

# **Implementation of TMA Enterprise and Interface to PeopleSoft**

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## *Abstract*

*In 2002, the University of Southern Mississippi implemented TMA Enterprise (computerized maintenance management software) and created an interface to the PeopleSoft general ledger package. This interface eliminated the manual processing of Physical Plant, Central Stores, Housing Maintenance, and Science Stores charges. Before the interface, chargeable work orders were printed from TMA and the data was manually entered into PeopleSoft. Duplicate data entry presented an opportunity for errors and required a reconciliation of the information in PeopleSoft and TMA. Another enhancement provided by the interface is that Stores charges, previously billed separately, are now billed directly on the work order through the interface. This allows Physical Plant customers to see all of the charges for a work order in one place. Prior to the interface, customers received a bill from Stores for materials and a bill from Physical Plant for labor and contractual services. Tremendous efficiency has been realized with the advent of this interface.*

*The TMA system also provides a much higher level of customer service. It allows customers to enter their work requests on-line. Once the work request is received, an e-mail response is sent with a work order number that allows them to enter to monitor the progress of the work. Customers can query requests via the web to search on criteria for work performed. Additionally, a customer service evaluation is sent on an incremental basis to monitor customer satisfaction.*

*This interface, that required a collaborative effort among several departments, has improved efficiency and enhanced customer service for the entire campus. Customers now have on-line access to charges and the amount of staff time and effort to provide accurate billing has been greatly reduced.*

## **Introduction of the Organization**

The University of Southern Mississippi, founded in 1910, is a multi-sited, public university with a Carnegie classification as a Doctoral/Research-Extensive institution. The Honors College, the oldest in the state, works with all Colleges to enhance the learning experience for its students. A number of Honors College students have recently been awarded national fellowships for postgraduate study. In addition to its excellence in instruction, USM has a faculty committed to research, scholarship, and creative activities. As a research-oriented public university with distinctive doctoral programs, part of the University mission is to expand nationally and internationally known graduate and research areas. Sponsored program support has increased significantly in recent years.

The University offers a residential learning environment and a full range of undergraduate and graduate programs at its main campus in Hattiesburg and upper division and graduate programming in a nonresidential setting at the USM Gulf Coast campus at Long Beach. The Gulf Coast Research Laboratory at Ocean Springs and University facilities at the Stennis Space Center in Hancock County attest to the extensive USM involvement and presence in south Mississippi.

## **Statement of the Problem**

Prior to the implementation of the PeopleSoft/TMA interface, the University utilized a manual process for posting Physical Plant charges. Physical Plant charges were calculated in TMA. A work order was printed from TMA detailing the work performed and the associated cost. The related charges were typed on an Interdepartmental Invoice. Those invoices were sent to Financial Affairs where they were keyed into the General Ledger system. At the end of each month, a reconciliation was performed to ensure that

all charges produced in TMA were entered correctly into the General Ledger. This process was inefficient since it required the same data to be entered multiple times. The multiple entry practice added to the workload because a reconciliation was then needed.

Another problem that existed prior to the interface was that materials purchased through the Central Stores department were billed independently of the work order. The result was that a department would receive a charge from Physical Plant for charges related to, for example, construction of a bookshelf, and receive a separate bill from Central Stores for the stain or lacquer used to complete the project. This made it difficult for departments to track the full cost of a project, especially larger jobs.

Another issue that existed prior to the implementation was that departments did not know the status of their work order while it was in process. Frequently departments would fax their work request to the Physical Plant and then wonder if it had been received and accepted. Departments also had to wait until the work order was complete to know how much the charges totaled.

## **Design**

The obsolescence of the legacy accounting system at the University of Southern Mississippi forced departments to find alternative, compatible software solutions. PeopleSoft replaced the legacy system causing the related systems to need retooling. Central Stores and Science Stores used a legacy system for inventory and sales. Physical Plant used the Classic version of The Maintenance Authority (TMA) for its work order system. Housing Maintenance used Excel to keep track of its work orders. To eliminate duplication of duties and maintenance of multiple systems, Physical Plant, Housing Maintenance, Science Stores, and Central Stores established a team of people from each

area to discuss software needs. Two members from the Office of Technology Resources were included on the implementation team for technology development and systems setup. It was determined that the desirable characteristics of the new system were to manage work orders, allow for online work order requests, maintain inventory, manage preventive maintenance, create sales orders, and interface with PeopleSoft.

Maintenance management software vendors were invited to give presentations on-site, and requests for proposals were sent out. The bid was awarded to The Maintenance Authority (TMA). The Enterprise version of TMA provides a scalable and open architecture for Oracle, MS SQL Server, and other popular client server backend databases.

The TMA team held weekly status meetings to discuss business processes, data imports, conversions, cleanup and collection. Discussion also included what new equipment was required and strategic location and maintenance of the TMA servers. The weekly meetings proved very beneficial to keep tasks on track and keep everyone posted on what had been accomplished the prior week in addition to identifying priorities for the next week. The team approach was key to the success of the implementation. An implementation log was updated each week to show timelines, tasks completed, and unresolved issues.

### **Implementation**

In January 2002, a TMA representative was sent to USM to install the software application and train users.

In February, a beta group was chosen to test the iServiceDesk (ISD) which is the online work request system. The Office of Technology Resources Help Desk area was

notified of the training in the event customers needed assistance with running the application on their machine. All faculty and staff have access to iSD and are required to submit requests through the web. All Resident Assistants submit requests for dormitories. Submitting requests through the web provides the customer with three email responses. When the customer submits a request, an email response is sent back to let them know it has been received by Physical Plant or Housing. When the work request has been accepted or denied, a second email response is sent to the customer to let them know what the work order number is or why it has been denied. When the work order has been closed out, a third email is sent to the customer that allows viewing of charges. Material charges for items purchased at Stores are applied as purchased, so customers can see them as they are added to the work order. Labor and other charges are applied when the work is complete.

In January, our database administrator worked with all areas to develop interfaces between TMA and PeopleSoft. Separate interfaces were written to include: Physical Plant charges billable to the campus, Physical Plant charges for items purchased from Stores, Stores sales to the general campus, Science Stores sales, Housing Maintenance, Service Station and Transportation Services.

In April, TMA went live with the interfaces running manually so that each transaction line could be checked for accuracy. After minor problems were corrected in the interfaces, shell scripts were used to automate all but the Physical Plant billable interface. The automation scripts archive journals on the server by date and then e-mails them to the person responsible for that area to approve before loading into PeopleSoft.

Backups are performed on the server each night. Archive log backups are in development, which will allow real time recovery if needed.

Several audits were written to verify the integrity of the data before it was loaded into PeopleSoft. Audits were put in place to verify the account code's and expenditure code's validity in PeopleSoft. Audits were developed to verify that all charges from TMA were loaded into PeopleSoft. Additionally, audits were developed to ensure that no work orders were voided if materials charges had been placed against the work order.

A departmental interface that will be fully automated is currently being developed. As new chart strings are added and existing chart strings are updated in PeopleSoft Financials, a process will pick up the additions and changes each night and apply them to TMA. Grant expiration dates will be included, and a notification process will alert Physical Plant staff that an account has reached the expiration date.

Our implementation was considered a rapid implementation, with a bid opening date of March 13, 2001, and an implementation date of January 3, 2002. The interfaces to PeopleSoft were then written and implemented in April, 2002. Our weekly implementation log was very instrumental in keeping the project on task; however, deadlines were not always kept. Because the TMA team also had to perform their regular job duties, in addition to the implementation, time was a critical factor. Many late hours and weekends were utilized. Testing was very important and was documented with test scripts that include each step of the process. The test scripts were written so that anyone could follow instructions and perform whatever task was on the script without assistance. It was also important to keep the campus community informed of upcoming changes in procedures.

## **Benefits**

There have been many benefits of the PeopleSoft/TMA interface. First it has eliminated the duplicate data entry that had presented an opportunity for errors and necessitated reconciliation of information. Since the information is now entered only once, there has been a significant reduction in the amount of time that employees spend entering information for Physical Plant charges. Additionally there is a higher degree of accuracy since the data is only entered once.

Another benefit is that users are able to request a work order on-line and follow that request through the system. Before requestors had the ability to view work requests, they would frequently call the Physical Plant office to check the status of their request. Now those phone calls are in large part eliminated since they can check their request on-line. A related benefit is that requestors now see all of the charges related to a request on the work order. The charges from Central Stores are included with the labor and contractual services from the Physical Plant to show the complete project cost.

## **Retrospect**

In retrospect, team members felt that the project went smoothly. Most members had experience with other implementations, and this experience proved to be valuable in planning the TMA implementation. The time frame for the implementation was aggressive, and a longer time frame would be necessary for a team with little or no experience in software conversions. Overall the progress and efficiency achieved were well worth the time and effort expended.