

EVALUATION OF THE VENTURA COUNTY INFORMATION TECHNOLOGY SYSTEMS

BACKGROUND

This evaluation is conducted amidst the county's plan to modernize its computer-based information processing systems. The Board of Supervisors, Chief Administrative Officer (CAO), and department heads have initiated the first step, as evidenced by the formation of the Information Technology Committee (ITC) in January 1996, to formally address the technology issue on a regular basis. Through the initiatives of the Information Systems Department (ISD), the committee has identified project requirements, funding, hardware, software, and operating systems. The committee has been meeting monthly to resolve various issues such as priority, user responsibilities, training, network connectivity, standardization guidelines, and procedures. Thus far, a five-year technology modernization plan has been set forth by the ITC with blessings from the Board of Supervisors and the CAO.

The intervention by the 1996-97 Grand Jury in the evaluation of the Information Technology Systems is deemed appropriate due to the tremendous financial impact it has on the county. It is estimated forty million dollars will be needed for the modernization program; sadly, most of it is unfunded. Aside from the capital and personnel investment in the five-year plan, the year 2000 reprogramming effort must also be examined for compliance.

SCOPE

Our evaluation focuses on several areas which specifically relate to information processing systems currently operational that might seem as impediments for the modernization program to proceed. Needless to say, funding is a major hurdle; we are mindful of the financial requirements. We feel it is the Board of Supervisors' duty to address this issue. It is imperative not to nurse existing systems but rather to replace obsolete systems. We are particularly interested in each agency's view on information technology relative to organization, management and implementation policies for Local Area Network , productivity tools, operating systems, infrastructures and equipment, mainframe processing amid today's downsizing and budget constraint environments, and security safeguards and data integrity.

INQUIRY

- We attended ITC meetings chaired by a member of the Board of Supervisors. We obtained an Information Technology Strategy document which provided the standard operating procedures for all departments on the technology issues. We also obtained data on inventory of hardware, access frequency to the county Web Site Pages, and training courses available.
- We visited and interviewed the CAO, ISD department heads, and eleven other agency heads and members of their technical staff on Information Technology Systems. Discussion centered primarily on the agency's current status on computer utilization, organization, policies, mainframe processing and security.

FINDINGS

- We discussed hardware and software issues from the end user's point of view with the Departmental Information Systems Advisory Committee (DISAC), a technical oriented user's group.

Documents Disseminated

1. Departmental application Development Standards and management Guidelines, 7/95.
2. Network Access Policy, 10/95.
3. Internet Policy, 11/95.
4. Electronic Mail Policy, 11/95.
5. LAN and LAN Services Standards and Management Guidelines, 12/95.
6. Information Technology Strategy, 1/96.
Information Technology Strategy, 10/96, Rev 1.
7. Technology-Based Information Systems Policy, 4/96.
8. Centralized Host Systems, 4/96.
9. Employee Technology Use Policy, 7/96.
Employee Technology Use Policy, 9/96, Rev 1.
10. Interim Five Year Projection, 7/96.
Five Year Plan Update and Financing Plan, 9/96, Rev 1.

Although these documents are subject to revision, they have been widely disseminated throughout various county agencies.

In the November 1996 meeting, the ITC made a proposal to seek a Microsoft Variable Select Agreement Pricing and the Novell Licensing Purchase Program to take advantage of the volume discount for its software needs. If approved, the county will be making another step towards desktop software and network operating systems standardization by their licensing commitments with Microsoft and Novell. Furthermore, maintenance contracts for Groupwise (mail software) and Netware (network operating system) were also discussed at the meeting.

Data on PC survey

The PC inventory results from a survey initiated by the Board of Supervisors and carried out by the CAO. In a memorandum dated November 6, 1996, from the CAO to the Board of Supervisors, the county-wide personal computer/terminal/printer inventory revealed the following results:

1. There are 3,920 Personal Computers identified by processor type:
 - 7.8% - 286
 - 13.2% - 386
 - 51.0% - 486
 - 21.1% - Pentium
 - 6.8% - Mac

60.6% of the PCs are on a Local Area Network, 39.4% are asynchronously connected to a mainframe, and/or stand-alone.

2. There are 1295 Computer Terminals including:
 - 31.5% - Hewlett Packard
 - 3.0% - IBM
 - 55.8% - Digital General
 - 9.7% - other
3. There are 2426 printers including:
 - 11.7% - Epson
 - 68.5% - Hewlett Packard
 - 1.9% - Okidata
 - 17.9% - other

Web Site Access Data

For the months of January to September, the average monthly hits on the county's primary Web Pages were obtained:

The highest average monthly inquiries registered was for the County Homepage, 1005. The second highest was for the Human Resource Department with 530. The third highest was for the fire department with 338. There were no hits registered at all for the airports.

Technology training course data

We obtained some data on technology training that is available through ComputerFocus, the contracting firm which provides computer training courses for the county. Sixteen county agencies/departments participated in these training classes. For the period between July 1, 1996 through October 31, 1996, the following is a summary of the training courses taken:

1. 237 individual courses.
2. 150 employees took courses related to word processing, spreadsheet, and other desktop application under the Windows 3.1 Operating System.
3. 51 employees took courses related to word processing, spreadsheet, and other desktop application under the Windows 95 Operating System.
4. 13 employees took various courses related to other technology courses such as E-mail, internet, and network operating system.
5. 2 employees took courses on Personal Computer Troubleshooting.
6. Other employees took introduction or specialized computer courses.

Visitations and interviews

In our visitations and interviews, we obtained the following information from various agencies:

1. Some agencies lack a computer systems group. These agencies have a person who serves as the primary interface between the department and ISD. On the other hand, there are agencies that have some knowledgeable and talented computer personnel to support the departmental computer system needs.
2. Not all of the employees within any one agency have E-mail and internet/intranet capabilities. Some agencies depend on the big mainframes for their information processing needs. Some rely on either maxi/mini mainframes systems, while others have stand-alone Personal Computer Systems.

3. It seems PC workstations, when configured and properly connected, as we witnessed on our tour, solve many business systems functions, such as automated purchasing and billings. Some departments are linked, via modem, to other state and private agencies as well as private financial institutions to obtain/provide various data on county, state, and federal government.
4. Many agencies are running under the Disk Operating System (DOS) with Windows 3.1 and Windows 95 with DOS as an application on the desktop. Practically all employees use a word processor such as WordPerfect and/or spreadsheet such as Lotus.

Some of the other most widely used desktop applications software are Sybase, Power-builder, Microsoft Word, Excel, Access, FoxPro, and PowerPoint.

5. The county also uses many terminals to communicate with big mainframes; this is particularly true in large agencies such as the financial, health care, and social services departments. Many low end PC workstations are running a terminal emulation program in support of the terminals that are already in use with the big mainframes.
6. Some agencies use high end PC workstations to perform rigorous mapping of land sites, contour, building geometry, engineering, and geographic information.
7. Some agencies obtain most, if not all, of their operating funds from ISF accounts. These agencies are asked to perform supportive functions such as generating financial data, requisition, or purchasing orders. The agency is then reimbursed for all of these services by the requesting departments.
8. Within the Public Social Service Agency, there is practically no on-line capability. The primary computer software system, the Welfare Information Collection and Reporting (WICAR), runs on a mainframe. This system has been in existence since 1972. It is a batch system whereby data is collected manually and key punched into the system for overnight processing. A printout is then generated for use by the welfare case worker.

The agency is enjoined, by state mandate, into a welfare consortium consisting of eighteen other counties to develop the Statewide Automated Welfare System (SAWS). In the 1995 report to the California Legislature, SAWS will be implemented with full usage of technology to include a central data base, eligibility determination, benefit computation and delivery, case management, and management information. SAWS is scheduled for operational implementation in the year 2000-2001 time frame.

9. We visited the Data Center, the mainframe computer facilities for the county. We witnessed dedicated mainframe computer systems running various software systems for the respective department. Several dedicated Personal Computer Workstations were used for security as part of the "filtering system", known as Firewall to prevent unauthorized entry.
10. Discussions with the Departmental Information Systems Advisory Committee (DISAC) members revealed the following:
 - Discussions were held with DISAC on software purchase contracts, software standards, report writers, form generation, and cc-mail software. Although

most of the policies set forth for software purchases and standards have been replaced by the ITC's decision, the committee itself does represent a user's point of view on information technology.

- The Standards subcommittee reviews current ITC policies to determine whether there are hardware/software standards which might impact certain agencies within the county. The purchase subcommittee issues Requests For Proposal (RFPs) to various vendors for approved purchases made by the agency.
- There are a total of 32 members belonging to the DISAC committee and practically every agency from the county is represented. Minutes of the past six months meetings were obtained.
- The committee also addressed recycling of technology equipments.

CONCLUSIONS

1. The county's information technology strategy is in a policy-setting mode. The Board and the CAO are taking the right course of action at the present time—in small steps. For the most part, current ITC's agenda on information technology policy has the backing of the Board and the CAO, albeit funding and implementation issues remain open for discussions.

Users' group participation on technology issues such as hardware/software purchase standards, report writers, and mail systems are conducting meetings without direction and guidance from top management. Subcommittees are established on an "as needed basis."

2. In our gathering of data on Personal Computer Systems, access frequency on the County Web Site Pages, and computer trainings, we have determined the following:
 - Over 70% of the county's Personal Computer systems are of the high-end variety. Over 60% of all systems are connected to a Local Area Network. There are about 5,000 PCs and terminals in use throughout the workplaces; about 33% are computer terminals which are used to communicate with mainframes. If PCs and terminals are evenly distributed throughout the county, there is practically one printer for every two PC/terminals in the workplace.
 - Information appearing on the Ventura County Web Site Pages is drawing a lot of attention from the general public. This is particularly true for the Human Resource and Fire Departments, since these two agencies have registered the highest number of inquiries thus far.
 - The request for technology training continues to be quite popular among workers. We found that 85% of all courses taken were on the subject of word processing, spreadsheet, and other desktop applications. Surprisingly, about 75% of these courses taught were under the old Windows 3.1 Operating System. Slightly over 5% of the courses pertain to E-mail, internet, and network operating systems which are the current state-of-art of technology.
3. In the workplaces we found:
 - A variety of terminals, Personal Computers (both IBM compatible and Macintosh), stand-alone workstations, big mainframes, maxi-systems mainframes, mini-systems mainframes, and computer peripherals, such as printers.

- A variety of Operating Systems such as UNIX for the mainframes, Windows 3.1 and Windows 95 for the PC systems, Stand-alone Operating Systems. Specialized Operating Systems such as the Hospital Information System, Payroll Systems, and the Welfare Information Collection and Reporting System were also used. In addition, a variety of database systems were also used by the county. We found the county is consistent in implementing the Novell Netware Network Operating System and its usage of the Token Ring Configuration for Local Area Network throughout the workplaces.
 - In the Desktop Application, we found different vendor software packages for the mail system (cc-mail, Groupwise), spreadsheet (Lotus 1-2-3, and Excel), word processing (WordPerfect and Word), and database software (Access and FoxPro).
 - We do not find any consistency in the implementation of client/server distributed processing and multi-tasking scheme to a great degree.
 - Despite the presence of Personal Computer workstations throughout the work places, the county as a whole has not really taken advantage of the power and speed of desktop computing. As an example, we witnessed a situation whereby an employee was using a PC to demonstrate a desktop application while retrieving a data file from the mainframe using a terminal.
4. The creation of various databases, whether it be financial, personal, medical, or GIS, has been done independently over time by the respective agency. In some cases, the same database is developed in duplication and identical data elements are found. This is especially true with the medical and GIS databases.
 5. There is a general lack of knowledge, understanding, and skill in the area of auditing of information technology systems.
 6. There appears to be too much decentralization of computer power; so much so that we detected a balkanization of resources. However, we do not feel the current mixtures of software available for use and the different platforms under which they are executed are all that bad. We say this because with the emergence of telecommunication technology, especially in sending and receiving data using different phone lines on cable modems, internet, intranet, together with new software language, any barriers of incompatibility among different systems of today will eventually be broken down by tomorrow.
 7. The county is taking steps in the right direction on matters pertaining to security and preventing outsiders from entering into the county's domain by implementing a firewall system.

For the workers, we do see that the ease and convenience of using electronic delivery channels in the workplaces have made the acceptance of the technology more palatable. For this reason, we feel much is needed in internal security in areas of authentication, authorization, data integrity, and data privacy.

RECOMMENDATIONS

1. The Board of Supervisors/CAO should provide the funding required to retrofit the Data Center in order to position itself to accommodate the modernization program. Furthermore, the funding source for the five-year technology plan should be identified for the out-years so that the county and ISD can focus on the goals as set forth by the ITC.

2. We feel it is important to ensure that employees use standard procedures in doing their jobs and to arm them with proper training. In addition to offering training courses, the county should conduct specialized, in-house technology trainings for new software systems and job related tasks. We feel any in-house trainings should be provided by either ISD or the computer user's group (DISAC).
3. The county should replace its inventory of computer terminals with PC workstations and run a terminal emulation program on these Pcs.
4. Each agency in the county should strive to develop/generate their own expertise to interface at a technical level with ISD in information technology. These technological teams would be more proactive rather than responsive to information technology issues in meeting and optimizing inter-department requirements. Immediate attention needs to be devoted to the year 2000 reprogramming effort
5. Several agencies are inundated with data and the demand for data. The county should look into a document imaging system which will store and retrieve data in an efficient manner. In today's state-of-art technology, nobody likes to get information tomorrow. Information must be provided "on-line," if not at "real-time." To provide for the creation and the maintenance of information to be made "on-line," the CAO should identify a county Data Base Administrator. This person would coordinate the design and implementation of a financial/personnel, land base/GIS, medical, and social service databases.
6. The facilities under which the Public Social Service Agency operates are in need of improvement in order to carry out its role as provider of public social service. Futhermore, the agency's antiquated eligibility determination process is laborious and error-prone. Although state and federal regulations have literally choked the agency's will to bring changes, some improvements can be made at the local level. The agency needs to improve its infrastructure and equipment. The PSSA sites need to have modern electrical and communication wiring and switching to go with its modernization plan.
6. An audit of information technology systems should be made annually by the Auditor and Controller Department. Special emphasis should be on computer security, backup systems, data privacy, hardware and software systems in use.

RESPONSE REQUIRED

The Board of Supervisors
 Chief Adminstrative Office
 Auditor/Controller

COMMENDATION

The 1996-97 Ventura County Grand Jury commends the following agencies and groups for their support in allowing us to visit and to interview them on the subject of information technology. Their spirit of cooperation was most cordial and their knowledge of the subject matter truly reflects their professionalism.

- The Auditor/Controller Department and members of his technical staff.
- The Human Resource Department.

- The Assessor and his technical staff.
- The Treasurer/Tax Collector.
- The Administrator of Health Care Agency and members of his technical staff.
- The Director of Public Works and his technical staff.
- The Director of The General Service Agency and his technical staff.
- The Deputy Fire Chief and his technical staff.
- The County Clerk's Office and members of his technical staff.
- The PSSA administrator as well as the technical coordinator of the agency.
- The Executive Office of the Municipal and Superior Courts and her technical staff.
- The entire departmental staff of the Information Systems Department.
- The Chief Administrative Officer
- The members of the Departmental Information Systems Advisory Committee.