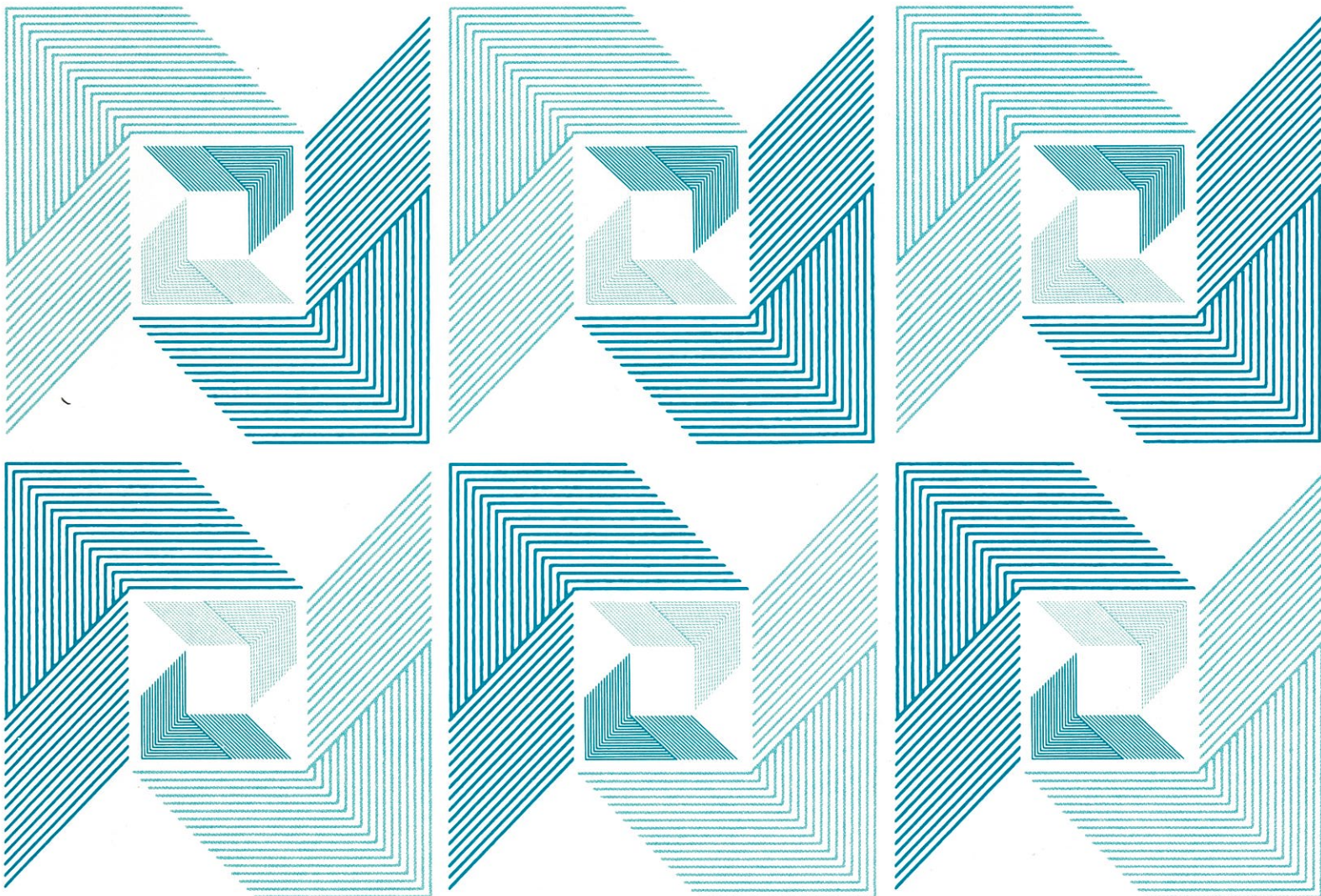Report No. 89-26
December 1989

STUDY OF THE PAYROLL SYSTEM OF THE STATE OF HAWAII

A REPORT TO THE GOVERNOR AND THE LEGISLATURE OF THE STATE OF HAWAII

SUBMITTED BY THE LEGISLATIVE AUDITOR OF THE STATE OF HAWAII

THE OFFICE
OF THE LEGISLATIVE AUDITOR

The missions of the Office of the Legislative Auditor are assigned by the Hawaii State Constitution (Article VII, Section 10). The primary mission is to conduct post audits of the transactions, accounts, programs, and performance of public agencies. A supplemental mission is to conduct such other investigations and prepare such additional reports as may be directed by the Legislature.

Under its assigned missions, the office conducts the following types of examinations:

1. *Financial audits* attest to the fairness of the financial statements of agencies. They examine the adequacy of the financial records and accounting and internal controls, and they determine the legality and propriety of expenditures.

2. *Management audits*, which are also referred to as *performance audits*, examine the effectiveness of programs or the efficiency of agencies or both. These audits are also called *program audits*, when they focus on whether programs are attaining the objectives and results expected of them, and *operations audits*, when they examine how well agencies are organized and managed and how efficiently they acquire and utilize resources.

3. *Sunset evaluations* are conducted of professional and occupational licensing programs to determine whether the programs should be terminated, continued, or modified. These evaluations are conducted in accordance with a schedule and criteria established by statute.

4. *Sunrise analyses* are similar to sunset evaluations, but they apply to proposed rather than existing regulatory programs. Before a new professional and occupational licensing program can be enacted, the statutes require that the measure be analyzed by the Office of the Legislative Auditor as to its probable effects.

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STUDY OF THE PAYROLL SYSTEM
OF THE STATE OF HAWAII

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Conducted by
Price Waterhouse

A Report to the Governor and the Legislature of the State of Hawaii

Submitted by

Legislative Auditor of the State of Hawaii
Honolulu, Hawaii

Report No. 89-26
December 1989

FOREWORD

In the General Appropriations Act of 1989, the Hawaii State Legislature requested the Legislative Auditor to conduct a study of the State's payroll system.

To provide the professional and technical expertise for the study, several consultant firms were requested to submit proposals in response to specifications developed by our office. As a result, the Human Resource Consulting Group of the firm of Price Waterhouse was selected to conduct the study. The consultant conducted the research, fieldwork, and analysis for the study and prepared the final report. Our office participated in the review of the final report.

We join Price Waterhouse in expressing our appreciation for the excellent cooperation and assistance extended by officials and staff of the Department of Accounting and General Services, Department of Budget and Finance, Department of Personnel Services, Department of Education, University of Hawaii, Department of Transportation, Department of Labor and Industrial Relations, and the Department of Human Services.

Newton Sue
Acting Legislative Auditor
State of Hawaii

December 1989

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INTRODUCTION

This is a report on a study of the payroll system of the State of Hawaii. The study was performed in fulfillment of a request from the Legislature pursuant to Section 215 of the General Appropriations Act of 1989. The request reflected the Legislature's concern about the payroll system's performance and efficiency and whether alternatives to the system should be pursued.

Objectives of the Study

The objectives of the study were:

1. To determine whether the State's payroll system is adequate, effective, and efficient.

2. To recommend an appropriate course of action if improvements to the system are needed.

Scope of the Study

The study analyzed the procedures used in each part of the payroll process and determined the degree to which these procedures were computer-supported. Identified and reviewed were departmental reporting requirements related to payroll.

The study also identified courses of action open to the State for its payroll processing operation, justified a recommended course of action, and then developed a workplan for implementing this course of action.

The capabilities of the existing payroll system were compared to the functional capabilities of an integrated payroll system. As a result of

conducting studies and providing consulting services for other state and local governments, we have seen these functional capabilities actually implemented over recent years. These functional capabilities were therefore not hypothetical, but are presented as what we consider to be current industry standards for a payroll system.

Organization of the Report

This report consists of five chapters. Chapter 1 is this introduction. Chapter 2 is the overview of the existing payroll system. Chapter 3 describes problems with the payroll system. Chapter 4 presents options available to the State. Chapter 5 presents a workplan and estimated cost for the recommended course of action.

This chapter describes the State's present payroll system. In doing so, it uses terms standardized within the payroll industry to describe the main steps of the payroll process. The use of this terminology is intended to encourage the State to conceptualize its own system in light of the functional components of the industry standard. These components of payroll processing are:

1) Establish employee profile information;
2) Collect time and attendance data;
3) Prepare labor cost distribution;
4) Maintain leave accounting;
5) Compute gross pay;
6) Compute deductions;
7) Disburse payroll;
8) Set up reference tables;
9) Maintain history data;
10) Process retroactive pay; and
11) Perform special processes and interface with other systems.

Establish Employee Profile Information

Establishing employee profile information is the process of gathering and compiling the information needed to correctly process pay. This information includes name, address, position, salary, social security number, tax exemptions, and deductions.

Under the present system, most of this information is captured on the Notification of Personnel Action Form (Form 5). Board of Regents employees of the University of Hawaii and certificated employees of the Department of Education use similar forms that contain basically the same information.

After a department completes a Form 5 to initiate a personnel action, the information flows to the payroll system through a variety of channels, depending on the branch of government and department that originates the action. For example, the Department of Personnel Services edits and verifies, or "audits," the Form 5s of most executive branch departments and then sends a copy to the payroll system for processing. The University of Hawaii audits its own forms and transfers the information by tape to the central system each pay period.

All editing and verification of the information contained on the form is performed manually. As the form flows through channels, manual records and files are established and filed for later use. The Information and Communication Services Division (ICS) of the Department of Budget and Finance ultimately enters the profile information into the system. Once entered into the system, the data become accessible for processing within the computerized environment.

Other personnel information needed for payroll processing is contained on the Salary Assignment/Cancellation Form (Form D-60). Employees use this form to indicate voluntary deductions such as parking fees and credit union payments. As with the Form 5, all processing, verification, and review are done manually before the information is entered into the computer.

Collect Time and Attendance Data

The collection of time and attendance data is the process of recording an employee's hours of work, leave, overtime, and compensatory time earned and taken. The information is

reported on the Individual Timesheet Form (Form D-55).

The present payroll system has no complete time and attendance system for all employees. Hourly employees report all hours worked. Salaried employees report hours worked over and above their normal workload, such as overtime.

After all D-55 Forms are manually prepared and processed, they are forwarded to ICS where time and attendance data are entered into the computer system and kept for historical purposes.

Prepare Labor Cost Distribution

Labor cost distribution is the process of allocating labor costs across departments, divisions, and programs. This component of the payroll system is performed using the State's Uniform Accounting Code. Some departments are required to use unique sub-codes as well. Departments that have programs funded by the federal government must allocate labor costs to their general fund accounts using the Uniform Accounting Code and any unique sub-codes, and to their federal fund account using codes that may be standardized by the federal granting agency.

Most departments do this manually or use their own systems.

Maintain Leave Accounting

The types of leave for which employees are eligible include vacation leave, sick leave, military leave, sabbaticals, and leave-without-pay. Leave accounting consists of a variety of functions performed to maintain leave records on individual employees and groups of employees. There are four main processes involved.

In eligibility processing, a record is made of each employee's eligibility to accrue and take

leave. Eligibility will depend on type of employee and type of position.

In accruals processing, a record is made of the amount of leave an employee has earned. Accrued leave is based on the number of regular days worked, compensatory time elected instead of cash payment, and other factors.

Usage processing maintains a record of the number of days or hours of leave an employee takes against accrued leave.

In year-end forfeiture processing, a record is made of days of leave lost by an employee at the end of the year because of a limit on what can be accrued, or "rolled over," to the next year.

Under the existing system, departments perform all of these leave accounting functions manually. In addition to maintaining all individual leave records, departments must manually compute each year the dollar value of employees' leave balances and report these to the Department of Accounting and General Services.

Compute Gross Pay

A major function of a payroll system is to calculate the gross pay for each employee. Gross pay computations include those for regular pay, overtime, and more than two dozen other types of compensation.

The main document supporting the State's payroll process is called the Payroll Change Schedule. The change schedule indicates gross pay for each employee and is used to record changes in employee status, including pay.

For hourly employees, the Payroll Change Schedule shows the number of hours reported on Form D-55 multiplied by the appropriate hourly rate. For salaried employees, pay is "predicted" for the current pay period using the amount paid for the prior period.

Any changes in pay have to be manually computed by each department and then reviewed for accuracy as part of the appropriate pre-audit function. This review consists of manually verifying the calculations as well as verifying the salary against authorization documents. After being reviewed, the payroll changes are then forwarded to ICS to be entered in the computer.

Compute Deductions

The next function of a payroll system is to compute the deductions from gross pay in order to arrive at the net pay due an employee. This function includes computing statutory, voluntary, and involuntary deductions and subtracting them from gross pay.

Under the State's payroll system, the computation of deductions to arrive at net pay is where automation really begins. Federal and state tax withholdings are computed based on marital status and claimed exemptions. Once voluntary and involuntary deductions have been entered in the system, deductions are taken automatically until they are cancelled.

Even though the computation and subtraction of deductions is automated, the system still requires some manual effort. For example, deductions such as garnishments must be kept track of manually if they affect more than one pay period. In instances where deductions exceed gross pay, the payroll system stops processing pay when the net pay reaches zero. When this happens, someone must determine which deductions should be taken and which should be deferred.

Disburse Payroll

Payroll disbursement is the process of issuing paychecks to employees. On the 15th day of the month and on the last day of the month, the payroll system automatically generates payroll checks (warrants) or makes direct deposits of net pay for all 50,000 state employees.

Payroll warrants are automatically sorted by the computer by location codes and are picked up by authorized personnel for further distribution. Employees whose paychecks are deposited directly receive only verification of gross pay and deductions; no warrant is issued.

Set Up Reference Tables

The present payroll system does not use reference tables. Modern payroll systems use reference tables to store data common to all employees. Their use greatly enhances operating efficiency and will be discussed in Chapter 3.

Maintain Historical Data

Payroll systems have to update and maintain certain kinds of historical data that will be needed at a future time. For example, information on gross pay and withheld taxes is required for preparation of tax returns. It may also be necessary to store data on vacation and sick days taken, hours worked, and so forth.

The present payroll system automatically maintains only three kinds of historical data: (1) personnel history processed through the Form 5s; (2) pay history showing the gross-to-net calculations for all employees; and (3) time history for hourly employees and additional pay earned by salaried employees.

Other types of historical data, such as leave history, are maintained manually by the departments.

Process Retroactive Pay

The processing of retroactive pay is an important function of every payroll system.

Retroactive adjustments are required when an employee is not paid correctly in the regular pay period. Adjustments are then made retroactively in a subsequent pay period. Because salaries are always "predicted" based on the previous pay period, the potential for adjustments is always present.

Two common types of retroactive adjustments result from workers' compensation claims and from labor agreements negotiated with an effective date that has already passed. A renegotiated labor agreement usually affects many employees and requires large numbers of adjustment calculations to be performed manually by payroll personnel. Workers' compensation adjustments affect only one employee per case but usually involve multiple pay periods and require adjustments not only to pay but also to leave balances and tax withholdings.

The present payroll system requires that all retroactive adjustments be computed and processed manually by each department. The adjustments are then recorded on the Payroll Change Schedule along with other adjustments to gross pay.

Perform Special Processes and Interface with Other Systems

Payroll systems also have to perform several important miscellaneous functions. The ICS computer system automatically produces third party checks in the expenditure cycle to transfer to the appropriate agent monies that have been deducted from employees' gross pay. For example, all taxes deducted from the employees' gross pay are paid in the form of tax deposits automatically processed by the payroll system. The system also performs quarter-end and year-end processing. Year-end processing involves the preparation of forms required by federal and state income tax laws as well as the setting up of specific files and data elements for the next year's processing.

The computerized payroll system also "interfaces" with independent computer systems located in various departments. It produces tapes for the other systems to use and it accepts tapes from these systems for its own use. For example, the University of Hawaii's system (SCOPIS), which maintains data on casual and overload employees, regularly exchanges information with the ICS payroll system.

In addition to regular payroll, the computerized payroll system has the capacity to run a supplemental payroll and to produce checks on demand.

PROBLEMS WITH THE EXISTING SYSTEM

The present system has been in existence for over twenty years and its basic procedures and computer application concepts have not changed. While the system continues to prepare payroll for some 50,000 employees, it is burdened with major problems. These are discussed in this chapter under two categories.

> *Summary of Problems*
>
> . *The payroll system is extremely labor-intensive because of the many manual activities that could be automated.*
>
> . *The computerized applications of the payroll system are outdated when compared to the more efficient and flexible technology used in modern payroll systems.*

Extremely Labor-Intensive

The present system is labor-intensive and supported by many redundant activities. State personnel manually perform such activities as calculations, verifications, edits, and recordkeeping. The following are major areas that could be automated.

Leave accounting. Leave accounting is one of the most labor-intensive payroll functions performed by state personnel. Currently all records of eligibility, accrued leave, used leave, and year-end forfeitures are kept manually. Each month, state personnel must manually record vacation and sick leave, and compute leave balances for about 50,000 employees. Recording is done on the State DPS Form 7s, which are

kept on file at departmental personnel offices. These forms are the official record of vacation and sick leave.

An automated leave accounting system could perform the four major leave accounting functions. When an employee is hired, the system could automatically indicate the type of leave the person is eligible to receive. It could update each employee's leave record, and based on time and attendance input, the system could accrue leave hours earned, record leave hours taken, and compute the leave balance available. At the end of the year, the system could automatically compute and make adjustments for excess leave balances.

Computations of gross pay. Another time-consuming task of the present system is the manual computation of gross pay for hourly employees and for salaried employees who have earned premium pay. In addition to the original computations of gross pay, this activity also includes the review process, because the computations are verified manually by repeating the gross pay computations. Payroll personnel must carry out this process every pay period, and often they are required to work overtime in order to meet payroll deadlines.

An automated system could receive reported hours worked by type of hours, match them against appropriate pay rates, and automatically compute gross pay. As part of this process, the system could verify hour types and pay rates and eliminate the need to calculate gross pay and manually verify calculations. Staff would only have to enter by category the hours worked.

Retroactive pay adjustments. The present computerized system is not able to process

retroactive pay adjustments. Whenever these adjustments are made for state employees, the amount must be computed and verified manually before the employee can be paid. Retroactive adjustments can occur for a number of reasons: workers' compensation claims, collective bargaining pay adjustments, and pay changes that simply take time to process and are entered into the computerized system after the effective date. These adjustments must be made virtually every pay period for every department and are a very time-consuming activity.

An automated system could calculate retroactive pay and save departmental payroll personnel a great deal of time. The system could be programmed to automatically perform most of the tasks done by payroll personnel: matching applicable pay rates to the appropriate periods of time, recalculating gross pay, adjusting for prior gross pay, and making the necessary retroactive pay adjustment.

Labor cost distribution. Under the present payroll system, labor cost distribution reports are prepared using the State's Uniform Accounting Code and are distributed as a standard procedure of payroll processing. These reports often do not have the level of detail required by departments, either to satisfy their own requirements or the funding requirements of federal programs. As a result, departments must separately keep track of and prepare their own reports.

An automated payroll system should have a sufficient number of labor cost codes to satisfy all labor cost distribution requirements of a department and be able to produce reports summarizing labor costs at the level of detail a department needs.

Information edit and verification. Throughout the State's payroll process, from the initial processing of personnel action forms to the preparation of data for processing paychecks, all editing and verifying are performed manually. Such activities as checking pay amounts against bargaining unit scales and verifying ratings to approved staff positions require repeated reference to established rates of pay. The repetitious and exacting nature of the task consumes a tremendous amount of personnel time.

An automated edit and verification procedure for payroll-related personnel information would check information before it is stored in employee records. Time and attendance data and appropriate pay rates are just two examples of information that could be checked automatically. Error reports and messages could be generated immediately so that processing clerks could make timely corrections.

Outdated Technology

The payroll system does not make use of current software technology, and as a result, maintaining and enhancing the automated portion of the system are extremely difficult and time-consuming. Our discussion of the major problems of using the outdated technology follows.

No use of reference tables. The system was not designed to process payroll through the use of reference tables. In modern systems, reference tables are set up in the computer system to store data common to all employees and such data are used to process payroll transactions. Modern payroll systems commonly use job classification tables, hour code tables, salary or rate tables, valid deduction tables, and tax tables. In processing payroll, the users can access data as needed. For example, the different kinds of work hours can be stored in a reference table and used to automatically edit and verify reported overtime hours, vacation leave, and regular hours worked.

The use of reference tables minimizes maintenance of a computer payroll system and enhances operating efficiency. Changes in deductions, tax rates, pay scales, and so forth

can be made simply by amending the table. In the existing system, data are stored in numerous separate files or are part of the computer program code. Any changes require complicated programming and testing efforts.

Not "date-sensitive." In a date-sensitive system, all data that reside in the system are "stamped" with a date that indicates when the data were, or will be, effective. The system can automatically process the data as of the effective date. The present system was developed before date-sensitive systems became available. As a result, any retroactive or prior period pay adjustments must be computed and made manually.

Systems that are date-sensitive can automatically make retroactive pay adjustments simply by using the data that were effective during the pay periods affected by the adjustment. They also have the added attraction of allowing pay changes to be entered into the system to take effect at a specified date in the future.

Data not shared among processes. In recent years, the term *database management* has come to be widely accepted and used. The state payroll system was developed before this technique became popular, and as a result, information is not shared through a common data base. Instead, data are developed and used for each payroll application. This requires a great deal of manual control to ensure that data are consistent for all applications.

The whole concept of a modern human resource system, to include payroll, is that most of the information on employees is shared across systems. Shared data can be accessed and used when needed after being entered only once into the system. For example, information contained on an individual's personnel action form can be accessed to compute pay and deductions and also to prepare various personnel staffing reports. Shared data provide a far more efficient and less wasteful means of operating.

Chapter 4

OPTIONS AVAILABLE TO THE STATE OF HAWAII

This chapter discusses the options available to the State of Hawaii with regards to its payroll system. It also presents our recommendation of what we believe is the best course of action that the State should pursue.

There are two main options. The first option is to make no change to the existing system. The second option is to change by adopting a more automated system using current technology. If the system is to be changed, there are four alternatives: (1) modify the existing system; (2) develop a new customized system; (3) acquire a customized system from another governmental unit; or (4) purchase a system that is commercially available.

Option One--No Change to the Existing System

The argument for maintaining the existing system is supported by the fact that for many years the State has been able to handle the tasks of payroll, personnel, and benefits administration. A new system would involve a huge implementation project. The resources necessary to support such a project would be significant.

The choice of maintaining the existing system deserves serious consideration. However, to do nothing now is to prolong the inevitable need to upgrade the system. Department personnel resources that support the payroll system are stretched to the limit. Manual procedures are extensive and cumbersome, yet they include some of the most important payroll functions--leave accounting, gross pay and retroactive pay calculations, and labor cost distribution. Because of the increasing volume and complexity of transactions, it takes more

time for payroll and personnel clerks to submit payroll information needed to meet deadlines. Overtime is often required to get major tasks done on time.

From a technical standpoint, the existing system suffers from an inefficient software architecture whose code structure and documentation are out-of-date. During the study, concern was expressed about the possibility of the system "breaking down" as a result of numerous modifications over its lifetime. Additional modifications add to that possibility.

Changes in tax laws and other legally imposed changes continually place increasing demands upon personnel and payroll reporting systems. This situation will not change, and so modifications will continue to be required. We believe it is unrealistic to expect the system to survive over the long term in its current form.

There is also a great deal of dissatisfaction with the existing system among users. For example, the Department of Education has expressed its desire to pursue the development of its own payroll system.

For these reasons, we do not recommend the option of not changing the existing system.

Option Two--System Change

There are four alternative ways to pursue the option of fully automating the payroll system with current technology. Each has unique risks and timeframes.

Modify the existing system. The existing payroll system is over 20 years old. It is a

testament to the quality of the original design that the system has been able to function as long as it has. However, the extent to which the system would have to be modified to bring it even close to industry standards would be significant. The underlying software architecture of the automated system has taken on a "patchwork" character and has lost all semblance of a planned structure. Also, the system documentation is not up-to-date. The architecture would have to be redesigned and the system documentation updated before the extent of necessary modifications could be determined.

The risk associated with attempting this approach would be high. This is because, even after a redesign and redocumentation of the present system is completed, the State will find it extremely difficult to fit its new requirements into a system structure that is almost 20 years old. We believe that to follow this approach will require so much rewriting of existing programs that the end result will be a completely new system.

Because of the uncertainties and high risk, we do not recommend pursuing this alternative.

Develop a new customized system. This is the process of developing a new system "from the ground up." A customized system normally takes 80 to 100 percent longer to implement than a commercially available system.

The common rationale for a customized system is that it is tailored to match user needs. However, our experience indicates that the additional features when finally implemented do not warrant the increased resources necessary to develop them.

We have found that when attempts are made to tailor a system perfectly to match user needs, perfection becomes elusive. Of the many efforts at system implementation of the past few years,

we are aware of only three governmental units that have tried this approach.

The City of New York took over seven years to implement a customized system. Los Angeles County began to develop a customized human resource system in 1987. Work on the payroll system has been temporarily halted to evaluate alternatives for completion (including purchasing a commercial software package). The implementation of the District of Columbia's human resource system has been completed. Here, implementation was closely managed by a small steering committee, and new user requirement requests were held to a minimum. Even so, system costs were significantly higher than the costs of installing a commercially available system.

Because of the costs involved and the risk of failure, we do not recommend developing a customized system.

Acquire a custom-developed system from another governmental unit. Acquiring a custom-developed system from another governmental unit is an uncommon and unproven method for implementing a new payroll system. The only type of system that could be acquired from another governmental unit would be one that was totally custom-developed. This is because, if the system's nucleus is a commercial software package, the software must first be purchased from its vendor.

Based on our experience, custom-developed systems are not easily transportable because they were not originally developed with other users in mind. Requirements unique to the originating entity are interwoven throughout the system logic. Because of the unique nature of every payroll system, the process of fitting requirements of the State of Hawaii into another state's design would result in, at best, a cumbersome and inefficient system that would be difficult to maintain and modify.

We therefore do not recommend that the State consider this alternative.

Purchase a system commercially available. In the past few years, commercially available software packages with applications for public sector payroll systems have been developed to satisfy most user requirements. As a result, in the last three years the majority of state and local governments requiring new human resource systems have decided to implement commercially available software. Table 4.1 provides a cross section of some of these governmental units and also shows their system implementation effort.

There are a number of reasons for the tremendous interest in commercial software. *First,* the evolution of human resource software has resulted in a flexible, proven solution to satisfying human resource requirements. Commercial software vendors have done this by making use of reference tables, date-sensitive processing, and shared data techniques. Vendors remain abreast of recent technology and use this technology to constantly improve their products.

Second, because much of the normal and customary payroll and human resource requirements will be satisfied by the "as delivered" software, the risk associated with implementing a functionally robust system is significantly reduced.

Third, an accurate estimate of time and cost of implementation can be made by comparing the capabilities of the software with the requirements of the system. It is not uncommon these days to use the "as delivered" software as a prototype when refining user requirements and designing the system. In this way, what is needed in the way of customized modifications to the software can be more accurately identified.

Fourth, modifying specific software to meet unique needs has been performed by enough other public sector units that there exists a wealth of knowledge for the State to draw upon. This, too, increases the chances of success.

Finally, commercial software has been developed to be compatible with most hardware used by governmental units. The State uses IBM mainframe computers in the ICS data center to run and support present payroll applications. The packages most often selected to operate on an IBM mainframe are Integral Systems, Management Science America, Tesseract, McCormack and Dodge, and Genesys.

Recommendation

The State should pursue a modern payroll system by purchasing a commercial software package. The State should develop criteria for its desired system and request proposals from proven vendors.

Table 4.1 State and Local Governments Implementing New Human Resource Systems Using Commercial Software

Government Entity (Number of Employees)	Software Vendor
Implementation Completed	
California (250,000)	Integral Systems
Connecticut (25,000)	Management Science America
Utah (15,000)	Management Science America
Virginia (112,000)	McCormack & Dodge
Wisconsin (30,000)	Integral Systems
In Progress	
Alaska (10,000)	Tesseract
Arizona (40,000)	Management Science America
City of Austin (9,000)	Integral Systems
City of Chicago (43,000)	McCormack & Dodge
City of Detroit (20,000)	Cyborg
Fairfax County, Virginia (11,000)	Integral Systems
City of Houston (15,000)	Genesys
Indiana (25,000)	McCormack & Dodge
City of Los Angeles (38,000)	Integral Systems
Long Beach, California (10,000)	Tesseract
Maine (15,000)	McCormack & Dodge
County of Milwaukee (12,000)	Genesys
Planning Stage	
Nevada (10,000)	Pending
State of Ohio (45,000)	Pending
Orange County, California (15,000)	Pending
Vermont (10,000)	Pending
Westchester County, New York (10,000)	Pending

Chapter 5

WORKPLAN AND COST OF RECOMMENDED COURSE OF ACTION

In Chapter 4, we recommended that the State should pursue a modern payroll system through the purchase of a commercially developed software package.

This chapter presents a workplan and cost estimates for the recommended course of action. It also discusses the problem of separate systems and identifies some issues that the State must address before implementing a new system.

The Problem of Separate Systems

During our study, we noted that individual departments were supporting the establishment of autonomous departmental payroll systems. The department most aggressively pursuing this option is the Department of Education. While options such as these may benefit the individual departments, we believe the statewide effort, as a whole, will suffer for two reasons.

First, if departments are allowed to proceed on their own, they will all develop different payroll systems that will perform for the most part the same tasks, thus resulting in a duplication of effort and cost. While we recognize that departments have some unique needs, we believe that these are but small subsets of statewide requirements and could be accommodated within one statewide system.

Second, if departments are allowed to develop their own systems, the State will be unable to apply the necessary controls to keep them within the guidelines required of a statewide system.

We therefore believe that individual departments should not pursue the development of autonomous payroll systems and that the State should proceed on the basis that a statewide system can be designed to satisfy departmental needs.

Issues to be Addressed

As a result of this study, we note two major issues that must be addressed before the State implements a new system. A discussion of these issues follows.

Establish goal of the new system. The goal of the new system needs to be established at the outset, that is, whether the new system will involve a total or partial human resource system. A total human resource system contains five basic applications: payroll, personnel, benefits administration, position control, and applicant tracking.

The departments interviewed during the study made it clear that their desire was to integrate all of the human resource functions. This would do away with the labor intensiveness and redundancy of activities currently required to support the several existing non-integrated systems.

We believe the State should approach this issue by establishing both long and short-term goals. The long-term goal is to have a totally integrated human resource system. This goal could be divided into short-term goals or phases. These might be, for example, first to implement payroll and personnel applications, next to implement benefits administration applications, and finally to implement position control and applicant tracking.

There are several advantages to the phased approach. The user community is not overwhelmed with new automation and unfamiliar procedures. The timeframe between project inception and having the system operational is shorter, thereby keeping interest in the project at a high level. Finally, and very important, resources can be better controlled.

Establish a steering committee. The next issue that should be addressed is that of establishing a steering committee. This committee should be viewed as having the best interests of the State, as well as each department, in mind. Its role would be pivotal to the successful implementation of a system that crosses departmental lines.

To be effective, the committee must possess the ability to make quick decisions affecting all aspects of the system, and must have the authority to enforce its decisions. Among the more controversial issues it will have to immediately address are:

.   Whether certain payroll functions are to be centralized or decentralized, that is, where data entry, editing, and verification will be performed.

.   Whether time and attendance information and labor distribution codes will be reported on an exception basis or entered positively each pay period.

.   Whether independent departmental systems will continue to be maintained.

Workplan

The workplan for undertaking a new system will have two major tasks.

Task I: analyze requirements and select software package. The first task to be performed is that of analyzing the requirements for the system. Statewide and departmental requirements should be thoroughly identified, reviewed, and documented. The purpose of this analysis is to ensure that user needs are identified and will be satisfied by the new system.

Once the desired requirements have been identified and documented, requests for proposals can be sent to the major software vendors, and their software capabilities can be measured against the requirements.

Acceptance of vendor bids, bid evaluation, and vendor selection can then follow. Assuming a thorough evaluation process and a six-week time frame for vendors to respond to the requests for proposal, we estimate that this task could be completed in six months.

Task II: install, modify, and implement the system. The second task involves installing the software, becoming familiar with the system, making programming modifications as necessary, conducting training, and completing the conversion to the new system.

Until the specific software package is selected and the State has decided which custom-designed modifications will be a part of the initial effort, only a rough estimate can be made of the time and resources necessary for implementation. Based on the amount of additional programming required, implementation of a commercial software package may take from 12 to 24 months.

Having identified all the requirements desired in the new system, the State can assign high, medium, or low priority to each requirement. This will allow the State to control the project timeframe. High priority requirements would be implemented first, medium priority requirements next, and lowest priority requirements last. Implementation of only high priority requirements could be controlled so that the effort might be completed in 12 to 15 months, while implementation of all requirements could take up to 24 months.

Costs of the New System

Costs of the new system would depend on the level of state personnel involved, consultant efforts required, computer hardware needed, as well as the cost of the software package. For the purpose of developing some cost estimates for the new system, we will assume that state personnel involvement will be limited to the steering committee, thus maximizing consultant effort. We also assume a consultant's average hourly rate of $100.

Given these assumptions, the following estimates are provided.

.   Consulting costs for the requirements analysis, specifications, request for proposals, and proposal evaluations are estimated to be $266,000. This estimate assumes a six month timeframe and 2,660 hours.

.   Software costs will depend on the vendor package selected and will range from $200,000 to $500,000.

.   Consultant costs for system installation, modification, and implementation are estimated to be $1,494,000. This estimate assumes an 18-month timeframe and 14,940 hours.

.   Hardware costs will depend upon hardware needs established during the requirements analysis task.

These estimates assume a minimal level of involvement by state personnel. Increased levels of participation will help to reduce consultant costs.

RESPONSES OF THE AFFECTED AGENCIES

COMMENTS ON AGENCY RESPONSES

A preliminary draft of this report was transmitted on November 29, 1989, to the Department of Accounting and General Services (DAGS) and the Department of Personnel Services (DPS). A copy of the transmittal letter to DAGS is included as Attachment 1. A similar letter was sent to DPS. As is our practice, we invited the agencies to comment on the recommendations made in the report. The agencies' responses are included as Attachments 2 and 3.

DAGS agreed that a new payroll system is needed to replace the existing one and concurred with the recommendation that the State should pursue a modern payroll system by purchasing a commercial software package.

DPS also supported the findings of the study and concurred with the recommendation. However, DPS expressed concern whether the payroll system should contain a total human resource system because of its impact on current and impending efforts to automate personnel functions. The department also expressed a desire to be a member of the steering committee that was proposed in the report. We note that these types of concerns were anticipated by the study and are recognized in Chapter 5 as issues that the State should address before implementing a new system.

THE OFFICE OF THE AUDITOR
STATE OF HAWAII
465 S. KING STREET, RM. 500
HONOLULU, HAWAII 96813
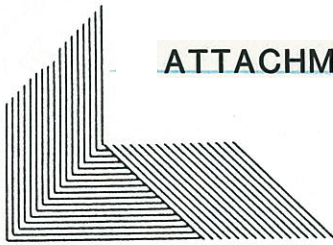
C O P Y

November 29, 1989

The Honorable Russel S. Nagata
Comptroller
Department of Accounting and General Services
1151 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Nagata:

Enclosed are three copies, numbers 4 to 6, of the draft on the *Study of the Payroll System of the State of Hawaii* prepared under our direction by the Human Resource Consulting Group of Price Waterhouse. This study was prepared pursuant to the General Appropriations Act of 1989.

We ask that you telephone us by December 4, 1989, on whether you intend to comment on the draft. Should you decide to respond, please transmit the written comments to us by December 11, 1989. We will append your response to the report submitted to the Legislature.

The Governor, presiding officers of the two houses of the Legislature, and the Director of Personnel Services have also been provided copies of this draft report.

Since the report is not in final form and changes may be made, access to this report should be restricted to those whom you might wish to assist you in preparing your response. Public release of the report will be made solely by our office and only after the report is published in its final form.

We appreciate the assistance and cooperation extended to us during the course of the study.

Sincerely,

Newton Sue
Acting Legislative Auditor

Enclosures

STATE OF HAWAII SEAL

JOHN WAIHEE
GOVERNOR

RUSSEL S. NAGATA
COMPTROLLER

JAMES H. YASUDA
DEPUTY COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING
AND GENERAL SERVICES
P. O. BOX 119
HONOLULU, HAWAII 96810-0119

DEC 5 1989

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DEC 6 8 24 AM '89
OFC. OF THE AUDITOR
STATE OF HAWAII

Mr. Newton Sue
Acting Legislative Auditor
Office of the Auditor
465 South King Street, Room 500
Honolulu, Hawaii 96813

Dear Mr. Sue:

Thank you for sharing the draft on the Study of the Payroll System of the State of Hawaii prepared by Price Waterhouse, under your office's direction.

While the State has never missed a payroll on payday, we heartily agree that a new payroll system is needed to replace the existing one, to meet the ever changing and increasing demands continually being placed on the system. We also concur with the recommendation that the State should pursue a modern payroll system by purchasing a commercial software package.

Thank you for allowing us to comment on the draft of the study.

Sincerely,

RUSSEL S. NAGATA
Comptroller

cc: Office of the Governor

JOHN WAIHEE
GOVERNOR OF HAWAII

ALFRED C. LARDIZABAL
DIRECTOR

TITUS J.Y. YAP
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF PERSONNEL SERVICES
830 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

December 11, 1989

Honorable Newton Sue
Acting Legislative Auditor
State of Hawaii
485 South King Street, Room 500
Honolulu, Hawaii 96813

Dear Mr. Sue:

Thank you for allowing us to participate in the "Study of the Payroll System of the State of Hawaii" conducted by Price Waterhouse.

We support the findings of the study and concur with the recommendation that the State develop its criteria and purchase a commercial software package pursuant to proposals from proven vendors. However, we do have a concern with regard as to whether the payroll system should contain a total human resources system.

Currently, the Comptroller is responsible for computing and paying an employee's net pay using a "Payroll Change Schedule" (PCS) form. We believe that the purpose of developing a new payroll system is to perform this function in a less manual, labor-intensive fashion, thereby making the payment of the payrolls more efficient.

The Director of Personnel Services is responsible for certifying to the PCS the employees who are to be paid from the payroll system and the amounts of their gross pay. This certification is executed through the DPS Form 5, "Nofitication of Personnel Action." The Form 5 does contain payroll, position and employee information which are entered and updated manually, including the employee's gross pay.

We are presently in the initial stages of implementing an automated personnel action reporting system. This would alleviate much of the manual activities currently performed by departmental personnel offices and our own auditing staff. We already have begun automated systems for the certification of eligibles to civil service positions and the tracking of position classification actions. Consequently, the development of a human resources system must take into consideration the impact on current and impending efforts to automate personnel functions.

We would like to volunteer to be a member of the steering committee. As a member of the committee we would work toward developing requirements for a new payroll system that would ensure compatibility with automated systems that are and would be in place when the new payroll system is installed. We believe that such a concept would provide the State with a new payroll system that would be linked with human resource type systems.

Thank you for allowing us this opportunity to respond. I may be reached at 548-7405 if you have any questions or concerns with regard to the above.

Sincerely,

ALFRED C. LARDIZABAL
Director of Personnel Services

EDPR1:PAYROLL