II		$50,689 to $71,325				**$47,088 to $57,240 (6)**

Source: California Research Bureau, California State Library
1. Actual classification title is: IT Analyst III
2. Actual classification title is: Programmer Analyst Senior
3. Actual state classification title is: Assistant Information Systems Analyst and Associate Information Systems Analyst
4. Actual state classification title is: Staff Information Systems Analyst
5. Actual state classification title is: Computer Operator Specialist I
6. Actual state classification title is: Computer Operator Specialist II

According to a recent report by the American Electronics Association, the average wage for technology workers in El Dorado, Placer, Sacramento, and Yolo counties was $72,495.[18] The state's most frequently used generalist IT classification (Associate Information Systems Analyst) has an average salary of $57,378. The journey level classification (Staff Information Systems Analyst) has an average salary of $62,916.

Recommendations

- The DPA should regularly conduct regional statewide salary surveys and compare them with comparable job families in the private and public sectors. These might include: software development, customer technical support, database development and support, enterprise systems support, emerging IT, information systems security administration, IT business consultant, IT project manager, IT technical document writer, network/client server administration, Web/Internet development, and telecommunications. Comparisons could be made at the entry level, journey level, and advanced level.

- The DPA should develop a compensation policy for both represented and excluded (managerial and supervisory) employees.[19]

- The state should tie compensation to performance, upgrade its IT management salary structure, and facilitate the ability of employees to advance up the career and pay ladder without having to move into management classifications.[20]

- The state should develop a compensation strategy that routinely adjusts wages to changes in the marketplace, links step increases to an employee's growing capabilities, and rewards individuals and teams of workers who contribute to improvements in efficiency and productivity.[21]

- The DPA should bring salaries in line with IT market rates, authorize pay differentials, and establish retention bonus and recognition programs.

- The National Academy of Public Administration (NAPA) has been studying government IT compensation strategies and recommends establishing a market-based, pay-for-performance compensation system that would ensure that managers have the flexibility to pay individual workers for their skills and competencies as well as their contributions to the organization.[22]

Where Are We Now?

After the DPA's first salary survey in 20 years determined that the compensation for several state job classifications (including IT classifications) was substantially lower than in other public and private organizations, salaries were adjusted accordingly. The FY 2006-07 budget provides a five percent increase to the maximum salary rate for several IT classifications in addition to the across-the-board 3.5 percent salary increase provided to all state employees.

However the DPA salary survey included only two IT job classifications and only one of those was comparable to a job category used by other public and private organizations, limiting the ability to compare salaries. In the future, the DPA could compare IT functional areas or job families instead of job classifications. To be consistent with standard practice in other public and private organizations, the DPA should conduct the salary survey every three to five years.

TRAINING AND STAFF DEVELOPMENT

Problem Summary

The state does not invest in the training and development of its IT staff, unlike other public and private sector organizations. Continuous development of employees is especially important in IT as hardware, software, and business applications are constantly changing. IT skills quickly become outdated and can contribute to departments' inability to develop, maintain, and deliver quality technical solutions and projects within budgeted resources.

Training is more important than ever for the state's workforce. Technology has changed the way that government delivers services. As a result, state employees need to adapt, and require continuous learning and training opportunities to maintain productivity.

Background

Some years ago, *Governor Wilson's Governor's 21st Century Training Action Team Report,* recognized that California state government needs to invest in its workforce and to remain committed to that investment over a sustained period of time:

> Employees need the opportunity to develop new skills to meet the challenges of increased workloads and the proliferation of technology in our workplace… Improving skills, continuing education and training can result in significant savings as we learn to work more efficiently and effectively.[23]

In a recent telephone survey of IT managers, and human resource staff in six departments, we found that over 50 percent of their IT employees are nearing retirement age and that many have outdated skills that no longer meet organizational needs. The departmental staff we surveyed all agreed that training and continuous staff development are critical for IT employees. They also noted, however, that short-term training does not take the place of having skilled employees. In addition, a potential drawback to providing training is that a newly trained employee may become a "hot commodity" and be hired by another agency. This means that training opportunities should be offered service-wide to state IT employees.

In testimony before the SPB, representatives from state departments asserted that training of IT staff is critical in order to maintain pace with technological changes, and advocated for a greater emphasis to be placed on employee training, including increased funding.[24] Training has the capacity to increase efficiency, allowing departments to do more with less.[25]

In the private sector, high-performance organizations dedicate approximately ten percent or more of their payroll to training. Their employees are not only encouraged but are also required to take training to maintain their skills in order to stay employed.

Recommendations

- Life-long learning and skills development for employees is common practice in the private sector. Both businesses and employees need to take responsibility for keeping their skills up-to-date. This practice should apply to state workers.[26]

- "The state should create a central online training portal for state employees [and]…should work with higher education institutions to develop appropriate learning strategies and programs for state employees."[27]

- The Department of Finance could revise its budgeting practices to ensure that IT positions are funded with at least a three percent set-aside for training to maintain staff skills and expertise.[28]

- The state should develop a training strategy to increase the competitive advantage of government through the training and education of its employees and managers. This would involve defining models for integrating workforce development programs into organizational strategic plans, and ensuring executive commitment.[29] For example, the DPA and/or Department of Finance could establish a statewide policy requiring that departments develop annual training plans that support their strategic objectives.

- The SPB should develop a training guide for hiring IT managers rather than delegating that responsibility to each department.

- The state could institute a reimbursement program for employees who acquire professional certification and offer skills acquisition bonuses for completed certification.

- State agencies could conduct exit interviews with departing employees to solicit information that would improve retention and the work environment, including training issues. Currently there is no formal system to gather information when employees leave a department.

- The National Academy of Public Administration (NAPA) has recommended formalized training, on-the-job training, computer-assisted learning, self-instructional guides, coaching, and other continuous learning approaches.[30]

Where Are We Now?

Training funds are included in the "operating expense and equipment category" of departmental budgets and are generally eliminated during times of fiscal constraint. These funds have not been reinstated since the state's economic recession of 2001-2005. The result is that most General Fund departments do not have sufficient funds that can be used to provide training for IT staff. Departments that receive federal funds or special funds tend to have more funding and more flexibility.

One way that private organizations are providing training is by taking advantage of e-learning. E-learning is the delivery of training or educational programs by electronic means. It involves the use of a computer or other electronic device (such as a mobile

phone) to access training modules over the Internet, an Intranet, or via a CD-ROM or DVD. E-learning can be offered on demand, eliminating timing, attendance and travel difficulties, and expenses. E-learning offers an opportunity to the state to augment its IT training in a cost-effective manner, but it requires centralized planning and execution (which could be provided by the SPB or outside contractors).

ENDNOTES

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[21] Little Hoover Commission, *Of the People, By the People: Principles for Cooperative Civil Service Reform,* January 1999, p. 59.

[22] United States General Accounting Office, *Human Capital: Attracting and Retaining a High-Quality Information Technology Workforce,* GAO-02-113T, October 4, 2001, p. 10.

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[25] Little Hoover Commission, *Of the People, By the People: Principles for Cooperative Civil Service Reform,* January 1999, p. 79.

[26] California Performance Review, *Good People, Good Government*, accessed at http://cpr.ca.gov/report/cprrpt/preschg/good.htm.

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