Student Information System
Project Review

Internal Audit Report
June 13, 2017

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EXECUTIVE SUMMARY

Why We Did This Audit

This audit was included in the 2016-2017 Annual Audit Plan.

This is an analysis and evaluation of the recent effort to replace the district’s Student Information System (SIS). A vendor was chosen and the project was underway for more than a year before the project was closed.

The audit objectives were to determine:

- whether the SIS project was managed in accordance with sound project management practices;
- decisions made at various project points were supported by appropriate data and/or documentation;
- the project plan, including risk assessments, was prepared and followed (with updates and revisions as appropriate and authorized);
- project progress reports were accurate; and,
- the total cost of the closed project,

in order to offer suggestions for the next effort to replace the student information system (i.e. lessons learned).

What We Found

Our overall conclusion from reviewing this SIS project is that future projects would be better managed if certain established, industry-recognized project management practices are used, and if other processes are implemented more effectively than on this one, though no project’s outcome can be guaranteed.

The project was a good learning experience. OCPS learned that it is acceptable to stop a project when needed.

What We Recommended

- The percentage of completion should be recorded accurately for all tasks in the Project Plan.
- The Project Manager should ensure that all purchase orders are closed at the end of a project.
- A Project Closing Process should be implemented and documented for each project.
- Project records should accurately reflect actual final project costs.

This report has been discussed with management and they have prepared their response which follows.
BACKGROUND:

This analysis and evaluation of the project to replace the Student Information System (SIS) was made to see what we can learn from the project undertaking... what worked, what didn’t work, what could have been improved? Chances of success on projects are improved if they are broken down into smaller, functional pieces that are more manageable, or handled by using processes that facilitate management. This management by process is known as Project Management. Project Management does not guarantee success, but it should increase the likelihood of success or, at the very least, identify certain or probable failure as early as possible in the project to minimize resource expense. As part of our evaluation, we compared project management processes used during this project to industry-recognized standards.

The idea to replace the Student Information System (SIS) was not undertaken lightly. This critical system underpins the very core of our business. Every student, teacher, parent, and administrator is affected by how well it works, how well it records student grades and attendance, how easy it is to input information, how accurately it reports the information, and how accurately it retrieves information. OCPS relies on its accuracy for state reporting and funding.

The current SIS has been growing steadily outdated due to new requirements from FL DOE and other entities. To meet these new requirements, customization of the current system has been performed. To accommodate the customizations, new systems have been developed to interface with the SIS, new processes have been implemented, and more data is required to flow between different systems. With each new requirement, support costs increase, so much so that the cost of replacing the current...
system with a new one becomes feasible compared to the cost of a major upgrade of the current system.

In addition to reducing costs, efficiency can be improved if the new system replaces three other systems developed to help meet new requirements: Student Information System (SMS), Certify, and State Reporting System (SRS).

A business plan was generated to explore the possibilities of a new system. This plan covered such things as:

- Goals and Objectives
- Performance Measures
- Assumptions
- Constraints
- Preliminary Project plans

The goal was to have an integrated system that could replace at least three systems: SMS, Certify, and SRS. Eventually, after much input from all the affected areas, a SIS project plan was put together and started. A vendor was chosen and the project was underway for more than a year before it was closed.

**OBJECTIVES, SCOPE AND METHODOLOGY**

**Objectives**

The objectives of this audit were to determine:

- whether the SIS project was managed in accordance with sound project management practices,
- decisions made at various project points were supported by appropriate data and / or documentation,
- the project plan, including risk assessments, was prepared and followed (with updates and revisions as appropriate and authorized),
- project progress reports were accurate, and
- the total cost of the closed project
in order to offer suggestions for the next effort to replace the student information system (i.e. lessons learned).

Scope
Our scope covered the entire project, from the initial business case taken to the Instructional Steering Committee, through the Executive Steering Team (EST) project approval, vendor solicitation, evaluation and selection, project commencement and progress, through to the decision to terminate the project.

Methodology
We reviewed:

- the “Executive Steering Team, Division of Teaching and Learning” records,
- procurement records associated with the vendor selection and management,
- reports and presentations related to the project
- SAP records (and supplemental Excel spreadsheet records) of costs incurred, and
- Project Management Office (PMO) records of project progress.

We interviewed parties involved with the project from:
- Procurement,
- ITS,
- Budget, and
- Deputy Superintendent.

We analyzed the project’s management as compared to better practices to identify opportunities for improvement in future projects by comparing the processes used by the SIS project to the established industry standard for project management - The Project Management Institute’s (PMI) “Project Management Body of Knowledge (PMBOK Guide)”, 5th Edition.
The purpose of the comparison was to disclose where improvements might be made on future projects.

Our audit was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing of the Institute of Internal Auditors and included such procedures as deemed necessary to achieve the objectives. Internal Auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization’s operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.

We are required to note any material deficiencies in accordance with Florida Statutes, School Board Policy and sound business practices. We noted no material deficiencies. We offer the following suggestions to improve controls or operational efficiency and effectiveness.

FINDINGS & RECOMMENDATIONS:

AUDIT FINDING #1: Task completion percentages were not recorded accurately – High Risk

Task completion percentages listed in the project plan were not recorded accurately. We compared the percentages listed in the Project Plan dated 12/30/2014 (Table #1 below) and 07/01/2015 (Table #2 below) for the tasks under "Perform Data Conversion" and noted 95% completion at 12/30/2014 but 0% completion in 07/01/2015. Similar differences were found in these tasks:

1) Convert Enrollment Records;
2) Convert Master Schedule;
3) Convert Student Schedule;
4) Convert School Records; and
5) Convert Student Demographics.

RECOMMENDATION #1: The percentage of completion should be recorded accurately for all tasks throughout the project for reliability and to support project decisions.
AUDIT FINDING #2: Purchase Orders still open / Project Close Procurement process not fully performed – Moderate Risk

Nine Purchase Orders were still open as of 3/21/2017 with a dollar amount of just under $2,200,000. Purchase Orders for this project should have been closed as part of a Project Close Procurement process when the decision to terminate was made. This is an indication that this process was not fully implemented. Closing Purchase Orders in a timely manner allows funding to be released and used elsewhere.

RECOMMENDATION #2: We recommend closing all Purchase Orders at the end of a project. The Project Manager should ensure that this is done. We also recommend that other recently-closed projects be reviewed for open Purchase Orders.

AUDIT FINDING #3: A Project Closing Process not performed - Moderate Risk

We did not find any documentation for the Project Closing Process.

RECOMMENDATION #3: A Project Closing Process should be implemented and documented for each project. This could include documenting the following (not all-inclusive):

- the result of the project;
- completion date;
- final costs of the project;
- lessons learned, both good and bad;
- the formal release of resources;
- any corrective actions for objectives not achieved;
- a memorandum of understanding from the Project Manager requesting the Sponsor to either formally approve/accept
the final deliverable and that the project is complete, or acknowledge the cancellation/termination of the project;
  • a formal sign-off by the EST;
  • the archival of all project documentation for future reference;
  • all evaluation reports; and,
  • that all contractual obligations are met.

The Project Manager should take the lead in delegating these tasks to the appropriate individuals and the PMO Director should ensure this process is in place and performed.

AUDIT FINDING #4: Project records of final costs were inaccurate - Moderate Risk

The project files included a spreadsheet of final costs of the project. We reviewed this spreadsheet and noted differences from amounts recorded in the general ledgers in the district’s financial system (SAP). These differences included:

1) several Purchase Orders recorded on the spreadsheet reflected higher amounts than were recorded in SAP report ME23N, which differences totaled $856,228; and
2) several Purchase Orders recorded on the spreadsheet reflected lower amounts than were recorded in the SAP report ME23N, which differences totaled <$523,737>.

The net effect of these overstated the project cost by $332,491, or 3.65%.

RECOMMENDATION #4: We recommend that project records accurately reflect actual final project costs. To accomplish this, a quality review should be performed before reports of project costs are released by reconciling amounts in the reports with SAP.
CONCLUSIONS AND NEXT STEPS

In order to move forward, organizations have to take risks. Large IT projects such as this have inherent risks:

- were all the right requirements identified?
- could the vendor fulfill the requirements?
- did we have the right project team, etc.?

In short, there are many paths to failure, and few paths to success... but we fail only if we don’t learn from our experiences – good or bad.

“Culture is important,” said Amal Ratnayake, FCMA, CGMA, the CFO of officialCommunity, an entertainment and media firm in Toronto. “It’s easy to kill a project if the culture is one of taking risk and understanding that some projects will work and others will fail. That culture will help you look at those projects as learning opportunities rather than failures.” – *Journal of Accountancy*, April 2017, Neil Amato, p.20.

PMI guidelines recognize the optimum processes for managing projects. These should be incorporated as much as possible into each project. The district’s PMO/project teams should develop a culture of implementing them where they benefit the project and not when they will be a hindrance.

The PMO has informed us that they will be using a Phase-Gate Process for projects. This is a project management technique where a project is divided into phases, or stages, separated by gates. At each gate, the project is reviewed and the continuation of the project is decided upon, usually by whether the project passes some pre-arranged requirements. This project
management technique was not in use for the SIS project but it would have helped by re-evaluating the project for continuation at set intervals and measuring it against set criteria.

In closing, we would like to thank the Deputy Superintendent, Chief Information Officer, the Chief Operations Officer, the ITS department, and those district employees who were on the SIS Project and have now moved on to other areas, for their cooperation and assistance during this review.
### Exception Noted (Finding / recommendation)

<table>
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<tr>
<th>Management Response (Corrective Action)</th>
<th>Responsible Person (Name &amp; Title)</th>
<th>Expected Outcome &amp; Completion Date</th>
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<tbody>
<tr>
<td>What is? What should be?</td>
<td>What needs to be done?</td>
<td>When will the action be completed? (MM/YYYY)</td>
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### AUDIT FINDING #1: Task completion percentages were not recorded accurately – High Risk

Task completion percentages listed in the project plan were not recorded accurately. We compared the percentages listed in the Project Plan dated 12/30/2014 (Table #1 below) and 07/01/2015 (Table #2 below) for the tasks under "Perform Data Conversion" and noted 95% completion at 12/30/2014 but 0% completion in 07/01/2015. Similar differences were found in these tasks:

1. Convert Enrollment Records;
2. Convert Master Schedule;
3. Convert Student Schedule;
4. Convert School Records; and
5. Convert Student Demographics.

It is true, in this instance, that the Project Plan correctly reverted from 95% Complete being populated to 0% complete at a later date. This was due to a discovery during the data conversion that particular project tasks had failed and needed to be redone. The Audit team is correct to have the PMO require the Project Schedule show accurate completion percentages. Currently, the Project Management Office has

- Incorporation of specific wording within the documentation to review that all tasks within the Project Schedule are accurate prior to moving to the next Phase Gate.

Diana Pienaar – Sr. Director Enterprise Projects

August 2017 following the Project Management Governance Meeting in July 2017
A project cannot be managed properly with an inaccurate representation of the project status in the Project Plan.

**RECOMMENDATION #1:** The percentage of completion should be recorded accurately for all tasks throughout the project for reliability and to support project decisions.

A framework based upon PMI’s PMBOK, “ITS Project Management Office Governance – Project Management Office Practitioner Guide and Standards”. The PMO also follows a Governance strategy to ensure this framework is kept relevant and up to date with the needs of the Project within the Project Management Office. Upon close review of the framework, the Project Schedule aspect of the framework does not require a review of the Project Schedule to ensure all tasks have been correctly reported upon prior to moving to the next phase gate. Therefore, the PMO will incorporate this at the next Governance Meeting in July 2017 for inclusion into the next version of the ITS Project Management Office Governance document.

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**Table 1 – Project Plan dated 12/30/2014.** Note the “% Complete” column with a range of 44% to 100%. The “Finish” date column has the tasks finished.

**Table 2 – Project Plan dated 07/01/2015.** Six months later, the “% Complete” column now has all 0% for the same tasks. The “Finish” date column now has a finish date in the future near the “Go Live” date, which is scheduled for 6/21/2016.
**AUDIT FINDING #2: Purchase Orders still open / Project Close Procurement process not fully performed – Moderate Risk**

Nine Purchase Orders were still open as of 3/21/2017 with a dollar amount of just under $2,200,000. Purchase Orders for this project should have been closed as part of a Project Close Procurement process when the decision to terminate was made. This is an indication that this process was not fully implemented. Closing Purchase Orders in a timely manner allows funding to be released and used elsewhere.

**RECOMMENDATION #2:** We recommend closing all Purchase Orders at the end of a project. The Project Manager should ensure that is done. We also recommend that recently-closed projects be reviewed for open Purchase Orders.

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<th>Closer review was conducted into the ITS Project Management Office Governance – Project Management Office Practitioner Guide and Standards document with specific emphasis of the project closeout processes include closing all contracts at the end of the project. However, reference to the closing of POs is not specifically mentioned but is implied as part of the contract close-out step. The PMO will incorporate this step into the documentation. Additionally, once the Audit team made the PMO aware of the open POs in March of this year, we escalated that these POs be closed. We will follow up no later than August to ensure there are no open POs associated with the Focus SIS project.</th>
<th>Diana Pienaar – Sr. Director Enterprise Projects</th>
<th>August 2017 following the Project Management Governance Meeting in July 2017</th>
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<td>- Incorporation of PO closure into the documentation</td>
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<td>- Ensure all Focus SIS related POs are closed.</td>
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- a formal sign-off by the EST;
- the archival of all project documentation for future reference;
- all evaluation reports; and,
- that all contractual obligations are met.

The Project Manager should take the lead in delegating these tasks to the appropriate individuals and the PMO Director should ensure this process is in place and performed.

It is an accurate finding by the Audit team that a proper closeout of the Focus SIS project was not completed. This project, once terminated, lost its Project Manager resulting in the final closeout not being properly done. However, as of 2/1/17 when the ITS Project Management Office Governance – Project Management Office Practitioner Guide and Standards document was adopted, any projects handled by the Project Management Office, including those terminated, will have closeout process documentation as defined within the document. These include:

- Project Contract Close Out document
- Lessons Learned Survey
- PMO Project Closeout Document – which

Diana Pienaar – Sr. Director Enterprise Projects

August 2017 following the Project Management Governance Meeting in July 2017

- Incorporation of PO closure into the documentation
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The project files included a spreadsheet of final costs of the project. We reviewed this spreadsheet and noted differences from amounts recorded in the general ledgers in the district’s financial system (SAP). These differences included:

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RECOMMENDATION #4: We recommend that project records accurately reflect actual final project costs. To accomplish this, a quality review should be performed before reports of project costs are released by reconciling amounts in the reports with SAP.
| FISCAL PERIOD OR AUDIT DATE: | current and future projects within the Project Management Office are completely accurate with a complete understanding of project costs and Purchase Orders. |

| | |