



# INFORMATION CAPSULE

## Research Services

Vol. 0813  
January 2009

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## Enterprise Resource Planning (ERP) Implementation Experiences in Large School Districts

### At a Glance

*This Information Capsule examines recent literature regarding Enterprise Resource Planning (ERP). ERP systems integrate major business operations such as procurement, accounting, payroll, and human resource management into a single and interrelated computerized reporting system. The primary purposes of such systems are to reduce costs, increase productivity, improve services, and provide more timely and accurate data acquisition. The implementation of ERP systems in private industry and school districts has met with mixed reviews. A number of shortcomings have been identified including high costs and the extreme amount of staff time involved in development and integration. Included for discussion in this capsule are the ERP implementation experiences from three school districts outside of Florida (i.e., Los Angeles, Chicago, and Clark County Nevada) and three Florida districts (i.e., Palm Beach County, Orange County, and Broward County).*

Enterprise Resource Planning (ERP) systems developed out of procedures used to support inventory requirements of manufacturing firms in the 1960s and 1970s. ERP systems have grown in popularity over the years with businesses spending from \$319 million in 1993 to \$17.7 billion in 1999 and \$23 billion in 2000 (Pang 2001). The increase from 1999 to 2000 represented a 30 percent increase in a single year. This significant increase in the use of ERP systems was attributed to preparation for Y2K.

The primary purpose of ERP systems is to integrate the major functions of an organization into a single computer reporting system. The various ERP modules can include the following business functions: human resource management, financial management, supply chain management, procurement, logistics management, planning and budgeting, sales and distribution, and student information administration. A number of vendors sell and support ERP systems. Several of the larger vendors are listed below.

- SAP (Systems, Applications, and Products in Data Processing; 30 to 60 percent of the worldwide market)
- Oracle (second largest ERP vendor), including PeopleSoft (specializes in Human Resource Management systems)
- J.D. Edwards (offers the product OneWorld primarily used by smaller businesses)

Benefits: ERP systems have a number of benefits for organizations. Such systems update and modernize the existing information technology hardware and software which may have been developed more than twenty years ago. Having a single database that integrates organizational information eliminates duplication and streamlines communication. Additional advantages offered by ERP advocates include the following.

- Reduction in costs
- Increased productivity
- Improvements in services
- More timely and accurate data acquisition

Potential Pitfalls: ERP systems can also be associated with a number of potential problem areas. A survey reported by Cotteleer (2002) indicated that approximately 14 percent of ERP implementations were “troubled or abandoned and 40 percent either just meet or fall short of expected benefits.” Wheatley (2000) attributes ERP failures to poor training of staff. This author contends the well-publicized ERP failures at major companies such as Hershey Foods, Whirlpool, and Volkswagen could have been prevented by improved training and preparation of staff.

Jeffrey (2002) reported that “. . . more than 50% of implementations fail. Even the most tech savvy of companies have failed with ERP implementation, and some ERP disasters have pushed formerly prosperous companies into bankruptcy.” Problem areas frequently associated with ERP implementation include the following.

- Implementation is costly and time consuming
- Implementation usually exceeds required resources
- Employee resistance to something “new”
- Lack of top management commitment
- Lack of education or training regarding what the system is to achieve

- Inability or unwillingness of staff to abandon old system
- Unrealistic expectation of ERP benefits

According to Jeffrey (2002) ERP systems have not met the needs of school districts and the promises by-and-large have gone unfulfilled.

“For every complete implementation failure there have occurred countless other partial failures where school executives end up with systems that do not serve their needs. Across the country, districts report a very low level of satisfaction with enterprise systems.” p. 3-4

Jeffrey sites limited budgets, under qualified personnel, and changing leadership (superintendents) as the main reasons for ERP failures in public school districts.

### **ERP Experiences in Public School Districts**

A number of school districts across the nation have implemented ERP systems in various degrees. This section will address the experiences of a few of these districts. First, three school districts outside of Florida will be addressed and then three Florida districts will be discussed. Specifics regarding beginning and ending dates as well as initial and final costs are provided where available. This latter information should be viewed with caution since at times it came from various sources which provided conflicting data.

Districts Outside of Florida:

#### Los Angeles, California

*Development Date: May 2003*

*Implementation Date: January 2007*

*Initial Cost: \$95 million*

*Final Cost: \$132 million*

The Los Angeles Unified School District (LAUSD) is the second largest district in the nation with just under 700,000 students. The district’s \$95 million ERP project was approved in May 2003 and was

projected to “pay for itself” through efficiencies and by eliminating 300 staff positions from central administration. A plan was developed to eliminate these staff one year after the completion of the ERP project.

ERP implementation was to be rolled out in three phases over a period of 27.5 months. Phase I was to be Finance, Phase II included Human Resources and Payroll, and Supply Chain was included in Phase III. Goals of the ERP system were to improve operating efficiency, reduce costs, improve quality of the financial and business data used by decision makers, and to provide greater accountability.

LAUSD's SAP payroll system went online in January 2007 and was not properly functioning until January 2008. In June 2007, the *Los Angeles Times* reported that the cost of the district's ERP project was expected to reach about \$132 million, more than 35 percent or \$46.3 million more than originally expected. In March 2008, the *Las Vegas Sun* reported that LAUSD had spent \$95 million on the payroll portion of its ERP system.

More than 30,000 LAUSD employees at 700 schools were overpaid, underpaid, or unpaid after the district implemented the SAP payroll module. Employees waited in line for hours at the district's headquarters, as central office personnel attempted to rectify paycheck errors. In addition, the payroll errors distorted the determination of many employees' future retirement benefits, since they are calculated as a percentage of salary.

District officials acknowledged that the rollout of the system had been rushed and plagued by numerous programming glitches and insufficient training of school-based payroll personnel. They placed most of the blame on the installation contractor, Deloitte Consulting, and not on the software. Deloitte tested just 10 percent of the district payroll with the new software before activating it. One former school board member stated that Deloitte “gave us their C players instead of their A or B players to implement this.”

A Project Manager of the LAUSD SAP program listed the following implementation problems.

- District should have postponed going live by at least three months but they were intent on the original “Go live” date
- Staff had not attended all of the required training sessions
- Changes were made in the payroll system that were not tested (e.g., went from 13 to 26 pay periods)
- Implementation staff did not listen to staff in the Payroll Department
- Deloitte staff underestimated difficulty of the payroll system
- Deloitte staff practically washed their hands of the district's negative post-production experience and implied it was now LAUSD's problem

In November 2008, LAUSD announced it had settled a dispute with the project's Deloitte Consulting. Deloitte agreed to pay \$8.25 million and forgive \$7-10 million in unpaid invoices. The settlement was only about half of the amount the district said it spent to fix the program. However, considering the substantial attorneys fees and other costs involved in litigation, the district decided it would be financially prudent to reach a settlement with Deloitte. LAUSD's ERP program was expected to go live in three phases; however, Phase 3 which would have consolidated the district's procurement and accounts payable functions, has been suspended and district officials say that because of the faltering economy, it is unlikely they will move ahead with the final phase of the system any time soon.

#### Chicago, Illinois

*Development Date: N/A*

*Implementation Date: January 2007*

*Initial Cost: N/A*

*Final Cost: \$20 million*

In the Chicago Public Schools, more than 400 teachers filed grievances because of payroll errors

that were committed by the school district when it converted to the PeopleSoft payroll module in 2007. Payroll errors that began in April 2007 continued into the summer of 2008. Many employees were not paid for several weeks and others were shorted from \$300 to \$1,000 per month because of what was described as a system crash that affected all schools. The payroll errors also caused June 2007 retirees to be collectively shorted \$35 million. In addition, many employees' vacation and sick days were miscalculated and insurance and union fees were not deducted from paychecks. The PeopleSoft payroll system cost \$17 million to implement. Chicago school officials acknowledged the problems and said they were caused by not providing enough staff members and training to implement the system. District officials reported the system was being corrected one day at a time and was slowly improving.

The Chicago Public Schools also adopted an Oracle-based system that includes Oracle Purchasing, iProcurement, and iSupplier modules. The \$3 million system is virtually paperless as staff go online to a special website which displays catalogs of products with contracted prices specific to the district. The biggest savings result from clerical staff no longer having to manually fill out paperwork and track orders. The system appears to be operating smoothly since there were no objections given in the material reviewed.

#### Clark County, Nevada

*Development Date: 2004*

*Implementation Date: Suspended in March 2008*

*Initial Cost: \$33 million*

*Final Cost: \$40 - 50 million*

The Clark County School District in Nevada hired SAP Public Services to implement its ERP system. In 2004, the district approved \$33 million to purchase the ERP system, which was expected to be completed by January 2007. Cost estimates for full implementation have since risen to between \$40 million and \$50 million. After spending \$35 million, district officials suspended the payroll system in March 2008. It will remain on hold while

the district waits to see if the 2009 legislature will appropriate the additional money needed to finish the project. District finance and purchasing personnel began using the ERP system in 2007, but the portions of the system dedicated to human resources, teacher recruitment, and payroll have been indefinitely suspended. District officials are concerned that the technology will change significantly while the project is on hold and acknowledged that the longer the delay, the more likely it is that the cost to implement the system will increase.

In February 2008, the district fired 15 of the 16 consultants that had been hired to work on the project. Each consultant had been paid from \$100 to \$300 an hour for a total of approximately \$642,000 per month. In order to save money, the district hopes to hire a full-time employee to take over the retained consultant's workload. The consultant earned \$28,000 per month.

Florida Districts:

#### Palm Beach County

*Development Date: April 2005*

*Implementation Date: July 2006*

*Initial Cost \$25 million*

*Final Cost: N/A*

The Palm Beach County School District (PBCSD) purchased the PeopleSoft ERP package for \$25 million and began replacing the ten-year-old human resources and business operations software in April 2005. As the payroll module went online in 2006, what has been described as a "full-blown public relations crisis" ensued. Similar to what happened in Los Angeles, unexpected payroll problems occurred. Employees throughout the district either did not get paid or were underpaid. Teachers did not receive stipends, supplements, and sick leave pay. Bus drivers protested outside the building where the School Board was meeting.

Experts called in to examine the situation concluded the problems were due to inadequate staff training and to implementation of the PeopleSoft software rather than the software itself.

They went on to tell the Board that some “growing pains” are to be expected when implementing a new system and the problems that occurred can be corrected. Other districts such as San Diego did not experience this level of difficulty when implementing the PeopleSoft program since they ran both the old and new system until the bugs got worked out of the new system. Subsequent to the payroll crisis, PBCSD estimated that in subsequent months 10% of employees had payment problems in September, 5% in November, and 4% in December 2006. Therefore, a gradual improvement was taking place.

The Palm Beach County Clerk and Comptroller’s Office studied the PBCSD problem and concluded it was caused by four interrelated difficulties.

- Inadequate Staff Resources: Lack of manpower involved top to bottom
- Inadequate Timeframe: Too little time was devoted to installation, training, and testing
- Inadequate Technical Support: Implementation vendor did a poor job of trouble shooting and providing district staff with system information
- Inadequate Level of Procedural Flexibility: Failed to modify departmental procedures to the software package

Experiences at PBCSD highlight the importance of closely scrutinizing the systems integrator. The consultant responsible for fitting the ERP software to the school district is as important if not more important than the software itself. Careful evaluation is essential for both the software and for the consultant integrating the software to the system.

#### Orange County

*Development Date: November 2003 (Installed initial SAP Program in 1999)*

*Implementation Date: July 2006*

*Initial Cost: N/A*

*Final Cost: N/A*

Orange County Public Schools (OCPS) initially installed a SAP enterprise system in 1999. The school board approved an upgrade to this SAP Project on November 18, 2003. This new program was called Project Passport and was comprised of three tracks in order to accomplish 13 objectives as established by an Executive Steering Committee. Several of these objectives are listed below for illustrative purposes.

- Project is delivered in the agreed upon timeframe and within budget
- Users are given sufficient training to ensure integration between system modules
- Standard roles are identified, documented, configured, and tested
- Project deliverables meet acceptable quality and industry standards

The new Project Passport was to avoid the problems encountered with the initial implementation of SAP in 1999. Below is a list of some of the difficulties encountered with the earlier implementation.

- Some staff and vendors were not paid in a timely fashion
- Inadequate training of system users
- Inadequate testing prior to Go-live, resulting in undetected major problem areas
- District staff felt unprepared to take on their new roles
- Little or no attention was paid to the implications changes would have on people associated with the district

A number of measures were implemented during Project Passport to circumvent the duplication of problems experienced in the 1999 SAP initiative. These measures included the following.

- A single administrator was put in charge and held accountable for the success of the project



- SAP America was hired as the lead integrator and supplied skilled SAP technical and business expertise
- Regular surveys were taken to assess progress and to communicate areas of concern to the management team
- A rigorous testing program was adhered to throughout the project
- District committed funds for 1,500 SAP users to participate in 10,000 hours of classroom training. Web-based training and open labs were also provided for staff to practice what they had learned in the classroom.

Project Passport realized a number of significant improvements in the business operations of the district. Payroll processing time was reduced from 12 hours to three hours. In addition, finance reports that used to take 36 hours to run can now be completed in 10 minutes.

#### Broward County

*Development Date: 2006*

*Implementation Date:*

*Budget Preparation Module - November 2007*

*Finance & Procurement Modules - December 2007*

*Human Resources, Payroll, and Professional Development Modules - Summer 2008*

*Asset Accounting, Accounts Receivable, Plant Maintenance, and e-Recruitment Modules - Delayed until Successful Completion of HR/Payroll*

*Initial Cost: \$30.5 million*

*Final Cost: N/A*

Broward County Public Schools is in the process of implementing the BRITE (Broward's Innovative Tool for Education) Project. The system will

standardize financial and administrative processes across the district using the Software Application Platform (SAP). Development of the system, to be launched over a three-year period, began in 2006. Budget preparation was scheduled to be launched in November 2007; Finance and Procurement was scheduled to be launched in December 2007; and Human Resources, Payroll, and Professional Development were scheduled to be launched in the summer of 2008. The district chose not to roll out Wave 2 of Phase 3 (Asset Accounting, Accounts Receivable, Plant Maintenance, and e-Recruitment modules) until the Human Resources – Payroll module was successfully implemented.

The ERP system is being implemented with a \$30.5 million outsourcing contract with IBM and approximately 10 percent of tasks are sent to India. The district has also contracted with KPMG for \$900,000 to conduct mapping and transition management.

Determined to avoid the mistakes of other school districts implementing ERP systems, Broward County officials worked to develop an environment supportive of the BRITE Project. Extensive staff training has been conducted, user feedback has been collected, the district has made efforts to keep stakeholders informed about the project, and a payroll contingency plan was developed in case the new system did not function properly.

#### **Conclusion**

As evidenced by the literature reviewed in this Information Capsule, the track record of implementing ERP systems in some of the largest and most technologically advanced school districts in the country has had a checkered past. In conclusion, the implementation of ERP systems into public school districts is expensive, time consuming, and very difficult to accomplish successfully. However, more realistic expectations of what these systems can actually accomplish, along with adequate staff training and diligent integration procedures can contribute to a more successful roll out and start up experience.

*All reports distributed by Research Services can be accessed at <http://drs.dadeschools.net>.*

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