



City Of Atlanta

ERP Implementation
Assessment for the City of
Atlanta

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KPMG LLP

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1 Executive Summary

1.1 Project Background

The City of Atlanta (the CoA) has developed a strategic vision to create a "Digital City" where technology becomes a cornerstone for the realization of this goal. This vision is to improve the communication and sharing of information between the community of Atlanta, their citizens, their employees and those that conduct business with the CoA.

The first critical initiative of this vision is a multi-year project for the design and implementation of an enterprise-wide application solution to address current and future needs of the CoA. The CoA selected a solution that is provided by the Oracle Corporation. The CoA views technology as an enabler for their vision and seeks through the deployment of this solution to improve the overall services to their community.

The project began in April 2005 with an approved professional services capital budget of \$22 million and for the solution to be deployed through a multi phased implementation. Phase one of the project was planned for October, 2006 for the deployment of the Finance and Procurement applications and phase two, January 2007 for the Human Resources (HR) and Payroll applications. Throughout the project the CoA has embraced a delivery model where third party system integrators, niche vendors and their application partner Oracle supported the effort of the CoA resources.

In January 2006, the CoA's Steering Committee (SC) severed its contract with their primary implementation partner IBM Global Services and established a broad based relationship with Oracle Consulting in February 2006. After an initial assessment by the new implementation partner to identify gaps in requirements and the review of the road-map to succeed, the Steering Committee (SC) approved a revised scope of work that required increased funding and an extended implementation time frame. In November 2006, the CoA council approved additional funds and extended the ERP consultant contract to reflect a project budget of \$33 million and expected implementation dates ranging from mid-June 2007 to mid-July 2007.

Throughout this change in direction, schedules and resources the CoA and their team of professionals continue to work towards attainment of the revised implementation dates. However, the result of the changes described has resulted in loss of focus and timely resolution of open issues. The project has been impacted and therefore delayed.

On April 11, 2007, the CoA issued an emergency Request for Quote (RFQ) EA# C-591 to acquire an independent party that possesses expertise in large complex system integration projects, broad and deep Oracle application experience, CoA operations and IT project management to assess the critical factors that must be completed to meet a revised implementation date.

This report and subsequent executive briefings are to provide the CoA senior leadership an independent assessment of the essential factors for success and the barriers that must be eliminated if the revised implementation date with the quality required is to be met.

The focus of the content presented throughout this report is to provide insight and to comment on key attributes, steps that must be addressed for a successful implementation.

The report is presented in distinct categories and will provide comment on key attributes of system projects, the focus of adequacy of the defined and applied project management, the road-map, timeline to complete, the dependencies, the operational transformation that must be embraced, the comprehensive testing to be executed, the communication plan, the depth and breathe of the training program, report generation, "pre-go-live", "post go live" programs and the post-implementation solutions that must be planned and deployed.

The opportunity for success of this project resides with the CoA leadership and their staff. This report presents leading practices for successful implementations.



1.2 Objectives and Scope

The project, awarded to KPMG, has three primary objectives which are indicated below:

- 1 Assess the current state of the implementation as defined in the RFQ EA# C-591;
- 2 Provide guidance to complete the implementation of the new system and leverage the lessons learned; and
- 3 Provide guidance and specific criteria the CoA should meet in order to maintain the system effectively after movement into production.

The assessment criteria referenced are not inclusive; rather provide an example of the objective of the project and which are the building blocks of this report.

1.3 Assumptions

The below assumptions need to be considered for this paper and the success of the project:

- Funding will be approved by the CoA governing body
- New requirements affecting tasks and project timelines are not created
- The project is actively managed to achieve milestones and timelines
- Contract with qualified technical contractors who departed in June to support the project must occur



1.4 Summary of Observations

Each section is divided into the various objectives indicated in the CoA's Request for Quote (RFQ) documents dated April 11, 2007 and the KPMG engagement letter. Additionally, within each section are the "observation", "risk", and "recommendation" and the associated "risk" levels that will require action by the CoA. The risk levels will be the foundation for the "heat map" displayed later in this document.

Critical: Event/risk has occurred or is more than likely to occur, and the magnitude of impact to the program's success would be major or catastrophic, implying imminent program and/or downstream operational failure due to a single risk.

High: Event/risk has occurred or is more than possible to occur, and the impact would be moderate or major to the program, but the event/risk alone would not prevent overall completion of the program. This risk combined with other High or Medium risks could prevent program success or downstream operational failure.

Medium: Event/risk has occurred or is possible, although the impact would be moderate or minor. The event/risk would not impair program success, and a combination of medium risks could impair program implementation quality. The event/risk will not have an impact on downstream operational processes or quality.

Low: Event/risk does not pose an imminent risk to program success, but represents an opportunity for improved process, controls or deliverables. The risk is unlikely to occur, and the impact is minor or insignificant. The event/risk will not have an impact on downstream operational processes or quality.



2 Observations and Recommendations

KPMG's review of the Oracle ERP Program brought to light both the strengths and weaknesses of the Program overall. The following is a listing of the specific observations noted during our review along with associated risks.

2.1 Current State of the Implementation

2.1.1 Report on the Project's Status

Observation:

2.1.1.1 – Key Activity Percentage of Completion Documented in the Current Project Plan is Inaccurate

Detailed review of the project plan and interviews with project team members indicate that key project tasks have inaccurately reported percentages of completion. According to the project plan, System Integration Testing (SIT) is 95% complete. However, after several project team member interviews and analysis of the project plan (March 28 2007 version), it was confirmed the actual SIT percentage of completion is 74%. This percentage was calculated by dividing the total test count as of June 8, 2007 by the number of tests completed by all functional areas.

According to the CoA Lead, Change Management tasks, currently documented at 78% complete, must be re-evaluated for quality to obtain an accurate percentage of completion. The 78% includes Workshops for Change Coordinators (completed on May 30, 2006 per the project plan) and Business Process Review Training and Facilitator Training (completed on September 26, 2006 per the project plan), both reported at 100%. Although these tasks are listed as complete, KPMG was informed through team interviews that these tasks deliverables must be revised.

End-User Training, currently documented at 67%, must be re-evaluated and reviewed as well. The 67% includes Scheduling Training Facilities (completed on March 23, 2007 per the project plan) and End User Training Courseware (completed on March 30, 2007 per the project plan). Both are reported as 100% complete. Although these tasks are listed as complete, KPMG was informed through team interviews that both items need to be re-visited.

2.1.1.2 – Key Tasks are Not Being Completed by Planned Completion Dates

The latest version of the CoA of Atlanta ERP project plan is dated March 28, 2007. Upon review, several key activities necessary to achieve project completion either have not been started or are not 100% complete. These key activities include the completion of SIT, Conversions and Validation, User Acceptance Testing, Business Process Testing, Performance Testing and Tuning, Training, and Post Live Stabilization. Through interviews with project team members, several key observations were identified as to why the CoA has been unsuccessful in completing key tasks by planned completion dates:

- No strong program management office or effective project management
- Task owners/resources are not documented in the project plan
- Project plan completion dates are not enforced
- Reactive as opposed to proactive project communications
- Roll-off of the Oracle PMO Lead and Oracle Consultants without adequate transition to CoA
- Miscommunication that 100% dedicated CoA resources will comprise 60% of the project team
- Limited accountability of CoA resources involved with project.



2.1.1.3 – There is No Standard Methodology for Defining Percentage of Completion

In assessing actual work completed as compared to the project plan through interviews with project team members, it was noted that each task owner had their own methodology for determining percentage of completion.



Risk:

2.1.1.1 – Key Activity Percentage of Completion Documented in the Current Project Plan is Inaccurate

The inability to report accurate percentages of completion potentially leads to inaccurate project task status reporting which in turn potentially leads to missed completion dates and tasks incorrectly designated as complete.

2.1.1.2 – Key Tasks are Not Being Completed by Planned Completion Dates

- The lack of a strong program management office leads to inconsistent and ineffective project standards and lack of leadership to assist in driving the project towards successful completion.
- The lack of a current up to date project plan impedes the ability to conduct accurate assessments of project status, the ability to track costs and resource usage against progress, and allows for no coordination of dependencies between disparate efforts.
- The lack of owner/resource documentation in the project plan results in no adequate tools to enforce task execution accountability.
- The lack of enforcement of project plan completion dates will result in project tasks becoming secondary priorities and deadlines being missed.
- Without a formal communication plan it becomes extremely difficult for teams to integrate, manage issues and risks, and manage separate work streams to meet shared milestones. Other potential impacts of poor communication are team members feeling alienated, becoming complacent, and not being able to adjust to rapid change.
- Rolling off the Oracle PMO Lead and Oracle Consultants may result in an unsuccessful / untimely system build due to a lack of functional knowledge required for completion.
- Not keeping the commitment made to provide appropriate CoA staff in order to support the completion of project plan tasks may lead to the inability to achieve remaining project goals in the allotted timeframes.

2.1.1.3 – There is No Standard Methodology for Defining Percentage of Completion

The lack of a standard methodology to defining percentage of completion potentially leads to inaccurate project task status reporting which in turn potentially leads to missed completion dates.

Recommendation:

2.1.1.1 – Key Activity Percentage of Completion Documented in the Current Project Plan is Inaccurate

Develop and communicate a standardized method for evaluating the percentage completion of project tasks. The methodology should also include quality reviews by CoA Team Members of all work done in order for an accurate assessment to be completed.

2.1.1.2 – Key Tasks are Not Being Completed by Planned Completion Dates

- A strong program management office should be in place to re-energize project team members, assist in managing risks and quality considerations, and promote proactive communication of project and task status.
- The project plan should be updated on a regular basis as needed throughout the project by a designated project plan owner. Updates should be made under change control policies with consideration given to affects on successors.
- Task owners/resources should be identified for all project plan tasks and documented in the project plan.
- Leveraging status report templates, weekly meetings should be held with task owners to evaluate task completion. During these meetings the status of upcoming completion



dates should be reviewed and any prevalent issues resolved.

- Develop and implement a formal communications strategy to proactively communicate milestones, project status, and steering committee meeting outcomes. Depending on project complexity communication should typically be 70% – 90% of PMO duties.
- Retain key Oracle resources to assist with the completion of project tasks.
- Develop and implement an attainable plan for the engagement of CoA resources. Review remaining project plan tasks and identify dedicated CoA Resources to assist in project task completion.

2.1.1.3 – There is No Standard Methodology for Defining Percentage of Completion

Develop and communicate a standardized method for evaluating the percentage completion of project plan tasks. A recommended methodology is as follows:

- 0% - Activity Not Started
- 25% - Activity Started
- 50% - Activity Approximately one half Complete
- 75% - Activity Mostly Complete
- 90% - Activity Complete; Awaiting Sign-off and Approval
- 100% - Activity is Complete, Signed-off and Approved



Likelihood of Occurrence:

- 2.1.1.1 – Almost Certain
- 2.1.1.2 – Almost Certain
- 2.1.1.3 – Almost Certain

Magnitude of Impact:

- 2.1.1.1 – Major
- 2.1.1.2 – Major
- 2.1.1.3 – Moderate



2.1.2 Report on the Status of Issue Resolution for all Issues Identified in Testing

Observation:

2.1.2.1 – Eagle Database Statuses Do Not Facilitate Timely Issue Resolution

There are currently six different statuses in the Eagle database. This includes five different statuses to indicate that an issue or defect is unresolved. Discussions with key personnel indicate that this is too many statuses to adequately manage the process of resolving issues. The different statuses that an issue/defect can belong to is not clear and may confuse the end users in understanding of what stage it is in.

2.1.2.2 – There is No Standard Methodology for Assigning Defect Resolution Due Dates

The projected due date for issue resolution is selected by the tester who submitted the issue or defect. There was no consistent method utilized to assign these dates, and no justification was provided for the dates chosen. As a result, the issue database can not be used to accurately determine upcoming due dates for issue resolution. In addition, co-dependencies between issues were not considered when selecting due dates. For example, defect B may have to be resolved before issue A, but defect B was arbitrarily assigned a due date before defect A. As a result, the issues could not be appropriately sorted and prioritized based on due date.

2.1.2.3 – The Average Time to Resolve Critical Defects is Excessive

Based on KPMG's calculations, it took an average of 15 business days to resolve each critical issue and defect. Per the CoA's definition, an issue or defect is noted as critical when the project will be placed in extreme peril and immediate maximum attention and resources must be assigned to the issue until it is resolved. Based on this definition, the critical defects and issues should have been resolved immediately. Instead, the extended time of resolving these resulted in overall delays in SIT.

2.1.2.4 – Lack of Overall Ownership and Management of Issues and Defects

The log contains columns for the following values for each issue and defect – “owner” and “assigned to”. Through inspection of the Eagle Database, it was noted that not all issues and defects contain these values. In some cases, where values were assigned, the personnel that it was assigned to (Oracle) is no longer on site. As a result, critical issues and defects occasionally ended up in a status of not being actively worked on, or not being resolved in a timely manner. In addition, it was noted that several other columns were inconsistently populated.

2.1.2.5 – There Are 21 Critical Defects and Issues Outstanding that Have Been Open for an Average of 34 days

Through interviews with various personnel and review of the June 19, 2007 Eagle Database, it was noted that 21 critical and 24 high defects are currently in an “open”, “in process”, or “testing” phase. A defect is noted as critical when the project will be placed in extreme peril and immediate maximum attention and resources must be assigned to the issue until it is resolved. A defect is noted as high when the goals of the projects are in jeopardy and immediate attention and resources are assigned to the issue until it is resolved. The critical defects are as follows:

- 11 “open” critical defects – 6 belong to Finance, 3 belong to Procurement, 2 belong to PMO
- 1 “open” critical issue – belongs to PMO
- 3 “in process” critical defects – 1 belongs to Finance, 1 belongs to Human Resources, 1 belongs to Procurement

- 1 “in process” critical issue – belongs to Procurement
- 5 “testing” critical defects – all belong to Finance

As of June 19, 2007, the open critical defects and issues have been open for 34 business days, on average.





Risk:

2.1.2.1 – Eagle Database Statuses Do Not Facilitate Timely Issue Resolution

Having six different statuses creates the risk of users unintentionally not acting in a timely manner. In addition, this may also create a false sense of being further along with the issue resolution than is really the case.

2.1.2.2 – There is No Standard Methodology for Assigning Defect Resolution Due Dates

Without clear coordination of co-dependencies between various functional areas there is a risk that “grid-lock” situations may be created. This could mean that several parties are waiting for critical information from someone else; who in turn cannot proceed because they are waiting for someone else.

2.1.2.3 – The Average Time to Resolve Critical Defects is Excessive

Inability in resolving critical issues and defects immediately, this may have an adverse effect on the progress of testing and the ERP overall implementation.

2.1.2.4 – Lack of Overall Ownership and Management of Issues and Defects

Without having accountability, this may create opportunities for finger-pointing, as well an inconsistent and untimely process for issue resolution. In addition, issues may “fall of the radar” as they don’t have an “owner” responsible for complete resolution.

2.1.2.5 – There Are 21 Critical Defects and Issues Outstanding that Have Been Open for an Average of 34 Days

Without having the critical and high issues and defects reviewed and resolved prior to User Acceptance Testing, this creates the risk of similar defects recurring.

Recommendation:

2.1.2.1 – Eagle Database Statuses Do Not Facilitate Timely Issue Resolution

By limiting the number of available statuses in the Eagle Database, this will assist with optimal issue resolution. The Project Management Office must consider reducing the number of statuses of an issue/defect to the following three: Not started/ In process/ Closed. As a result, users of the Eagle database will quickly be able view a list of issues in each of these statuses. A separate document must contain notes on exactly where the issue or defect is in the process of being resolved.

2.1.2.2 – There is No Standard Methodology for Assigning Defect Resolution Due Dates

By developing and enforcing a consistent approach for assigning defect resolution dates and prioritization, delays can be avoided. All due dates should be assigned according to a formalized, agreed-upon and coordinated process so that co-dependencies and priorities can be streamlined across functional areas.

2.1.2.3 – The Average Time to Resolve Critical Defects is Excessive

By resolving all critical issues and defects in a timely manner, the CoA will be able to avoid overall delays in testing and the overall ERP implementation. Based on the serious nature and their potential impact on SIT and the overall project, all issues and defects in a critical status should be given immediate attention to be resolved timely, in order to limit their impact on the overall project.

2.1.2.4 – Lack of Overall Ownership and Management of Issues and Defects

By assigning one individual (a CoA resource in the PMO organization) to be responsible for coordinating the overall issue and defect resolution process, this may assist in a more timely and coordinated resolution effort. The CoA must communicate the role of this individual to all key stakeholders. They should also establish an ongoing communication process between the manager of the issues and defects and the end-users. All issues and defects should be assigned with one value for an “owner”. This value should be maintained as personnel leave the project. The personnel assigned to these defects should be held accountable for resolution.

2.1.2.5 – There Are 21 Critical Defects and Issues Outstanding that Have Been Open for an Average of 34 Days

By reviewing and prioritizing all critical and high defects prior to the commencement of the User Acceptance Testing (UAT) phase, this will result in decreased risk of similar defects occurring. Each critical and high defect in an “open”, “in process”, or “testing” phase should be analyzed to determine whether timelines allow for the defect to be resolved prior to the UAT phase. In some cases, resolution may include placing the defect in an “on hold” status. For defects that require additional development and testing, a strategy and plan must be developed with daily status updates. These daily status updates should include, at the minimum, the CATS Project Manager, the functional lead, and the technical lead. By reviewing and resolving the critical defects, this may assist in defects not recurring during the UAT phase.

Likelihood of Occurrence:

- 2.1.2.1 – Almost Certain
- 2.1.2.2 – Almost Certain
- 2.1.2.3 – Almost Certain
- 2.1.2.4 – Likely
- 2.1.2.5 – Almost Certain

Magnitude of Impact:

- 2.1.2.1 – Major
- 2.1.2.2 – Major
- 2.1.2.3 – Major
- 2.1.2.4 – Major
- 2.1.2.5 – Major



2.1.3 Report on Adequacy of Testing

Observation:

2.1.3.1 – Ineffective or Inconsistent Execution of SIT Strategy

Through inspection of project documentation and inquiry of project personnel, we found that the Systems Integration Test (SIT) strategy document identified typical planning items. However, it was determined that the strategy was not consistently executed as documented:

- The test strategy detailed that a designated lab with multiple workstations be established for SIT testing. This was not done. Testing was performed at the team member's regular workstations.
- The test strategy detailed that "data errors that cannot be corrected or reconverted in SIT must be logged and retested in UAT". The project team did not consistently follow this strategy as data conversion and transaction issues did delay Systems Integration Testing.
- The test strategy detailed that one environment would be used for SIT. Specifically in the case of certain data conversions and functional test related to certain data conversions, testing occurred in multiple environments.

2.1.3.2 – Lack of Documented Relationship Between Business Processes, Business Requirements, and Testing Documents

Through inspection of project documentation and inquiry of project personnel, it was determined that there is not a documented relationship between "to-be" process flows, the Activity Planning Worksheet, and testing documentation. It was noted that processes such as the year-end closing process and requirements such as reporting requirements were not tested in SIT.

2.1.3.3 – Negative Testing Was Not Planned, Performed and Documented in SIT

Through inspection of project documentation and inquiry of project personnel, it was determined that non-standard or negative testing was not planned, performed and documented in SIT. Project teams did indicate that they have been attempting to "break the system" though they have not been documenting their attempts. In addition, descriptions of attempts to "break the system" did not correspond well to best practice definitions of negative testing.

2.1.3.4 – Inconsistent Documentation of SIT Test Results

Through inspection of project documentation and inquiry of project personnel, it was determined that documentation, approvals and retention of test scripts was not consistent across all project teams.





Risk:

2.1.3.1 - Ineffective or Inconsistent Execution of SIT Strategy

Improper design or ineffective execution of the testing strategy can negatively impact expected results and testing duration.

2.1.3.2 – Lack of Documented Relationship Between Business Processes, Business Requirements, and Testing Documents.

Without a documented link between test cases, business process, and business requirements, there is a risk that business processes and requirements will not be tested.

2.1.3.3 – Negative Testing Was Not Planned, Performed and Documented in SIT

There is a risk that defects will not be identified or users will be unprepared for unexpected results before the application is in production.

2.1.3.4 – Inconsistent Documentation of SIT Test Results

Documentation may not be available to help resolve future testing or production issues.

Recommendation:

2.1.3.1 - Ineffective or Inconsistent Execution of SIT Strategy

Project management should consider the following in planning for future testing phases:

- Establish test facilities that support the type of testing being conducted.
- Document lessons learned from last test phase and incorporate into future test strategy documents.
- Identify a single owner for each test phase that will manage issue resolution, cross-team data requirements, and ultimately, have responsibility for the progression of testing.
- Kick off each phase of testing with interactive communications to the project team and testers. Specifically focus the following items:
 - Review the goals of the current phase of testing.
 - Review procedures and time limits for error handling with the project team.
 - Review test documentation and retention requirements with the project team.

2.1.3.2 – Lack of Documented Relationship Between Business Processes, Business Requirements, and Testing Documents.

Project management should create a new column on the Activity Planning Worksheet that can be populated with the name/section of the test script that links to the business process or requirement being tested.

2.1.3.3 – Negative Testing Was Not Planned, Performed and Documented in SIT

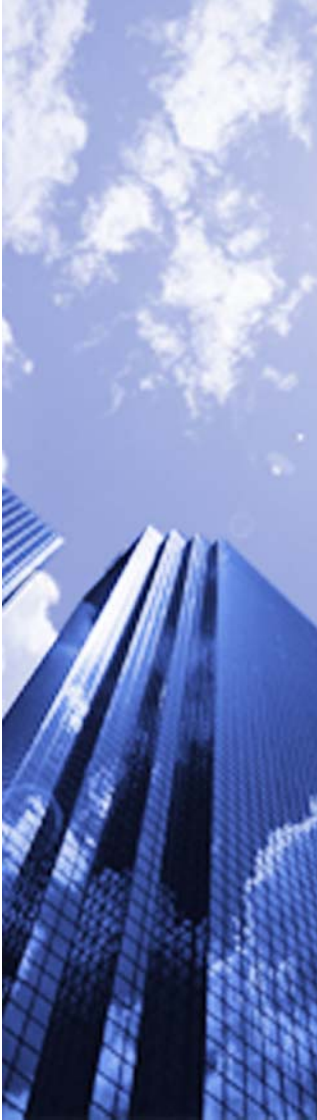
The project teams should develop negative tests which verify that the application responds correctly to error conditions or unacceptable input conditions. The project teams should perform negative testing and document the results in each remaining round of testing.

2.1.3.4 – Inconsistent Documentation of SIT Test Results

Project management should consider the following with regards to test documentation:

- Review current test documentation requirements to determine if current documentation requirements will be effective. Update documentation requirements if required.

- Communicate test documentation requirements to the project team and testers.
- Monitor test documentation for completeness, timeliness, and proper retention.
- Test results should include at a minimum identification of testers, actual results, outcome of test and test steps, and notes on unexpected results.



Likelihood of Occurrence:

2.1.3.1 – Almost Certain
2.1.3.2 – Almost Certain
2.3.3.3 – Almost Certain
2.1.3.4 – Almost Certain

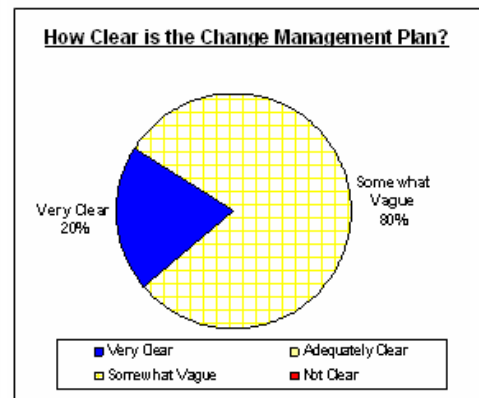
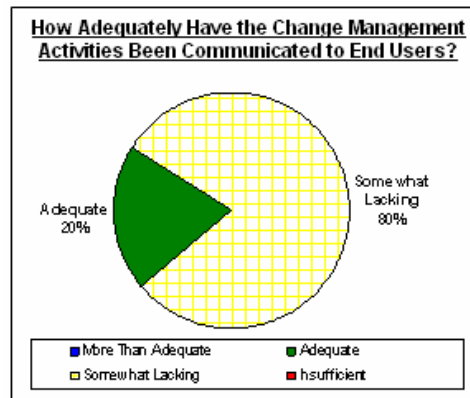
Magnitude of Impact:

2.1.3.1 – Major
2.1.3.2 – Moderate
2.3.3.3 – Major
2.1.3.4 – Moderate

2.1.4 Report on Adequacy of Change Management Activities

Observation:

An estimated 20% of the respondents indicated that change management activities have been adequately communicated to the end users. An estimated 80% of the respondents have indicated that the change management plan is vague. It has been communicated by various CoA team members, including Steering Committee members, that all change management activities need further enhancement.



2.1.4.1 – Oracle ERP Pamphlets are Not Developed

It was concluded through interviews and discussions that one pamphlet was developed was in support of the CATS e-Fair which was held on December 8, 2006 in the City Hall Atrium. No additional pamphlets regarding this project have been developed. No end user pamphlets have been developed to highlight specific business processes and how the Oracle application supports those defined processes.

2.1.4.2 – Limited Use of Seminars to Conduct End User Awareness

One seminar was conducted on December 8, 2006. This was an e-Fair conducted in the Atrium of City Hall. No additional seminars have been conducted to support end user awareness.

2.1.4.3 – Insufficient Development of Executive Recordings

No Executive recordings have been produced to generate excitement and enthusiasm and demonstrate Executive level support within the end user community.

2.1.4.4 – Distribution of Newsletters is Sporadic

A CATS newsletter is issued periodically but not on a standard recurring basis. The last issue was Spring 2007 (Volume 1 Issue 6) which included information regarding Self-Service HR. The newsletter also included the names of the Steering Committee members and team leads. Additionally, a high level timeline was included which indicated a July 2007 “go-live” and specific activities leading to “go-live”.

2.1.4.5 – An Employee Feedback / Suggestion Program Has Not Been Developed

No strategy, documents, or templates have been created to collect suggestions on an on-going basis after “go-live”.



2.1.4.6 – A Patch and Upgrade Management Strategy Has Not Been Developed

No strategy has been developed to identify, communicate and test patches and upgrades on an ongoing basis after “go-live”.





Risk:

2.1.4.1 – Oracle ERP Pamphlets are Not Developed

The lack of pamphlets and brochures delivered to the end user community will limit the understanding and acceptance of the system. An opportunity has been missed to distribute information about the system to the end-user community.

2.1.4.2 – Limited Use of Seminars to Conduct End User Awareness

End user acceptance will be limited if seminars are not conducted with the end user community to familiarize them with the new system. An opportunity has been missed to generate excitement regarding the Oracle ERP project by conducting seminars and end-user awareness sessions.

2.1.4.3 – Insufficient Development of Executive Recordings

Not developing Executive recordings and sharing with the end users is a missed opportunity to increase energy and excitement in utilizing the new system. Additionally, end-users will not see Executive support for the strategy.

2.1.4.4 – Distribution of Newsletters is Sporadic

The lack of communication to the end user community will impede the acceptance of the Oracle ERP solution.

2.1.4.5 – An Employee Feedback / Suggestion Program Has Not Been Developed

Not utilizing an employee feedback form or collecting suggestions from end users will limit the enhancement and maturity of the Oracle ERP solution.

2.1.4.6 – A Patch and Upgrade Management Strategy Has Not Been Developed

End users will not be able to take advantage of new functionality and usability if patches and upgrades are not applied to the Oracle environment in a timely and controlled manner. Not developing a consistent approach to collect Oracle upgrades, patches and releases will increase the likelihood of missing important security patches to protect the Oracle environment from vulnerabilities and other operational impacts.

Recommendation:

2.1.4.1 – Oracle ERP Pamphlets Are Not Developed

Utilize pamphlets to heighten the awareness, energy and excitement of the CATS initiative to the end user community. Pamphlets can help describe specific procedures that end users need to follow on a recurring basis. Each pamphlet can emphasize a different process, procedure or highlight helpful hints. Also contained on the pamphlet will need to be a contact listing for help desk information and who to contact for expert advice within the Finance, Procurement and Human Resources departments.

2.1.4.2 – Limited Use of Seminars to Conduct End User Awareness

Additional seminars, town hall meetings and programs need to be created for networking, user awareness and open conversation about the project. The CATS project is a very large initiative for the CoA and it will affect multiple end users communities. As more seminars are conducted, end users will more easily accept the transition from their legacy procedures and systems to the Oracle system. Seminars are a good opportunity for users to ask

questions and feel connected with the overall vision.

2.1.4.3 – Insufficient Development of Executive Recordings

A concise one-hour audio/visual recording by key Executives located out on the company portal or website can be very beneficial for the end user community. The recording will need to provide an overview of the CATS initiative and share with the listener the importance of this strategy and how this strategy fits into the technology vision of the CoA. Executives such as the CIO, CFO, Procurement Commissioner and HR Commissioner will all need to have speaking parts in the recording as well as the PMO for the CoA.

2.1.4.4 – Distribution of Newsletters is Sporadic

Continue to create and distribute project newsletters to enhance communication to all stakeholders and end users. The newsletter will keep everyone abreast as to the project accomplishments. The newsletter will need to be distributed on a recurring basis during the development and test phases as well as after system “go-live”.

2.1.4.5 – An Employee Feedback / Suggestion Program Has Not Been Developed

Initiate a program in which all employees who will be impacted by the new software and process can either mail or phone comments, questions and suggestions to the project. The project then will have designated project team members investigate the input and respond to the employee individually or as a newsletter message.

2.1.4.6 – A Patch and Upgrade Management Strategy Has Not Been Developed

A strategy must be developed and followed to address applying patches and upgrades for the end users. Patches and upgrades must be approved by a Change Control Board (CCB) and tested in a test environment prior to movement into the Production environment. Post implementation acceptance testing must be conducted after the patch or upgrade is applied to the production environment. Key business users need to be trained on the use of Metalink (Oracle’s support portal). Oracle does not deploy patch information to the client base. Customers of Oracle applications must frequently poll Metalink for the information or register for the monthly newsletters and alerts. It is recommended that at least two key business users from each department enroll for these newsletters.

Likelihood of Occurrence:

- 2.1.4.1 – Almost Certain
- 2.1.4.2 – Likely
- 2.1.4.3 – Almost Certain
- 2.1.4.4 – Possible
- 2.1.4.5 – Almost Certain
- 2.1.4.6 – Almost Certain

Magnitude of Impact:

- 2.1.4.1 – Moderate
- 2.1.4.2 – Moderate
- 2.1.4.3 – Moderate
- 2.1.4.4 – Moderate
- 2.1.4.5 – Moderate
- 2.1.4.6 – Major



2.1.5 Report on Adequacy of Documentation of Modifications to the System

Observation:

2.1.5.1 Incomplete and Incongruous Lists of Customizations and Changes

A varying degree of documentation of customizations and changes made to the system was noted. These lists were incomprehensive and customizations identified did not correspond from one document to the next.

2.1.5.2 No “How To” Documents to Instruct on Re-application or Reinstall of Modifications

There should be instruction documents for the source files to ensure that all steps to recreate the modification are available to anyone attempting to do the restore.

2.1.5.3 Copies of Source Files Could Not Be Located

KPMG was not able to verify that there are stored copies of source files for all code customizations, fast formulas, extensions, forms and reports or workflows. Many of the documents on iProjects were high level Oracle design documents that were created during the initial implementation. The existing design documents provide adequate information to determine the task, but would be time consuming to recreate fully if the need arose.

2.1.5.4 There is No Indication of Which Modifications Would Be Overwritten During Upgrades or Patching

Documentation could not be located that clearly outlines to the DBA which customization or modification would need to be recreated or reapplied after an upgrade or patches are applied. The frequency of Oracle patches increases the related risks of this issue. For example, HR patching is at least a quarterly endeavor due to the application of the state wage listing patches. Additionally, these HR quarterly patches can contain files affecting other modules.





Risk:

2.1.5.1 Incomplete and Incongruous Lists of Customizations and Changes

Incomplete assessment and documentation of all customizations and modifications to the system could lead to operational and control impacts if these changes are overwritten and unknown.

2.1.5.2 No “How To” Documents to Instruct on Re-application or Reinstall of Modifications

A lack of clear and concise instructions to recreate customizations and modifications can lead to negative operational impacts to the system and unexpected costs due to improper reinstallation of a change.

2.1.5.3 Copies of Source Files Could Not Be Located

A lack of copies of source code files could lead to unexpected costs related to the recreation of those files. Additionally, there is a risk that the production environment cannot be fully restored to its original state after an overwrite or outage.

2.1.5.4 There is No Indication of Which Modifications Would Be Overwritten During Upgrades or Patching

Without clear documentation of which modifications would be overwritten there is a risk that modifications will be lost and then will need to be restored. This could lead to a negative operational impact and further negatively impact the financial statements.

Recommendation:

2.1.5.1 Incomplete and Incongruous Lists of Customizations and Changes

Assign at least one employee and one backup employee the responsibility of maintaining the list of modifications and customizations that are applied to the production environment

- The list should include:
 - Latest date of change,
 - Where source code is stored
 - Module updated
 - Change in functionality
 - Who Approved the change
 - Location of implementation instructions
 - Whether it is registered in Oracle
- The list should be reviewed for accuracy at least once a year and during upgrades by the Department of Information Technology (DIT) and functional users
- The list should be stored on a secure repository such as iProjects.

2.1.5.2 No “How To” Documents to Instruct on Re-application or Reinstall of Modifications

Each time a modification/configuration is made to the production environment, a corresponding instruction document should be created. Ideally, it should have screen prints of changes and steps to recreate the change. For example, a SQL based Oracle Alert should also clearly document the SQL code used.

File directories and database settings are unique to each system. Instructions that delineate the steps, directories and any functional updates such as profile option settings are crucial to restoring the instance and should be documented.

A modification can have technical and functional components. Clear instructions on how to install all of the components should be created and maintained.

The documents should be securely stored on a common repository and its location added to the updated customization list. Additionally, include the completion of modification documents as a check-off item in the Change Management process

2.1.5.3 Copies of Source Files Could Not Be Located

Source files should be stored in a secure common repository along with the instructions outlined in 2.1.5.2 if applicable.

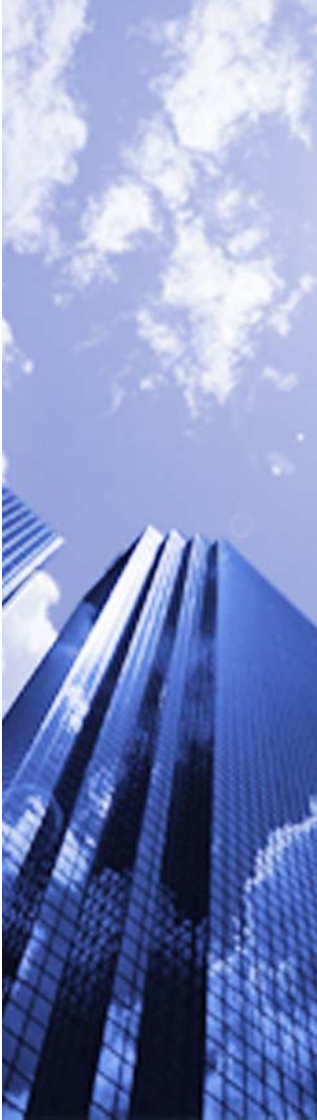
File versioning should be maintained and new file versions should be saved along with the older versions and not overwritten.

Additionally, access should be limited to those who would use the files

2.1.5.4 There is No Indication of Which Modifications Would Be Overwritten During Upgrades or Patching

A clear list of all modifications that would be overwritten should be maintained. As part of CoA's patch management system, this list should be included in the checklist for reapplication and testing.

Additionally, form changes and customized concurrent programs can be registered in Oracle so they will not be overwritten during upgrades and patching.



Likelihood of Occurrence:

- 2.1.5.1 – Unlikely
- 2.1.5.2 – Possible
- 2.1.5.3 – Unlikely
- 2.1.5.4 – Possible

Magnitude of Impact:

- 2.1.5.1 – Major
- 2.1.5.2 – Major
- 2.1.5.3 – Major
- 2.1.5.4 – Major



2.1.6 Report on the CoA's Readiness to Proceed with UAT

Observation:

2.1.6.1 – Status of System Integration Testing for the Finance Department is Currently at 57% (114 tests outstanding) with no Estimated Completion Date Projected

Through continual inspection of the Activity Planning Worksheet, it was determined that the Finance department is unable to complete testing due to: continually testing scenarios, documented and undocumented, and from inter-dependencies with other departments that are not completed preventing Finance from concluding tests. Therefore, Finance is unable to provide an estimated completion date for System Integration Testing.

2.1.6.2 – Status of System Integration Testing for the Procurement department is Currently at 83% (16 tests outstanding)

Through continual inspection of the Activity Planning Worksheet, it was determined that the Procurement department currently has the following number of tests outstanding:

5 – Purchasing ; 3 – iSupplier; 2 – Sourcing; 5 – Custom Reports; 1 – iProcurement

Through interviews with various personnel, anticipated SIT completion dates were obtained. However, it was noted that each projected completion date elapsed without all tests being completed. As of the June 19, 2007 Activity Planning Worksheet, 16 tests remain outstanding.

2.1.6.3 – Status of System Integration Testing for the Human Resources Department is Currently at 90% (33 tests Outstanding)

Through continual inspection of the Activity Planning Worksheet, it was determined that the Human Resources department currently has the following number of tests outstanding:

2 – Payroll; 13 Payroll Custom Reports; 1 Human Resources; 5 Human Resources Custom Reports; 7 Benefits Custom Reports; 5 Pension Custom Reports

Through interviews with various personnel, anticipated SIT completion dates were obtained. However, it was noted that the projected completion date elapsed without all tests being completed. As of the June 19, 2007 Activity Planning Worksheet, 33 tests remain outstanding.

2.1.6.4 – Lack of Consultants (Loss of Institutional Knowledge)

Key Oracle resources are not present to assist with the completion of project testing.



Risk:

2.1.6.1 – Status of System Integration Testing for the Finance department is Currently at 57% (114 tests outstanding) with no Estimated Completion Date Projected

This creates the risk of delayed completion, beyond the already extended System Integration Testing timelines. This also creates the risk of an indeterminate testing period. Also, by not documenting and tracking each test scenario tested, this also creates the risk of repeating test scenarios.

2.1.6.2 – Status of System Integration Testing for the Procurement Department is Currently at 83% (16 tests Outstanding)

This creates the risk of delayed completion, beyond the already extended System Integration Testing timelines. This also creates the risk of an indeterminate testing period.

2.1.6.3 – Status of System Integration Testing for the Human Resources department is Currently at 90% (33 tests Outstanding)

This creates the risk of delayed completion, beyond the already extended System Integration Testing timelines. This also creates the risk of an indeterminate testing period.

2.1.6.4 – Lack of Consultants (Loss of Institutional Knowledge)

Rolling off the Oracle resources may result in unsuccessful/untimely testing due to a lack of functional knowledge required for completion.



Recommendation:

2.1.6.1 – Status of System Integration Testing for the Finance department is Currently at 57% (114 tests outstanding) with no Estimated Completion Date Projected

The Finance department must utilize the Activity Planning Worksheet to determine the necessary testing scenarios and dependencies in order to complete and track System Integration Testing by a determined completion date. The Activity Planning Worksheet is a tool that should be utilized to contain a master inventory of tests to be completed, the appropriate personnel to perform the test, as well as, the completion date. This should be maintained on a daily basis. By performing these steps, this will assist in tracking of the SIT phase.

2.1.6.2 – Status of System Integration Testing for the Procurement Department is Currently at 83% (16 tests Outstanding)

A firm completion date should be established for SIT. By setting a firm completion date for SIT, this will assist in the commencement of User Acceptance Testing.

2.1.6.3 – Status of System Integration Testing for the Human Resources Department is Currently at 90% (33 tests Outstanding)

A firm completion date should be established for SIT. By setting a firm completion date for SIT, this will assist in the commencement of User Acceptance Testing.

2.1.6.4 – Lack of Consultants (Loss of Institutional Knowledge)

Retain key Oracle resources to assist with the completion of project testing. By retaining key resources, this will assist end users in completing testing in an accurate manner.

Likelihood of Occurrence:

- 2.1.6.1 – Almost Certain
- 2.1.6.2 – Almost Certain
- 2.1.6.3 – Almost Certain
- 2.1.6.4 – Almost Certain

Magnitude of Impact:

- 2.1.6.1 – Major
- 2.1.6.2 – Moderate
- 2.1.6.3 – Moderate
- 2.1.6.4 – Major



2.1.7 Report on the Integration and Related Benefits

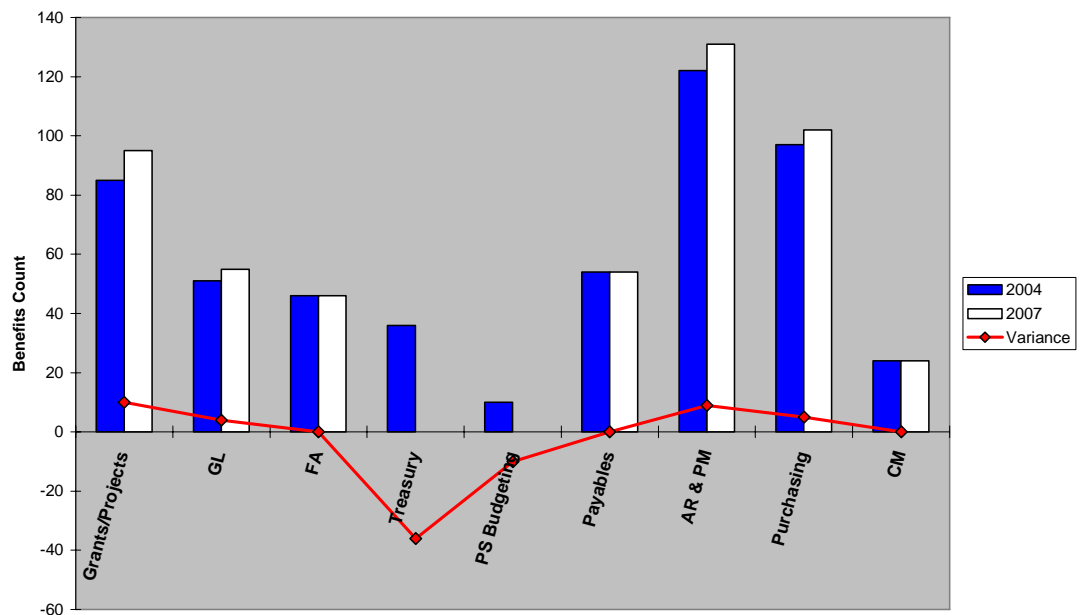
Observation:

2.1.7.1 – Variance in Expected Qualitative Benefits

The initial qualitative analysis was performed in 2004 for the areas of operational efficiency, enhanced effectiveness of service, improved controls, additional functionality, and timely visibility to information. Our 2007 analysis shows an increase in expected qualitative benefits in the areas of Projects & Grants, GL, AR & PM, and Purchasing. However, all expected qualitative benefits expected from Treasury and Public Sector Budgeting have been lost since the modules are no longer being implemented.

General qualitative benefits related to the integration of inter-departmental processes, technology upgrades, and self-service applications will be achieved from the use of a unified ERP system.

Overall Benefits Analysis
(Note: Treasury & PSB have been descoped)



2.1.7.2 – Expected Tangible Benefits Cannot Be Substantiated

Based on inquiry, CoA's 2004 assessment of tangible benefits prepared by Tibra, had varying basis on quantifiable figures and could not be substantiated. The 2004 assessment identified \$17,850,000 in expected cost reductions. This total included savings in Finance direct labor costs (\$1.5M), Aviation direct labor costs around reconciliation of accruals (\$250K), 50% reduction in accounting consulting fees (\$750K), direct cost from audit fees (\$350K), and purchasing costs (\$15M).

Although there will be a minor reduction in costs gained from efficiencies and \$1M to \$2M savings may be likely, this reduction will not likely be close to original expectations. These savings may be gradual in nature and not immediate.

Additionally, this does not account for additional costs that may be incurred related to post go-live support issues and external audit fees around new financial system controls, conversion, and figures testing that were not.



Risk:

2.1.7.1 – Variance in Expected Qualitative Benefits

Qualitative benefits that are not adequately analyzed, measured, and achieved can result in a negative impact to the functioning of business processes that lead to inefficiencies and a loss of faith in the systems ability to achieve goals causing the circumvention of the system and its controls.

2.1.7.2 – Expected Tangible Benefits Are Not Quantifiable

Quantitative benefits that are not adequately analyzed, measured, and achieved can result in unrealized benefits and opportunity costs that lead to a negative impact to the budget and financial statements.



Recommendation:

2.1.7.1 – 2.1.7.2 Qualitative and Quantitative Benefits

The CoA needs to identify and develop key performance indicators to help gauge the qualitative and quantitative metrics. These metrics should be established prior to “go live” and used against their current processes to create a baseline. “Post go-live”, these metrics should be used to gauge performance. This will allow CoA to determine what areas may not be performing to even past metrics and those that are exceeding them. This will allow them to focus their improvement efforts more concisely.

Likelihood of Occurrence:

- 2.1.7.1 – Possible
- 2.1.7.2 – Possible

Magnitude of Impact:

- 2.1.7.1 – Major
- 2.1.7.2 – Moderate



2.2 Provide a Roadmap to Complete Implementation and Launch of the New System

2.2.1 Specify Any Add'l Work That Should Be Done Before UAT

Observation:

2.2.1.1 – Central Testing Facility to be Provided for Finance, Procurement, and Human Resources

A central testing facility with the appropriate testing tools should be provided for the System Integration Testing phase for Finance, Procurement, and Human Resources.

2.2.1.2 – Testing Strategy for the User Acceptance Testing Phase

Planning for the User Acceptance Testing phase has been delayed due to extended testing in the SIT phase.

2.2.1.3 – Prioritize and Coordinate Dependencies

Through interviews with various personnel and review of the Activity Planning Worksheet, it was noted that all dependencies were not considered for each of the tests to be performed during the SIT phase.

2.2.1.4 – Review and Resolution of Critical Issues and Defects

Through interviews with various personnel and review of the June 19, 2007 Eagle Database, it was noted that 19 critical and 24 high issues and defects are currently in an “open”, “in process”, or “testing” phase. An issue or defect is noted as critical when the project will be placed in extreme peril and immediate maximum attention and resources must be assigned to the issue until it is resolved. An issue or defect is noted as high when the goals of the projects are in jeopardy and immediate attention and resources are assigned to the issue until it is resolved.

2.2.1.5 – Creation and Approval of an Inventory of Patches

Through interviews with various personnel, it was noted that users were unable to obtain the same test result for a repeated test scenario due to changes made to the system. These changes included patches that were loaded throughout the cycle of System Integration Testing.

2.2.1.6 – Creation and Maintenance of the Activity Planning Worksheet

Through interviews with various personnel and review of the Activity Planning Worksheet, it was noted that the master Activity Planning Worksheet was not consistently maintained. In some cases, a planned date for test completion was populated. However, once the original date elapsed without the test scenario being completed, a revised date was not consistently input into the Activity Planning Worksheet.



Risk:

2.2.1.1 – Central Testing Facility to be Provided for Finance, Procurement, and Human Resources

Failure to have a central testing facility for testing has created the risk of testing being conducted in an uncoordinated manner, leading to prolonged completion of testing. This also creates the risk of not being able to properly demonstrate system functionality to end users.

2.2.1.2 – Testing Strategy for the User Acceptance Testing Phase

The inability to have a complete testing strategy finalized has created the risk of a comprehensive strategy for the User Acceptance Testing phase not being developed prior to the execution of testing. This may also create the risk of goals and responsibilities becoming unclear.

2.2.1.3 – Prioritize and Coordinate Dependencies

The inability to have dependencies completely prioritized and coordinated, testing was delayed causing an extension in System Integration Testing. This also creates the potential of recurrence during the User Acceptance Testing phase.

2.2.1.4 – Review and Resolution of Critical Issues and Defects

The inability to review the critical and high issues and defects resolved prior to User Acceptance Testing, this creates the risk of similar issues and defects recurring.

2.2.1.5 – Creation and Approval of an Inventory of Patches

The inability of a master inventory of patches to be applied to the system has created the risk of assorted test results.

2.2.1.6 – Creation and Maintenance of the Activity Planning Worksheet

The inability to maintain the Activity Planning Worksheet has created the risk of being unable to properly track and plan for testing completion.



Recommendation:

2.2.1.1 – Central Testing Facility to be Provided for Finance, Procurement, and Human Resources

Secure a central testing facility with the appropriate tools to conduct User Acceptance Testing for Finance, Procurement, and Human Resources. By securing a central testing facility for each group, this may assist in improved coordination of testing.

2.2.1.2 – Testing Strategy for the User Acceptance Testing Phase

The Project Management Office should continue developing and finalizing the testing strategy for the User Acceptance Testing phase prior to the commencement of testing. The strategy should contain goals/objectives, scope, assumptions, schedules, roles and responsibilities, and testing logistics. By developing a testing strategy, this may assist in communicating clear goals and roles and responsibilities to the project team.

Through interviews with various personnel and inspection of the Testing Strategy document for System Integration Testing, it was determined that a similar strategy for the User Acceptance Testing phase should be developed.

2.2.1.3 – Prioritize and Coordinate Dependencies

Prioritize and coordinate dependencies through input of various personnel from the Finance, Procurement, and Human Resources teams. Each dependency should be agreed upon prior to commencement of User Acceptance Testing. By prioritizing and coordinating dependencies, this may assist in preventing testing delays.

2.2.1.4 – Review and Resolution of Critical Issues and Defects

Review and prioritize all critical and high issues and defects prior to the commencement of the User Acceptance Testing phase. Each critical and high issue and defect in an “open”, “in process”, or “testing” phase should be analyzed to determine whether timelines allow for the defect to be resolved prior to the User Acceptance Testing phase. In some cases, resolution may include placing the defect in an “on hold” status. For defects that require additional development and testing, a strategy and plan must be developed with daily status updates. These daily status updates should include, at the minimum, the CATS Project Manager, the functional lead, and the technical lead. By reviewing and resolving the critical defects, this may assist in defects not recurring during the User Acceptance Testing phase.

2.2.1.5 – Creation and Approval of an Inventory of Patches

Create an approved master inventory of patches that are required to be applied to the system. This inventory should include personnel assigned to and timeline for each patch listed. By creating a master inventory, this may assist in producing a static environment for testing.

2.2.1.6 – Creation and Maintenance of the Activity Planning Worksheet

Create a master Activity Planning Worksheet that contains the planned and actual completion dates of test scenarios. By maintaining the worksheet on a daily basis, this may assist in providing an accurate testing status and allow for proper planning of timing of resources.

Likelihood of Occurrence:

- 2.2.1.1 – Almost Certain
- 2.2.1.2 – Almost Certain
- 2.2.1.3 – Almost Certain

Magnitude of Impact:

- 2.2.1.1 – Major
- 2.2.1.2 – Major
- 2.2.1.3 – Major



2.2.1.4 – Almost Certain
2.2.1.5 – Almost Certain
2.2.1.6 – Almost Certain

2.2.1.4 – Major
2.2.1.5 – Major
2.2.1.6 – Major





2.2.2 Develop an Estimate of Time, Funding, and People

Observation:

2.2.2.1 – Inaccurate Project Plan will Impede the “Go Live” Date

Estimates for time, funding and resources are based on an existing project plan and assumptions that have not been kept current.

2.2.2.2 – Existing (3/28/07) Project Plan Funding Estimates are Unsubstantiated

Estimates for time, funding and resources are based on an existing project plan and assumptions that have not been kept current.

2.2.2.3 – Existing (3/28/07) Project Plan Staffing Estimates are Unsubstantiated

Estimates for time, funding and resources are based on an existing project plan and assumptions that have not been kept current.

Risk:

2.2.2.1 – Outdated Project Plan Will Impede the “Go Live” Date

Inaccurate information on work completed and remaining, the associated resources, and project issues will prevent the successful completion of the project in a timely manner

2.2.2.2 – Funding Estimates for Specific Efforts and Timeframes

Inaccurate information on work completed and remaining, the associated resources, and project issues will prevent the successful completion of the project in a timely manner

2.2.2.3 – Resources Necessary to Complete Implementation Include Dedicated CoA Staff, Oracle Consultants, and Subcontractors

Inaccurate information on work completed and remaining, the associated resources, and project issues will prevent the successful completion of the project in a timely manner.



Recommendation:

2.2.2.1 – Outdated Project Plan Will Impede the “Go Live” Date

The High Level Go-Forward Project Plan shown below identifies the critical components necessary to meet a January 1, 2008 “Go Live” date. Time frames and tasks are based upon leading practices, client interviews, and project plan assessments.



High Level Go-Forward Project Plan

Oracle ERP Assessment Project

Project Plan Task	June	July	August	September	October	November	December	January '08	February '08	March '08	
PMO / Project Governance	[Green bar]										
SIT	[Green bar]										
Setups for Gold											
Conversion & Validation 1											
UAT 1											
Business Process Validation											
Conversion and Validation 2											
Preparation for Training											
Train The Trainer											
End User Training											
UAT 2											
Performance Testing & Tuning											
Cutover Planning											
Production Cutover											
Go-Live											
Support/Stabilization & Report Release											

The CoA should implement a robust PMO function to lead and manage the remaining effort. The PMO will facilitate communication, drive project deadlines, confirm quality checks occur, and coordinate between dependent efforts, and monitor staffing needs. Additionally, the CoA should re-energize project teams by increasing communication, emphasizing integration between functional groups, and increasing the involvement of the Department of Information Technology (DIT). KPMG recommends accomplishing the following tasks to meet the January 1, 2008 “Go Live” date.

- Upon analysis of SIT quality and SIT completed to date, KPMG recommends ending SIT on June 29, completed or not, opting for an additional User Acceptance Testing (UAT2). SIT has an initial start date of March 8, 2006, according to the project plan, and is currently 74% complete. At the current pace of SIT, CoA will not achieve the January 1, 2008 “Go Live” date.
- KPMG estimates that Setups for Gold, Conversion and Validation 1 and Conversion and Validation 2, which will prepare the instance for UAT, will all take approximately 10 days each.
- KPMG recommends two User Acceptance Testing (UAT) tasks, UAT1 and UAT2. UAT1 will engage CoA Functional Leads in conducting test steps and will also focus on resolution of SIT open issues. UAT2 will engage CoA Functional Leads in observing, documenting, and resolving issues as system users conduct test steps. This approach will involve the user earlier in the implementation process, allowing for the identification of any system issues and engaging the user in training activities simultaneously. UAT1 and UAT2 are both scheduled for duration of 30 days each.
- Business Process Validation, scheduled for 10 days, will allow CoA functional Leads to validate successful operation of business processes by identifying any necessary process updates or changes.



- 30 days should be devoted to training prior to UAT2: 10 days for Preparation, 10 days for Train the Trainer, and 10 days for End User Training. In addition to the 10 days of End User Training, users will obtain a substantial amount of training while conducting UAT2.
- Performance testing and tuning is estimated at approximately 15 days and will be concurrent with UAT2.
- Cutover planning is estimated at 15 days and production cutover is estimated at 30 days. Production cutover for HR/Payroll must be completed by December 15, 2007 in order for the first pay cycle in 2008 to be produced out of the new Oracle Payroll system.
- Support / Stabilization and Report Release, scheduled for 60 days, includes Phase II Support for parked items and self service.

The time estimates for the remaining implementation steps are highly dependent upon timely placement and full allocation of personnel with the required skill sets and existing project understanding. Additionally, timely completion of each of the remaining steps is also highly dependent on the prior step in the project plan and the quality of the work delivered in that step. Failure to achieve the deadline for one of the remaining steps or poor quality of work will most likely delay the subsequent steps and the “Go Live” date.

2.2.2.2 – Funding Estimates for Specific Efforts and Timeframes

CoA must make sure that adequate funding is in place to maintain the momentum and pace of the effort once begun in order to achieve the “Go-Live” date. Any delay in funding for the effort will impact the ability to acquire and retain the proper resources and will delay the “Go Live” date.

Funding required to complete The High Level Go-Forward Project Plan task items shown in the chart above is estimated in the range of \$10.2M - \$11.5M.

ESTIMATED RESOURCES & EXPENSES	ASSOCIATED COSTS
45 - 50 CoA Dedicated ERP Resources	\$ 1,300,000 - \$ 1,400,000
31 - 35 Oracle Expertise Resources	\$ 6,000,000 - \$ 7,000,000
Travel @ 18%	\$ 1,400,000 - \$ 1,500,000
Contingency @ 20%	\$ 1,500,000 - \$ 1,600,000
ESTIMATED FUNDING TOTAL	\$ 10,200,000 - \$ 11,500,000

- The 45 - 50 dedicated CoA resources will be involved in Project Governance, Setups for Gold, User Acceptance Testing, Business Process Validation, and Training.
- The 31 - 35 Oracle Expertise Resources will be involved creating instances, supporting the environment and performing high level tasks such as Conversion and Validation, Performance Testing and Tuning, Cutover Planning, and Production Cutover.



- The estimated range is based upon leading practices, client interviews, and analysis of the FY2008 Oracle ERP Budget. In analysis of the FY 2008 Oracle ERP Budget, KPMG extracted labor rates for CoA Resources and Oracle Expertise Resources.
- The 18% for travel is based on a standard leading practice percentage.
- The 20% for contingency allows protection due to deviations from the project plan and other unexpected occurrences

2.2.2.3 – Resources Necessary to Complete Implementation Include Dedicated CoA Staff, Oracle Consultants, and Subcontractors

Reference above for details on projected resources for completion of the effort.

The CoA will need to fully allocate the resources, whether they be defined as CoA or contractor, that have the required skills and project understanding. Additionally, CoA will need to retain Oracle Contractors and Subcontractors throughout March 2008 to enable a successful implementation and provide post implementation support. These resources will facilitate a faster and more efficient delivery of a quality system and achievement of the “Go Live” date.

Failure to staff the effort in a timely manner with these resources will delay the “Go Live” date. The extent to which timely placement and full allocation of the properly skilled resources with existing project understanding occurs will determine the likelihood of achieving the “Go Live” date. Additionally, resistance to utilizing resources who have an understanding of the project to date will most likely delay the “Go Live” date as fresh resources become acquainted with the CoA environment.

Likelihood of Occurrence:

- 2.2.2.1 – Likely
- 2.2.2.2 – Likely
- 2.2.2.3 – Likely

Magnitude of Impact:

- 2.2.2.1 – Major
- 2.2.2.2 – Major
- 2.2.2.3 – Major

2.2.3 Recommend Roles and Responsibilities within Specific Areas

Observation:

2.2.3.1 – Limited CoA Change Management & Training Dedication Impacts Success

There is currently one part-time change management resource and, prior to June, there were two full time resources from Oracle dedicated to the Oracle ERP project.

The current responsibility of the CoA change management resource includes assisting to develop the change management plan, review the training documentation, maintain trainee listing, and the training schedule. The CoA change management resource also assists in schedule the training facilities as well as assembling and distributing the newsletter. Oracle and sub-contractors are currently responsible for assembling the training materials and assist in establishing the CATS newsletter. They initiate and schedule the training facilities and assist in developing the training curriculum and determining what prerequisites are required for each course.

The CoA has chosen the “train the trainer” model for training. There are multiple CoA change coordinators that will be trained and be responsible for training all the end users.

2.2.3.2 – IV&V Role Should Not Be Aligned with the DIT Organization

Current activities performed by the third party IV&V organization include identifying risks associated with the project and documenting the impact of those risks. The IV&V team performs tests and communicates any issues to the testing coordinators. They provide risk and testing results to the Steering Committee on a regular basis.

2.2.3.3 – No Dedicated CoA Program Manager Will Limit Sense of Ownership

Until recent events, there was no dedicated the CoA project management resource to support the PMO. This function was filled by a third party contractor.

Responsibilities include monitoring and managing the project plan and assisting in identifying areas of risk. The PMO resource is identifying and helping coordinate efforts to resolve areas of risk within the SIT efforts, conducting weekly status meetings with team leads, acting as a liaison with the DIT organization and investigating various “go-live” scenarios.

Prior to June, two resources from Oracle and one contractor performed PMO responsibilities and administrative efforts for the Oracle ERP project. Primary responsibilities include updating the project plan, maintaining the activity planning worksheet, and overseeing various items in the project plan related to the “go-live” activities. Additional responsibilities include maintaining the Eagle database (defects and issues) and supporting the iProjects environment.

2.2.3.4 – Steering Committee Meeting Primarily Should Be a Decisional Meeting

The Steering Committee meets periodically and includes the CoA and Oracle Executive Staff, functional team leads and IV&V management. Primary responsibilities of the Steering Committee are to understand current status, highlight possible areas of obstruction, and assist to resolve critical issues.



Risk:

2.2.3.1 – Limited CoA Change Management and Training Dedication Impacts Success

Limited change management and training resources and support will negatively impact the success of the project. With the magnitude of the Oracle ERP project, change management activities needed to be addressed early within the project along with constant communication to the end-user community. Inadequate training documentation and lack of timely communication will reduce user acceptance of the system.

2.2.3.2 – IV&V Role Should Not Be Aligned with the DIT Organization

If IV&V activities are not performed as an independent role, their results will be biased and their value will be limited.

2.2.3.3 – No Dedicated CoA Program Manager Will Limit Sense of Ownership

There is no dedicated CoA program manager to support the PMO will relay a lack of CoA ownership and accountability. A deficient and weak CoA PMO will sustain minimal focus, coordination and execution.

2.2.3.4 – Steering Committee Meeting Primarily Should Be a Decisional Meeting

Progress will be limited if the Steering Committee neglects to provide assistance in making strategic decisions and resolving critical issues.



Recommendation:

2.2.3.1 – Limited CoA Change Management & Training Dedication Impacts Success

Dedicated functional and technical change management resources to support the success of the Oracle ERP project must be assigned. To heighten ownership and accountability, all change management activities will be owned by the CoA resource and not third party professionals. Refined and good quality training documentation and clear communication will support users and promote use of the system.

Primary responsibilities of the functional change management resource are:

- Facilitate all change management activities across the enterprise
- Participate in modifying the training materials
- Update business process flows and functional diagrams on a timely basis
- Communicate to the training schedule to all change coordinators and trainees
- Identify and coordinate the use of all training facilities
- Update training lists and the schedule devices to support training
- Establish a strategy to identify and train new users
- Coordinate all new requirements with the end users
- Confirm that the business requirements are clearly stated and folded into materials
- Create and distribute job aides, check lists, reminder cards and diagrams to users

A project documentation repository will need to be developed and maintained by the change management team

The technical change management resource within the DIT will be responsible for:

- Developing, documenting and coordinating the patch and upgrade strategy
- Coordinating of changes to interfaces and other integration activities
- Maintaining all documentation related to technical objects and custom code

Change coordinators in each department will be responsible for training new users on a “go-forward” basis. They must maintain working knowledge with the current functionality of the system, business processes and the training material.

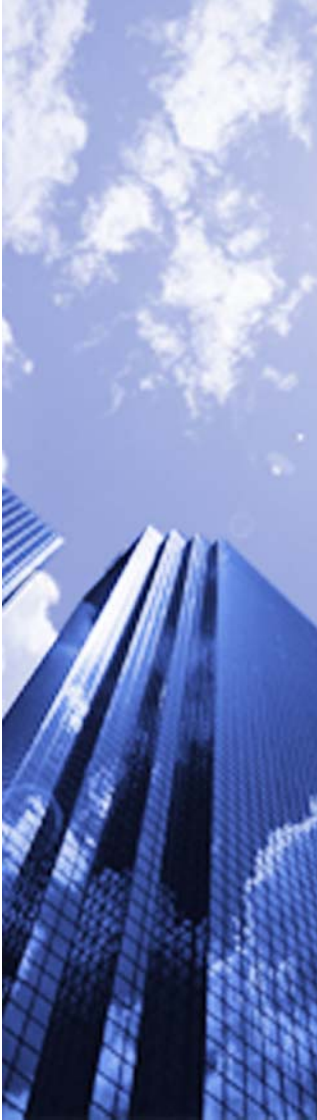
As described in Oracle’s Application Implementation Method (AIM) handbook, a communication specialist is also necessary to support the CoA vision. “The communications specialist assists the client in developing the communication model and standards for the project team, and the communication campaign to involve, inform and generate buy-in from the stakeholders throughout the client organization.”

2.2.3.2 – IV&V Role Should Not Be Aligned with the DIT Organization

The Independent Verification and Validation (IV&V) third party organization’s role should be aligned with the Internal Audit team and truly act as an independent association to the project. IV&V activities should be conducted on a quarterly basis and continued through various key milestones through “go-live”. The key responsibilities of this group should be to:

- Assess Project Charter
- Review Business Requirements
- Identify Project Risk Components





- Review Resource Allocations
- Review Training Strategy and Planning
- Review Vendor Support
- Review User Acceptance Testing
- Review Vendor management / relationship
- Review configuration and release management
- Review System Architecture
- Review system performance objectives
- Review integration strategy
- Review issue/defect management process
- Review business continuity plans

2.2.3.3 – No Dedicated CoA Program Manager Will Limit Sense of Ownership

There must be a dedicated CoA program manager to support the PMO to establish a winning culture throughout the organization and the project team. This resource will provide focus, coordination and execution to all the functional areas and support the overall project. Primary responsibilities for the CoA program manager include the following:

- Maintain and manage the project plan at the task level
- Coordinate and oversee all project responsibilities
- Assign activities to appropriate task leaders
- Establish accountability for the assigned dates and activities
- Develop a critical path of milestones
- Define deliverables that must be accomplished to execute the “go-live” date
- Conduct regular status meetings and identify issues that impede progress
- Discuss issues with each of the functional team and module leads
- Monitor and drive the resolution of action item and risk items
- Manage the change control process
- Foster clear communication and synchronize activities among multiple project sites
- Manage the sign-off of key deliverables and test results
- Act as a liaison between all Executive members
- Take a lead role in the change management and training activities
- Collaborate with the IV&V team and coordinate their efforts with other team members

In addition, the project manager is responsible for comparing the project planning, resourcing, monitoring, and reporting progress against the plan. This project role obtains any physical resources required for the project, a recruit staff, and, if necessary, dismisses staff. The project manager is responsible for making sure that activities are performed in accordance with the overall project plan.

The CoA program manager, team members and the PMO must understand the entire System Development Lifecycle (SDLC) methodology, and all steps between requirements development and “go-live”. This includes understanding the “end-state” and how Oracle will support the CoA vision.

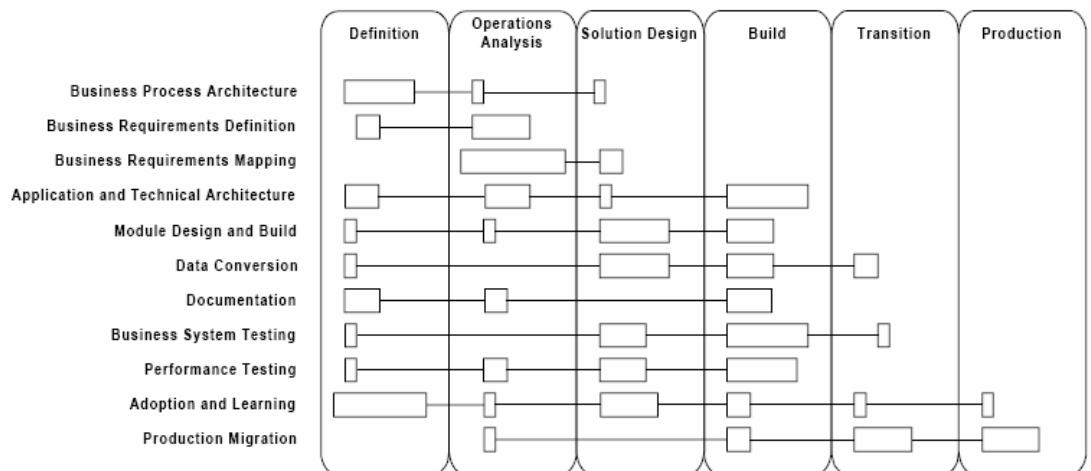
Oracle's Application Implementation Method (AIM) must be understood by the CoA program manager, functional and technical team members and all the members of the PMO and used as a tool to support the implementation. AIM “is a proven approach for implementing Oracle Applications” and “is comprised of well-defined processes that can be managed in several ways to guide you through an application implementation project.” This methodology supports

various activities within the implementation to include the following:

- Planning
- Requirements definition
- Business process alignment and modeling
- Customization
- Interfaces and integration between systems
- Data conversion
- Organization change management including specific support for Executive, management, and user groups
- Application and technical architecture including network and server design
- Reporting and information access systems
- Security and access control



Below is the Application Implementation Overview as shown in the Oracle Application Implementation Method Handbook:



2.2.3.4 – Steering Committee Meeting Primarily Should Be a Decisional Meeting

The Steering Committee responsibility includes making decisions on the overall direction of the project. The Steering Committee should be used for making decisions that cannot be resolved at the working level and be provided a high level status on progress. The committee must make sure all project and solutions continue to be aligned with business strategy and the project supports the overall organizational goals.

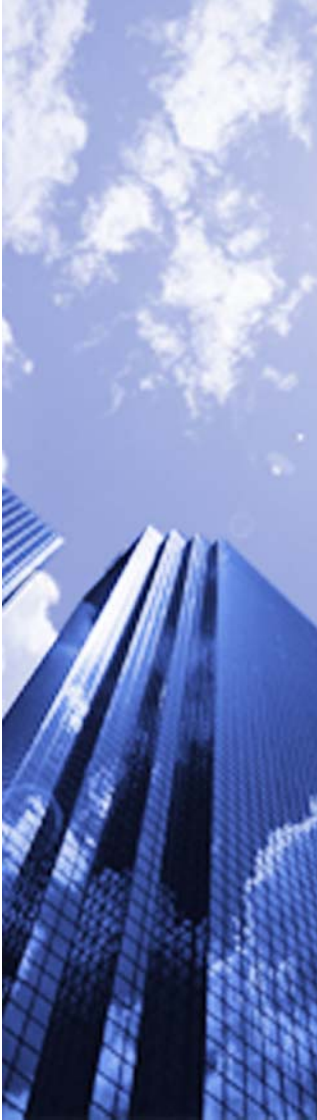
Additional responsibilities of the Steering Committee include the following:

- Monitor project status, critical milestone dates and all issues and risks
- Manage the project scope and approve all scope changes
- Resolve issues around funding and resourcing
- Identify high-level cross-departmental issues
- Solicit decision makers who are outside the core project organization
- Confirm that periodic IV&V audits are scheduled and conducted
- Discuss IV&V findings and taking remedial actions to mitigate risk

Steering Committee meetings must be a focused decisional type meeting and not be a forum to discuss detailed issues. The Steering Committee should be maintained post “go-live”. The



Steering Committee must conduct a post implementation review (90 days after “go-live”) to assess system effectiveness.



Likelihood of Occurrence:

- 2.2.3.1 – Almost Certain
- 2.2.3.2 – Likely
- 2.2.3.3 – Almost Certain
- 2.2.3.4 – Likely

Magnitude of Impact:

- 2.2.3.1 – Major
- 2.2.3.2 – Minor
- 2.2.3.3 – Major
- 2.2.3.4 – Major



2.3 Provide a Roadmap to Complete Implementation and Launch of the New System

2.3.1 Specify Skills and Expertise to Support the System After Implementation

Observation:

2.3.1.1 The DIT Suggested Post Go-live Model is Primarily Sound, but Issues and Risks Should be Addressed

The CoA has decided to use a third-party service to augment their "post go-live" support model. The overall approach is logical to the needs and current expertise within the DIT. The number of modules implemented leads to the high unlikelihood that only a few hired individuals would have enough expertise to support the full system. Conversely, hiring in-house for expertise within all areas is cost prohibitive. The service support model will allow for knowledge transfer to CoA employees. There are issues and risks to this model as outlined below that should be addressed.

2.3.1.2 The Number of In-house Oracle DBAs is Inadequate

One Senior and one Junior DBA have been identified to support the Oracle databases. During interviews, it was stated that DBAs from other applications would be available to be cross trained if needed and some resources could be pulled from the third party vendor. The time needed to fully cross train an inexperienced Oracle DBA would be at least several months. The two DBAs have separate skill levels; one is a senior and the other is a junior DBA. If PTO or training is taken by one of the DBAs, there is increased risk that the remaining DBA could not support the database and application needs for twenty-five modules.

2.3.1.3 In-house Oracle Support Team Members are Not Native to the Oracle ERP System

The ERP support team consists of in-house employees that will move from supporting the existing mainframe, MARSG and Peoplesoft environments to supporting the Oracle environment. These employees have been involved in the implementation for the past year and have gained a degree of knowledge. However, it will take additional time for them to acquire needed expertise to completely support the system. The service support model will allow for this if the risks associated with observations 2.3.1.4 and 2.3.1.5 are adequately mitigated.

2.3.1.4 External Contractors Will Have to Learn CoA Business Requirements

The contract services model will provide access to a wide array of Oracle experienced contractors. However, each new contractor will be unfamiliar with CoA business requirements and it will take additional time for them to learn those requirements. Each new contractor provided by the third-party will have a "ramp-up" period which equates to cost.

2.3.1.5 Likelihood of Knowledge Loss

The contract services model will provide a wide array of Oracle experience by providing temporary contractors as needed for various assignments that will rotate off when the requirements are completed. Without a formal requirement for documentation and knowledge transfer as part of a signed contract, the CoA will face on-going support and sustainability issues.



2.3.1.6 Disagreement on Organizational Structure of the Technical Analysts

Based on interviews and provided documentation, the DIT would like to see an organizational model whereby Technical Analysts are within DIT. The functional users would prefer the Technical Analysts to be organized under each functional group

2.3.1.7 The Duties of the Super User and Help Desk Employees Are Not Well Defined

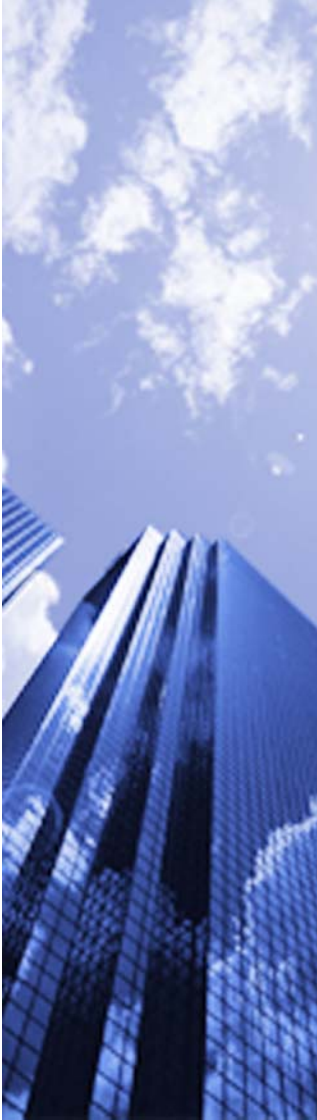
The roles and responsibilities of the Super User are not clearly defined and there is little agreement related to Super User duties between core users and DIT employees. In addition, based on the list of expected roles and responsibilities from the DIT, the Help Desk role is very limited and does not appear to be the central logging and triage point for the problem management process.

2.3.1.8 Inadequate Inter-Departmental Teaming of Responsibilities to Resolve Issues

Roles and responsibilities are not adequately shared between DIT and the individual user groups to provide adequate input for expedient problem resolution. Tasks are currently explicitly assigned to resources and do not reflect collaboration between functions and departments.

2.3.1.9 The Problem Management Model Does Not Allow For Adequate Problem Metrics and Follow-Up

The current process dictates that the Super User is a frontline handler of issues and is not required to document problems and resolutions. In addition, there is no formalized process for escalating problems.



Risk:

2.3.1.1 The DIT Suggested Post Go-live Model is Primarily Sound, but Issues and Risks Should be Addressed

An inadequate" post go-live" support model with insufficient staffing and skills can result in an enterprise wide negative impact to operations. For example, the financial systems may be down for an extraordinary amount of time. In addition, the ERP system may become unreliable.

2.3.1.2 The Number of In-house Oracle DBAs is Inadequate

Inadequate staffing of DBAs may lead to instability of the system due to inadequate support when both DBAs are not on duty.

2.3.1.3 In-house Oracle Support Team Members are Not Native to the Oracle ERP System

Inadequate training and experience in-house Oracle support team members working with Oracle ERP may slow the troubleshooting process for issue resolution.

2.3.1.4 External Contractors Will Have to Learn CoA Business Requirements

Inadequate knowledge of proprietary business practices and requirements may cause process errors or incorrect decisions that could increase the opportunity for system failure.

2.3.1.5 Likelihood of Knowledge Loss

There is an increased risk that knowledge will not remain in-house and when the contractor moves off the CoA assignment, lessons learned will not remain within the organization.

2.3.1.6 Disagreement on Organizational Structure of the Technical Analysts

A conflicting view on organizational structure will lead to an unclear role and problem management process. This will impede the quality and timeliness of problem resolution and post go-live maintenance of the system since Technical Analysts play a key role for support.

2.3.1.7 The Duties of the Super User and Help Desk Employees Are Not Well Defined

Inadequate job description of the Super User position may cause confusion and a serious risk to the entire problem management model. If the Department of Information Technology (DIT) expects the Super User to do some duties while the user groups have other expectations, some critical responsibilities may be omitted and other duties could be duplicated causing a possible failure that could negatively impact the production environment.

If there is no central hub for recording issues such as the Help Desk, it is possible that an issue that is uncovered in one module is fixed but exists in other modules and is not fixed.

2.3.1.8 Inadequate Inter-Departmental Teaming of Responsibilities to Resolve Issues

Inadequate sharing of responsibilities and teaming of duties may slow the problem resolution process and raise the risk of system outage. Efficient problem resolution is expedited when input is gathered from a variety of sources including functional and technical experts.

2.3.1.9 The Problem Management Model Does Not Allow For Adequate Problem



Metrics

Inadequate approval processes combined with the lack of required documentation throughout the problem management cycle could allow actions or acceptance of fixes that would impair the production system.



Recommendation:

2.3.1.1 The DIT Suggested Post Go-live Model is Primarily Sound, but Issues and Risks Should be Addressed

Based on documentation received and interviews with department leads, the overall "post go-live" support model appears to be sound. However, to support this model, the following recommendations should be practiced.

2.3.1.2 The Number of In-house Oracle DBAs is Inadequate

- Add one experienced Oracle SR DBA to the two DBAs listed.
- Immediately begin to cross train DBAs from other applications for emergencies.
- Leverage the external contractors to bolster complicated tasks and transfer knowledge in-house.

2.3.1.3 In-house Oracle Support Team Members are Not Native to the Oracle ERP System

Capitalize on the knowledge of the external consultants to leverage additional expertise until in-house subject matter experts are developed.

- Consider the use of third party companies to complete onsite Oracle courses
- Recruit two senior Oracle analysts/developers who can fill the knowledge gaps
- Augment the current internal staffing by hiring one or two experienced Oracle application technical analysts or programmers. Their experience can be leveraged to train the other permanent staff members.
- Recruit two junior staff people that can be trained exclusively on the CoA ERP system.

2.3.1.4 External Contractors Will Have to Learn CoA Business Requirements

The external contractors should be brought in at a minimum one month before the established "go-live" date to allow external contractors sufficient time to learn the CoA business practices and policies that affect the ERP system. Teaming external contractors with Super Users and/or DIT support team members will expedite the learning process for the external contractors.

2.3.1.5 Likelihood of Knowledge Loss

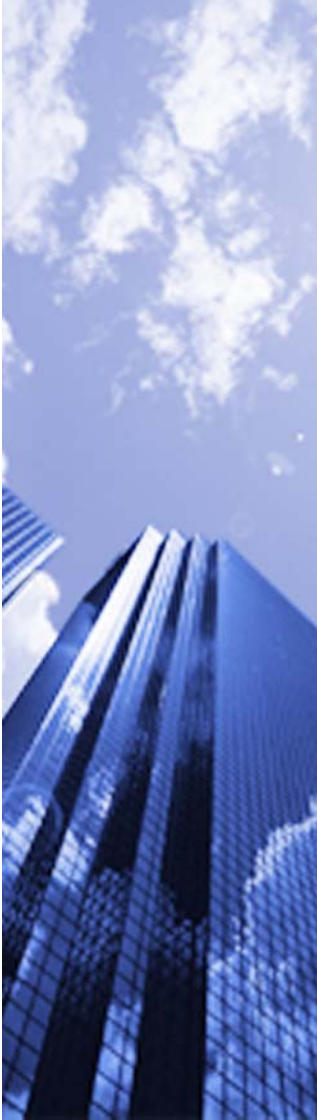
- Team internal CoA employees with external contractor to ensure there is adequate knowledge transfer.
- Ensure that all contractor services are documented and turned over to the CoA as a deliverable.
- Ensure adequate oversight of contractor activities.
- Maintain complete, accurate and current documentation in a secure repository.

2.3.1.6 Disagreement on Organizational Structure of the Technical Analysts

The Technical Analyst role may better serve CoA by reporting directly under the Finance organization. The decision on the organizational structure will have minor impact if the following guidelines for the role are followed:

- The Technical Analyst must serve as a liaison between DIT and Finance.
- Service level agreements (SLAs) must be strictly defined between DIT and Finance. These SLAs must go both ways in that DIT and Finance should have agreements, roles, and response times defined.





- Finance must serve as the primary customer and help prioritize business impacting issues for both the Technical Analyst and the DIT organization so that the correct needs are acted worked on first.
- The Technical Analyst role must not be compartmentalized by functional area. This will allow for easier cross-functional and cross-technical support without a single-point of failure.
- Issues must be assigned by availability of the Technical Analyst and solved through teaming within the group to further group knowledge.
- Technical Analysts are generally defined with skill sets similar to Jr DBAs or Jr Programmers. They should “sit with” the business group to better understand the business processes and needs and knowledge share with the Super-User/Functional Analyst. This will also help facilitate in strengthening the Business and DIT relationship.

2.3.1.7 The Duties of the Super User and Help Desk Employees Are Not Well Defined

The Super User responsibilities must be defined with buy-in from all departments so there is no confusion and all department Super Users are doing the same activity

According to documentation received, Help Desk responsibilities are limited. As with the Super User, Help Desk duties and responsibilities need to be clearly delineated with buy-in from all departments.

The logging of issues into a common repository when they occur should be assigned to all parties to ensure that all issues are recorded.

For example, the Super User should log tickets and assign them to themselves ensuring that all issues are documented.

2.3.1.8 Inadequate Inter-Departmental Teaming of Responsibilities to Resolve Issues

Problem resolution is a collaborative exercise. In order to ensure that troubleshooting is thorough, several skill sets may be needed. For example, the Super User knows the functional steps that led to the error. The Help Desk can triage the issue to the ERP Support group. The Technical Analyst can run a SQL script to determine if the data in the tables is incorrect after the steps have been completed and the DBA can provide trace files for further evidence of the problem.

2.3.1.9 The Problem Management Model Does Not Allow For Adequate Problem Metrics

The defect repository should be an interactive one and at every step of the problem management process, the updates should be recorded into the central repository. That includes when the issue is first identified, throughout the troubleshooting process, when the fix is identified and closed when testing has been satisfactorily completed and the fix is moved to production.

Likelihood of Occurrence:

- 2.3.1.1 – Possible
- 2.3.1.2 – Possible
- 2.3.1.3 – Possible
- 2.3.1.4 – Possible
- 2.3.1.5 – Possible
- 2.3.1.6 – Likely
- 2.3.1.7 – Likely

Magnitude of Impact:

- 2.3.1.1 – Major
- 2.3.1.2 – Major
- 2.3.1.3 – Major
- 2.3.1.4 – Moderate
- 2.3.1.5 – Moderate
- 2.3.1.6 – Moderate
- 2.3.1.7 – Moderate

2.3.1.8 – Possible
2.3.1.9 – Possible

2.3.1.8 – Major
2.3.1.9 – Moderate



2.3.2 Assess the Adequacy of the CoA's Hardware

Observation:

2.3.2.1 – Selected Server Hardware Appears Adequate

The CoA has selected a hardware model and specification that has produced leading benchmarks (as tested by Oracle Corporation and the Transaction Processing Performance Council) to support Oracle. The specifications have above the required CPUs, memory, and storage capacity. They are also using an Oracle Real Application Cluster configuration that will allow scalability for future growth. However, a performance test plan has not been created or executed to allow for greater certainty in our review. Additionally, as noted below, the CoA's initial expected transaction volume and capacity analysis was insufficient to thoroughly evaluate a desired hardware solution.

2.3.2.2 – Insufficient Analysis of Capacity and Requirements

Transaction Volumes Were Insufficiently Analyzed

The CoA performed a high-level analysis of the transaction volumes for their hardware assessment. Their assessment comprised of department level document volumes (i.e. invoices, purchase orders, etc). This does not take into account the complexity of those documents such as average lines per invoice. Additionally, the volume analyzed only counts for approximately six of the twenty-five modules being implemented. KPMG's independent analysis of transactions shows that the volume analyzed by the CoA is comparable for the six processes they reviewed.

Expected Interface Volumes Were Not Analyzed

There was no evidence via documentation or inquiry that an analysis of interface transaction volume was conducted as part of the hardware requirements assessment. Leading practice dictates that all data flow in and out from secondary systems and third parties be analyzed for impact.

Expected Peak Transaction Volumes Were Insufficiently Analyzed

There was no evidence via documentation or inquiry that an analysis of peak transaction volumes was conducted as part of the hardware requirements assessment. Leading practice dictates that all transactions should be analyzed at their peak and not just average levels to help determine adequate processing capacity.

Expected Peak Processing Needs Were Not Analyzed

There was no evidence via documentation or inquiry that an analysis of expected peak processing needs was conducted as part of the hardware requirements assessment. Leading practice dictates that all processing such as report runs, concurrent programs, and interface

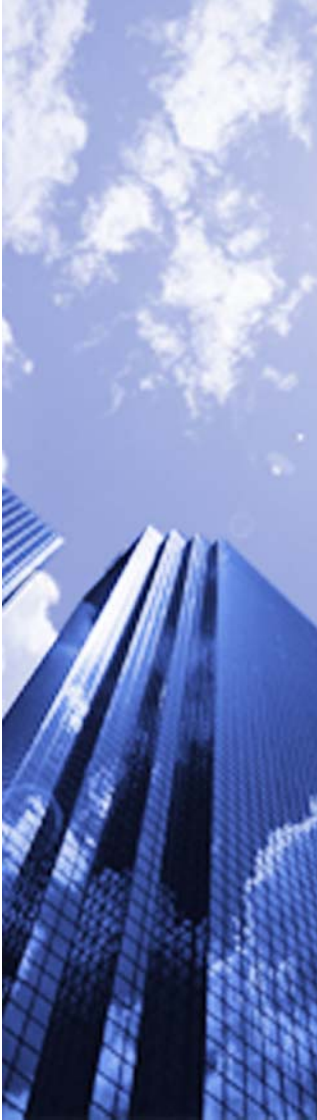
Expected Program Dependencies and Chronological Needs Have Not Been Analyzed

An analysis of potential data locking conflicts and chronological dependencies for batch runs, concurrent programs, and interface processes has not been performed since no performance test plan has been created.

2.3.2.3 – Evaluation of Peripheral Hardware Has Not Been Completed



The CoA has not completed their needs assessment or made any purchases of peripheral hardware. We were unable to evaluate the adequacy of peripheral hardware such as check printers, kiosks, scanners, and so on.



Risk:

2.3.2.1 – Selected Server Hardware Appears Adequate

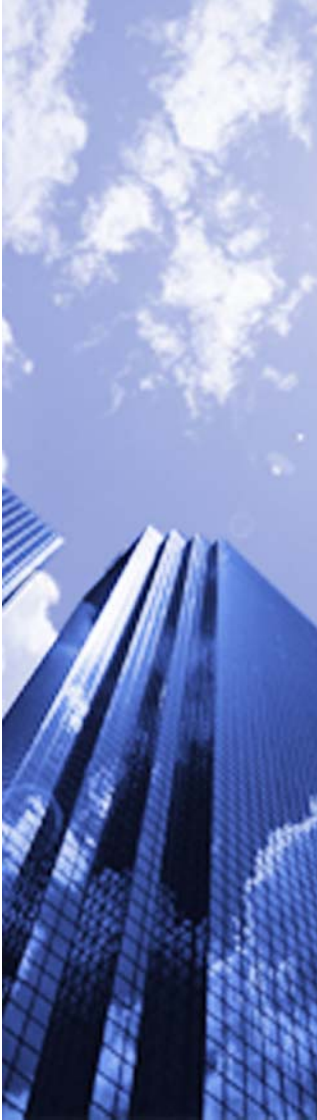
Purchased hardware does not support peak processing requirements and future needs resulting in operational and financial statement impacts and further expenditures for hardware upgrades.

2.3.2.2 Insufficient Analysis of Capacity and Requirements

Inadequate analysis of expected volume and capacity needs could lead to the purchase of an ineffective hardware solution that would result in a negative operational and financial impact.

2.3.2.3 Evaluation of Peripheral Hardware Has Not Been Completed

Purchased peripherals may not adequately support the needs of the associated business transactions in either capacity or features and could result in operational impacts and further expenditures for hardware upgrades.



Recommendation:

2.3.2.1 – Selected Server Hardware Appears Adequate

Any future hardware purchases should be made after a thorough analysis and testing as outlined in the further recommendations below.

2.3.2.2 – Insufficient Analysis of Capacity and Requirements

To validate the adequacy of the purchased hardware it is imperative that the CoA develop a robust and detailed performance test plan. The performance testing should include the following criteria:

- Performed on the actual production servers with all production data and settings.
- Use anticipated peak transaction volumes as throughputs to measure CPU and memory usage and response times. All transactions across the various modules should be built into the plan to fully gage these metrics.
- A timeline of when reports, concurrent programs, and interfaces will be processed should be created. The performance test should mirror the exact running of these with peak volumes to effectively measure the server load.
- Varying peak times for processes such as open enrollment, supplier reporting, expense submission and so on should be built into the plan to help anticipate non-daily performance impacts.
- Transaction impacts from inside and outside the CoA network should be tested due to the significant emphasis on self-service products such as iExpense, iSupplier, and iReceivables.

2.3.2.3 – Evaluation of Peripheral Hardware Has Not Been Completed

All peripheral hardware requirements need to be defined well in advance of go-live. A sample of the hardware needs to be purchased and built into hardware performance testing to determine adequacy.

Likelihood of Occurrence:

- 2.3.2.1 – Unlikely
- 2.3.2.2 – Possible
- 2.3.2.3 – Possible

Magnitude of Impact:

- 2.3.2.1 – Catastrophic
- 2.3.2.2 – Major
- 2.3.2.3 – Major

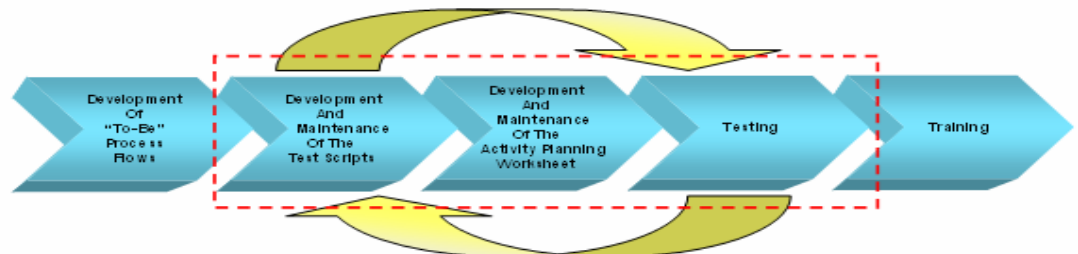


2.3.3 Specify any Add'l Change Management Work Needed to Prepare the Staff

Observation:

2.3.3.1 – Training Documents Need to be Refined

Training is currently planned to be generated from “to-be” process flows and “to-be” process flows are not being maintained by all the project teams. The training materials were developed using a cloned Conference Room Pilot (CRP) 5 instance, as of March 31, 2007. The training documentation (training manual and the User Productivity Kit (UPK) tool) will need to be further developed, refined and enhanced after successful SIT and UAT. This will include the latest functionality and navigation.



- The starting point for the test scripts and Activity Planning Worksheet (APW) was the "to-be" process flows.
- There is no column in the APW to cross reference the entry to the test script. This causes confusion in relating the APW to the test scripts.
- During the testing process, test scripts are often modified and enhanced
- Modifications are not rolled back to the "to-be" process flows

Training is currently planned to be generated from “to-be” process flows. “To-be” process flows are not being maintained by all the project teams. As a result, there is a risk that training documents will be created based on out-of-date processes or not created for processes not documented.

2.3.3.2 – Limited End User Involvement During SIT and UAT

There is limited end-user involvement in System Integration Testing (SIT). It has been discussed with project team members that end-users will be involved in User Acceptance Testing (UAT) only as participants.

2.3.3.3 – End-user Reminder Cards Have Not Been Generated

No reminder cards have been established. Reminder cards are a beneficial mechanism to indicate when specific steps need to be performed through a recurring process.

2.3.3.4 – Job Aides, Check Lists, and End User Flow Charts Have Not Been Developed

The training courseware is designed to provide on-line help and tips. The availability of UPK on the desktop of end-users will allow these tools to be used when using the applications. No additional job aides, check lists or end user flow charts have been developed by the implementation team.

2.3.3.5 – A Formal Reporting Catalogue Has Not Been Constructed

Currently, there is a reporting catalogue within WinCvs that lists the module and the name of the report. In some cases, a short description appears beside the name of the report. There is no detailed description of the contents of the report, the location or folder where the report can be found or the official owner of the report.



Risk:

2.3.3.1 – Training Documents Need to be Refined

Process flows are not being maintained by all the project teams, there is a risk that training documents will be created on out-of-date processes or not created for processes not documented. Incorrect or incomplete training documents may frustrate users, and provide a negative first experience with the solution. This will decrease user acceptance and promote disconnect between the system administrators, subject matter experts and the end-user community.

2.3.3.2 – Limited End User Involvement during SIT and UAT

Not involving end-users early in the testing process will result in a longer training schedule. If end-users are not actively involved during the testing phase, key issues may not be identified until the training process. This failure to embrace user involvement will impact requirements (new requirements identification), design, development, testing and go-live events.

2.3.3.3 – End-user Reminder Cards Have Not Been Generated

End users may feel unorganized and steps may be missed through various processes if reminder cards are not distributed.

2.3.3.4 – Job Aides, Check Lists, and End User Flow Charts Have Not Been Developed

Checklists and flow charts will provide the end user community with a high level view of job dependencies and responsibilities. Without these products, CoA risks increased user errors or omissions. Additionally, the user's inability to understand the system processes and job responsibilities will decrease user acceptance.

2.3.3.5 – A Formal Reporting Catalogue Has Not Been Constructed

End-users will not fully understand the reporting environment and available reports if a reporting catalogue is not developed and distributed. Lack of proper understanding of the report could lead to the use of a report for an incorrect business purpose and thereby providing inaccurate data for management decisions.



Recommendation:

2.3.3.1 – Training Documents Need to be Refined

Although the test scripts will be utilized to support training, the training documents will need to go through a “revise and complete” phase. This has been communicated at various levels through the organization. Additionally, to support future training, it is beneficial to include voice-overs within UPK to enhance the users’ understanding of the function. Both hearing and seeing the procedures will enhance the user’s ability to learn the system functionality more efficiently. Use of the three different modes on delivery in UPK (i.e. “See It, Try It, Do It”) will help the user to validate their learning and also help the CoA to assess the user’s understanding of the functionality. In addition, it is essential that the “to-be” processes are updated when changes are made but the CoA does not have a process in place to make sure that the process occurs.

2.3.3.2 – Limited End User Involvement during SIT and UAT

The CoA must involve end-users early in the testing process and maintain end-user involvement throughout the testing process. This approach will benefit end-users by providing training and an overview of Oracle through their involvement in testing. In addition, undertaking this approach will heighten communication to the end-users, conceivably shorten the training schedule, identify areas of concern that need to be addressed, and provide the end-users a sense of ownership to the overall vision. During the first round of UAT, the functional users will be performing the actual testing, while the end users will be observing and providing feed back. During the second round of UAT end users should be performing the testing as this will further increase their knowledge and understanding of how Oracle supports the business. As the end-users will help determine the success of the project, involving them earlier in the process will be an advantage.

2.3.3.3 – End-user Reminder Cards Have Not Been Generated

Reminder cards should be utilized to help communicate to each team when activities need to be performed on a recurring basis (monthly, quarterly, yearly). In addition, email alerts can be scheduled to send to the various teams when these activities are due to be performed. The alerts can be sent via a distribution list, which will need to be created.

2.3.3.4 – Job Aides, Check Lists, and End User Flow Charts Have Not Been Developed

Job aides, check lists and end user flow charts should be developed to support the end users in their daily, monthly and quarterly responsibilities. Job aides can serve as a quick reference or “how to” guide. Check lists can help the end user understand all the activities that need to be performed on a recurring basis. End user flow charts are very useful for users to gain a better understanding of the end to end process and possible downstream implications of incorrect transactions.

2.3.3.5 – A Formal Reporting Catalogue Has Not Been Constructed

Distribute a reporting catalogue to the end user population on a recurring basis. Initially, this can be laminated and provided to each user as a reference guide. The reporting catalogue should be updated as information is changed or reports or added. As new reports are added, an updated reporting catalogue can be re-distributed. In addition, end users should also have the ability to access the reporting catalogue electronically. The reporting catalogue should contain the following information:

- Report name
- Report description



- Business Purpose
- Report folder location
- Information relating to the rows and columns
- When the report is available on a recurring basis
- Report owner



Likelihood of Occurrence:

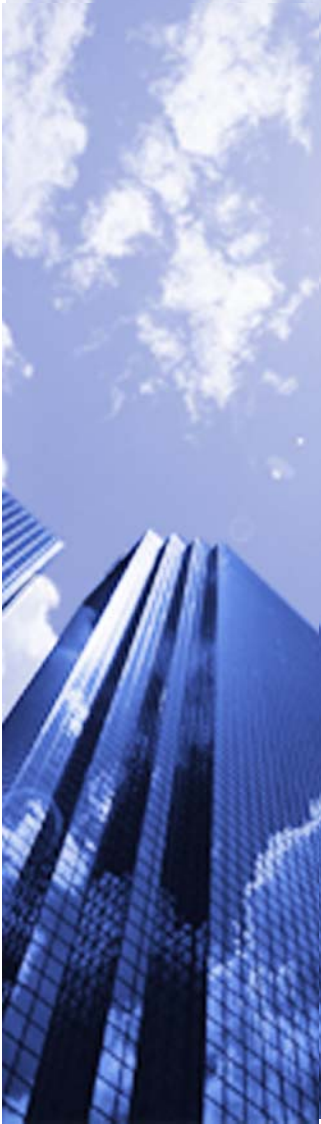
- 2.3.3.1 – Almost Certain
- 2.3.3.2 – Almost Certain
- 2.3.3.3 – Likely
- 2.3.3.4 – Likely
- 2.3.3.5 – Likely

Magnitude of Impact:

- 2.3.3.1 – Major
- 2.3.3.2 – Major
- 2.3.3.3 – Moderate
- 2.3.3.4 – Moderate
- 2.3.3.5 – Moderate

3 Risk Score

Our observations have been scored based on the risk’s likelihood of occurrence and magnitude of impact should the event/risk occur resulting in an overall risk rating as defined below:



Critical: Event/risk is more than likely to occur, and the magnitude of impact to the program’s success would be major or catastrophic, implying imminent program and/or downstream operational failure due to a single risk.

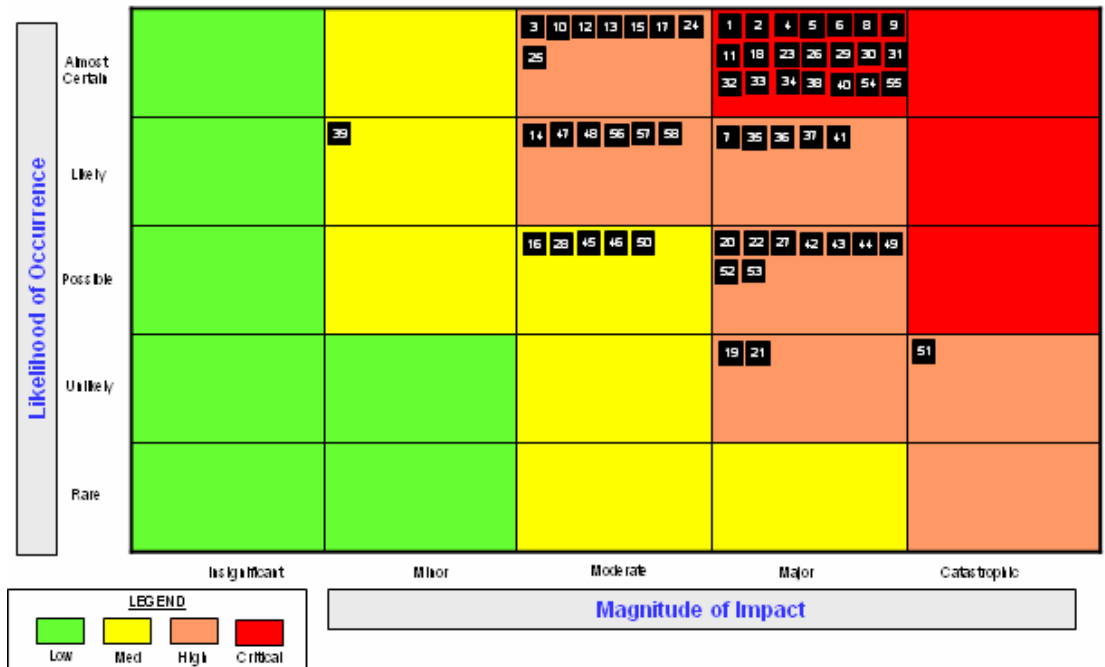
High: Event/risk is more than possible to occur, and the impact would be moderate or major to the program, but the event/risk alone would not prevent overall completion of the program. This risk combined with other High or Medium risks could prevent program success or downstream operational failure.

Medium: Event/risk is unlikely to occur, and the impact would be moderate or minor. The event/risk would not impair program success, and a combination of medium risks could impair program implementation quality. The event/risk will not have an impact on downstream operational processes or quality.

Low: Event/risk does not pose an imminent risk to program success, but represents an opportunity for improved process, controls or deliverables. The risk is unlikely to occur, and the impact is minor or insignificant. The event/risk will not have an impact on downstream operational processes or quality.

Below is a Heat Map that illustrates the risk level of the observations noted during our review of the Oracle ERP project on a four point scale of each “likelihood” and “magnitude.” Descriptions and scoring of the risks mapped follow in the next section.

3.1 Heat Map



3.2 Summary of Identified Risks and Ratings

Risks associated with each observation were identified, as detailed in section 2 of this report. Each observation and related risk was then rated on a five point scale across two axes, as detailed below. This table represents a compilation of the observations identified in section 2, including references to the heat map.



#	Observation	Observation	Likelihood of Occurrence	Magnitude of Impact	Related Page #
1	2.1.1.1	Percentage of Completion Documented in the Current Project Plan is Inaccurate	Almost Certain	Major	6
2	2.1.1.2	Key Tasks are Not Being Completed by Planned Completion Dates	Almost Certain	Major	6
3	2.1.1.3	No Standard Methodology to Defining Percentage of Completion	Almost Certain	Moderate	7
4	2.1.2.1	Eagle Database Statuses Do Not Facilitate Timely Issue Resolution	Almost Certain	Major	11
5	2.1.2.2	No Standard Methodology for Assigning Defect Resolution Due Dates	Almost Certain	Major	11
6	2.1.2.3	The Average Time to Resolve Critical Defects is Excessive	Almost Certain	Major	11
7	2.1.2.4	Lack of Overall Ownership and Management of Issues and Defects	Likely	Major	11
8	2.1.2.5	21 Critical Defects and Issues Outstg. Open for an Avg. of 34 days	Almost Certain	Major	11
9	2.1.3.1	Ineffective or Inconsistent Execution of SIT Strategy	Almost Certain	Major	16
10	2.1.3.2	Lack of Documented Relationship Between Business Processes, Business Requirements, and Testing Documents	Almost Certain	Moderate	16
11	2.1.3.3	Negative Testing Was Not Planned, Performed and Documented in SIT	Almost Certain	Major	16
12	2.1.3.4	Inconsistent Documentation of SIT Test Results	Almost Certain	Moderate	16
13	2.1.4.1	Oracle ERP Pamphlets are Not Developed	Almost Certain	Moderate	19
14	2.1.4.2	Limited Use of Seminars to Conduct End User Awareness	Likely	Moderate	19
15	2.1.4.3	Insufficient Development of Executive Recordings	Almost Certain	Moderate	19
16	2.1.4.4	Distribution of Newsletters is Sporadic	Possible	Moderate	19
17	2.1.4.5	An Employee Feedback / Suggestion Program Has Not Been Developed	Almost Certain	Moderate	19
18	2.1.4.6	A Patch and Upgrade Management Strategy Has Not Been Developed	Almost Certain	Major	20



#	Observation	Observation	Likelihood of Occurrence	Magnitude of Impact	Related Page #
19	2.1.5.1	Incomplete and Incongruous Lists of Customizations and Changes	Unlikely	Major	24
20	2.1.5.2	No "How To" Docs. to Instruct on Re-application or Reinstall of Mods.	Possible	Major	24
21	2.1.5.3	Copies of Source Files Could Not Be Located	Unlikely	Major	24
22	2.1.5.4	No Ind. of Which Mods. Would Be Overwritten During Upgrades or Patching	Possible	Major	24
23	2.1.6.1	Status of SIT for the Finance Department is Currently at 57%	Almost Certain	Major	28
24	2.1.6.2	Status of SIT for the Procurement Department is Currently at 83%	Almost Certain	Moderate	28
25	2.1.6.3	Status of SIT for the HR Dept. is Currently at 90%	Almost Certain	Moderate	28
26	2.1.6.4	Lack of Consultants (Loss of Institutional Knowledge)	Almost Certain	Major	28
27	2.1.7.1	Variance in Expected Qualitative Benefits	Possible	Major	31
28	2.1.7.2	Expected Tangible Benefits Are Not Quantifiable	Possible	Moderate	31
29	2.2.1.1	Central Testing Facility to be Provided for Financial, Procurement, and HR	Almost Certain	Major	35
30	2.2.1.2	Testing Strategy for the User Acceptance Testing Phase	Almost Certain	Major	35
31	2.2.1.3	Prioritize and Coordinate Dependencies	Almost Certain	Major	35
32	2.2.1.4	Review and Resolution of Critical Issues and Defects	Almost Certain	Major	35
33	2.2.1.5	Creation and Approval of an Inventory of Patches	Almost Certain	Major	35
34	2.2.1.6	Creation and Maintenance of the Activity Planning Worksheet	Almost Certain	Major	35
35	2.2.2.1	Outdated Project Plan Will Impede the "Go Live" Date	Likely	Major	39
36	2.2.2.2	Funding Estimates for Specific Efforts and Timeframes	Likely	Major	39
37	2.2.2.3	Resources Necessary to Complete Implementation Includes Dedicated CoA Staff and Oracle Consultants	Likely	Major	39
38	2.2.3.1	Limited CoA Change Mgmt. & Training Dedication Impacts Success	Almost Certain	Major	44
39	2.2.3.2	IV&V Role Should Not Be Aligned with the DIT Organization	Likely	Minor	44
40	2.2.3.3	No Dedicated CoA Program Manager Will Limit Sense of Ownership	Almost Certain	Major	44



#	Observation	Observation	Likelihood of Occurrence	Magnitude of Impact	Related Page #
41	2.2.3.4	Steering Committee Meeting Primarily Should Be a Decisional Meeting	Likely	Major	44
42	2.3.1.1	The DIT Post Go-live Model is Primarily Sound	Possible	Major	50
43	2.3.1.2	The Number of In-house Oracle DBAs is Inadequate	Possible	Major	50
44	2.3.1.3	In-house Oracle Support Team Members are Not Native to Oracle ERP Sys.	Possible	Major	50
45	2.3.1.4	External Contractors Will Have to Learn CoA Business Requirements	Possible	Moderate	50
46	2.3.1.5	Likelihood of Knowledge Loss	Possible	Moderate	50
47	2.3.1.6	Disagreement on Organizational Structure of the Technical Analysts	Likely	Moderate	50
48	2.3.1.7	The Duties of the Super User and Help Desk Employees Are Not Well Defined	Likely	Moderate	51
49	2.3.1.8	Inadequate Inter-Departmental Teaming of Responsibilities to Resolve Issues	Possible	Major	51
50	2.3.1.9	The Problem Mgmt Model Doesn't Allow For Adequate Problem Metrics	Possible	Moderate	51
51	2.3.2.1	Selected Server Hardware Appears Adequate	Unlikely	Catastrophic	56
52	2.3.2.2	Insufficient Analysis of Capacity and Requirements	Possible	Major	56
53	2.3.2.3	Evaluation of Peripheral Hardware Has Not Been Completed	Possible	Major	56
54	2.3.3.1	Training Documents Need to be Refined	Almost Certain	Major	60
55	2.3.3.2	Limited End User Involvement During SIT and UAT	Almost Certain	Major	60
56	2.3.3.3	End-user Reminder Cards Have Not Been Generated	Likely	Moderate	60
57	2.3.3.4	Job Aides, Check Lists, and End User Flow Charts Have Not Been Developed	Likely	Moderate	60
58	2.3.3.5	A Formal Reporting Catalogue Has Not Been Constructed	Likely	Moderate	60

The Heat Map consists of two axes, one representing “Likelihood of Occurrence” and the other “Magnitude of Impact.” Each axis has five possible scores, as defined in the tables below.

- The likelihood of occurrence is the probability of the risk occurring if our recommendations are not followed or if other actions are not taken to mitigate risks.
- The magnitude of impact is the measure of severity of impact to the project or organization.



Likelihood	Definition
Almost Certain	>95% certainty
Likely	>60% and <95% certainty
Possible	>30% and <60% certainty
Unlikely	>10% and <30% certainty
Rare	<10% certainty

Magnitude	Definition
Catastrophic	A single risk may cause imminent program and/or downstream operational failure.
Major	Could cause implementation or downstream operational failures in the program’s critical path.
Moderate	Could cause implementation delays, operational inefficiencies or control weaknesses.
Minor	Could impair implementation quality, but will not effect downstream operations.
Insignificant	Little risk to implementation or operations.

Appendix A: Interview Listing

Below are the team members that the KPMG team leveraged to gather insight and information regarding the Oracle ERP implementation.



#	Team Member	Department
1	Luz Borrero	Deputy COO
2	Keith Brooks	Procurement
3	Tom Broyles	Finance
4	Sherman Bryant	CoA Program Office
5	Janice Davis	CFO
6	Sharon Davis	Finance
7	Sherri Dickerson	Change Management
8	Norrene Duffy	Change Management
9	Germaine Ekamby	DIT
10	Leslie Epps	Finance
11	Kathleen Essig	HR
12	Steve Holdridge	Oracle VP
13	Denise Holloway	Finance
14	Nate Holley	Oracle Program Office
15	Anthony James	DIT
16	Felita Jones	HR
17	Abe Kani	CIO
18	Andrew Ladd	Finance
19	Sheela Lingam	IV&V
20	Desmond McKenzie	Change Management
21	June Neal	HR
22	Delicia Nwadike	Finance
23	Kathleen Olalusi	Finance
24	Vickie Parrott	Oracle Program Office
25	Danita Perry	Procurement
26	Benita Ransom	HR
27	Elle Ringham	IV&V
28	Jason Riggs	DIT
29	Adam Smith	CPO
30	Jeff Telfare	DIT
31	April Wood	Procurement
32	Ray Zies	Controller

