

Guam Power Authority

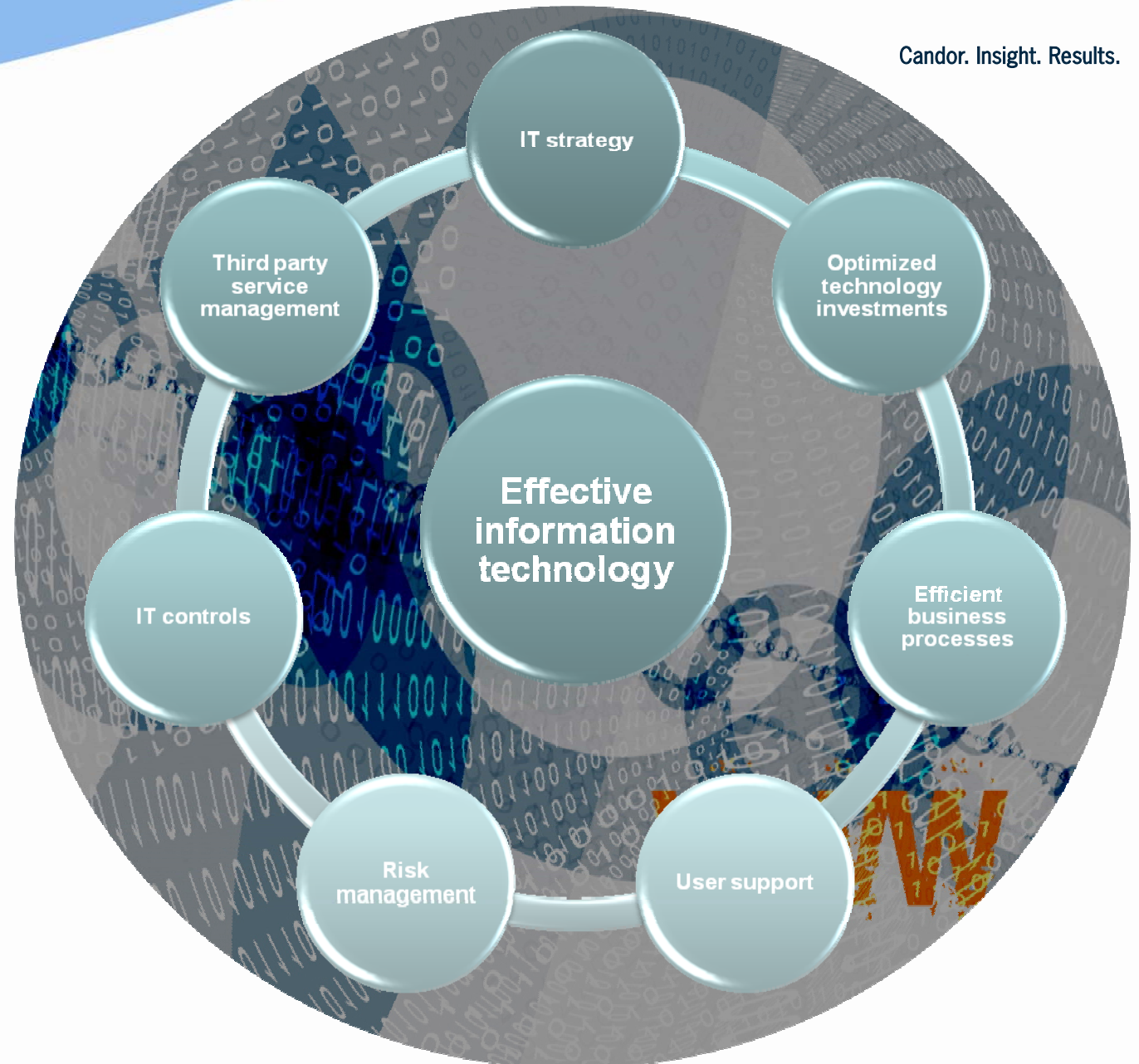
Information Technology

September 2009



Do the bright thing.
Energy and Utilities

Information Technology provides the processes and tools to enable Highly Effective Utilities to accomplish their mission and strategies through innovation, development and service delivery.



Highly Effective Utilities need to possess:

- › Information at all levels to manage the utility and achieve the utility's business objectives.
- › A strong Information Technology (IT) team to manage and communicate information across the organization that allows employees to carry out their duties.
- › Systems and processes to ensure the quality, reliability and security of information.
- › Standard data, processes and systems enabling the organization to carry out its business objectives efficiently.

Scope under review

- › Recommend how GPA could provide more timely information to internal customers and external vendors.
- › Review and evaluate GPA's financial reporting technology.
- › Identify process improvement opportunities and management practices relative to the provision of information by the IT Department.
- › Identify process improvements that better enable GPA internal customers to perform their jobs in a more efficient manner .
- › Recommend how GPA could enhance the accuracy and availability of information.

Phase 2 areas

Areas	Phase 2 selection	Results
IT strategy	Yes	Recommendations made
Optimize technology investments	Yes	Recommendations made
User support/service desk	Yes	Recommendations made
Project management/change control	Yes	Recommendations made
System effectiveness / business process efficiencies	Yes	Recommendations made
Risk management	Yes	Recommendation made
General IT controls	Yes	Recommendations made
Third-party service management	Yes	Recommendations made
User security	No	No Recommendations at this time
Desktop support	No	No Recommendations at this time
Network systems	No	No Recommendations at this time

Process:

- › Evaluated the current status of Information Technology with specific regards to the use and effectiveness of the main business systems, JD Edwards and Utiligy.
- › Reviewed policies and procedures associated within the utilities' Information Technology operations.
- › Interviewed Information Technology and functional personnel (finance, procurement, customer service) and visited with process owners to understand support services
- › Conducted cursory review of information technology infrastructure relative to financial processing and reporting.
- › Performed high-level review of application and systems controls.
- › Documented major systems and processes supporting the financial processing and reporting.
- › Documented and assessed information system governance, management, operations, application development, security, help desk/problem management, data management and third-party services.

Highly Effective Utilities focus on an IT strategy

- › Strategic Planning is a method to enable an organization to achieve its goals through establishing the strategic vision and defining short and long term goals and desired outcomes.
- › Highly Effective Utilities establish a formal IT Strategy that answers these questions:
 - Are we doing the right things?
 - Are we doing them the right way?
 - Are we doing them well?
 - Are we getting the benefits?
- › After establishing the IT strategy, Highly Effective Utilities document the planned initiatives, plan tasks, monitor and measure progress, communicate results, and revisit and update goals to ensure vision is achieved.

IT strategy

Sub Process	GPA Today	Highly Effective Utilities
IT strategy	<ul style="list-style-type: none">› Lacks formal IT strategy› Reviewed past documents at GPA including IT Strategic Plan (2006) and JDE GAP Analysis (2007)	<ul style="list-style-type: none">› Define and implement an Information Technology strategic plan used to guide Information Technology decision making, support and resource planning.

IT strategy (cont.)

Sub Process	Gaps	Roadmap/ Recommendations
IT strategy	<ul style="list-style-type: none"> › Lack of formal documented mission, goals, and expected outcomes of Information Technology department. › Lacks strategic plan to guide Information Technology department to pursue and meet its mission, goals and expectations. 	<ul style="list-style-type: none"> › Define IT Strategy that supports GPA priorities and goals. › Define the IT vision and goals. › Define the Information Technology’s desired outcomes. Outcomes should be measurable. › Establish short and long term initiatives or projects that align with vision, goals and desired outcomes. It is recommended that the initiatives or projects be set up to meet more than one goal and multiple outcomes. › Specify tasks needed to support strategic plan.

Expected results of a formal IT strategy

- › Enterprises that actively design their top IT-level IT governance arrangements make and implement better

IT Gartner

- › *IT Governance* related decisions: Firms with focused strategies and above average IT Governance had more than 20% higher profits than other firms following the same strategies

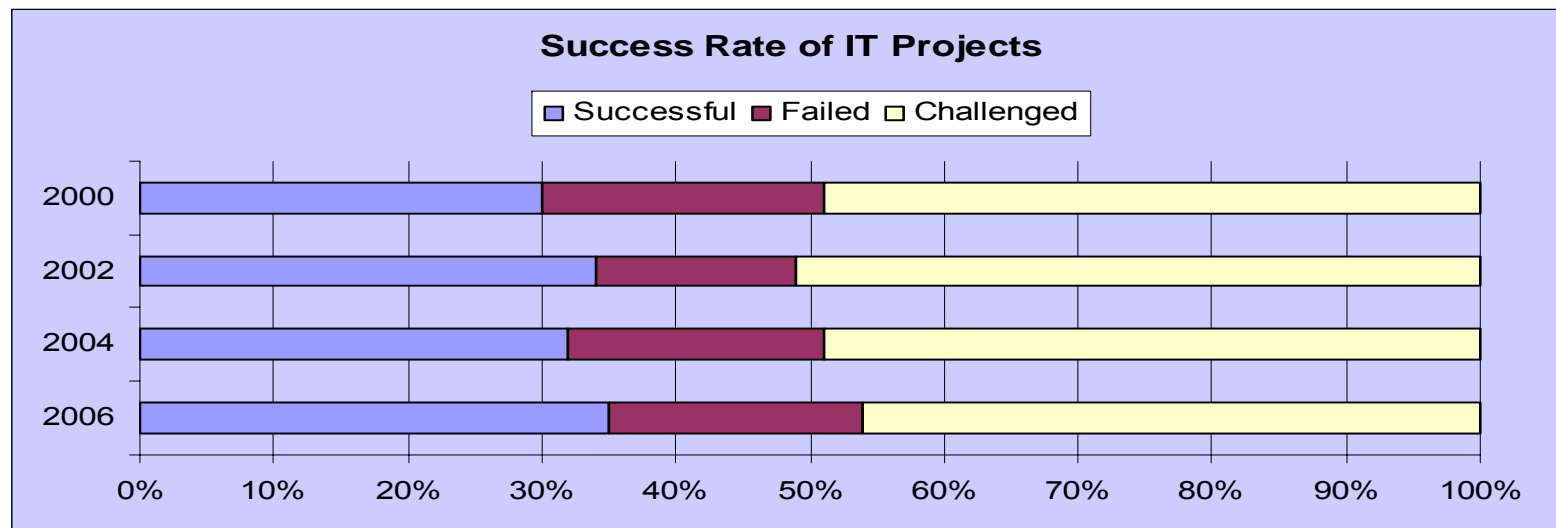
Peter Weill and Jeannie W. Ross, *IT Governance*

- › Enterprises focused on converging their business and technology disciplines exhibited superior revenue growth and net margins relative to their industry groups and exhibited consistently greater rates of return than those of their competitors

BTM Institute

Lack of a formal IT strategy contributes to these results:

- › Gartner – more than \$ 600 billion thrown away annually on ill-conceived or ill-executed IT projects
- › Standish Group – 19% of projects fail outright, 46% are challenged and only 35% are successful
- › IT Governance Institute 2007 confirms concerns
- › Overall performance at GPA mirrors these results

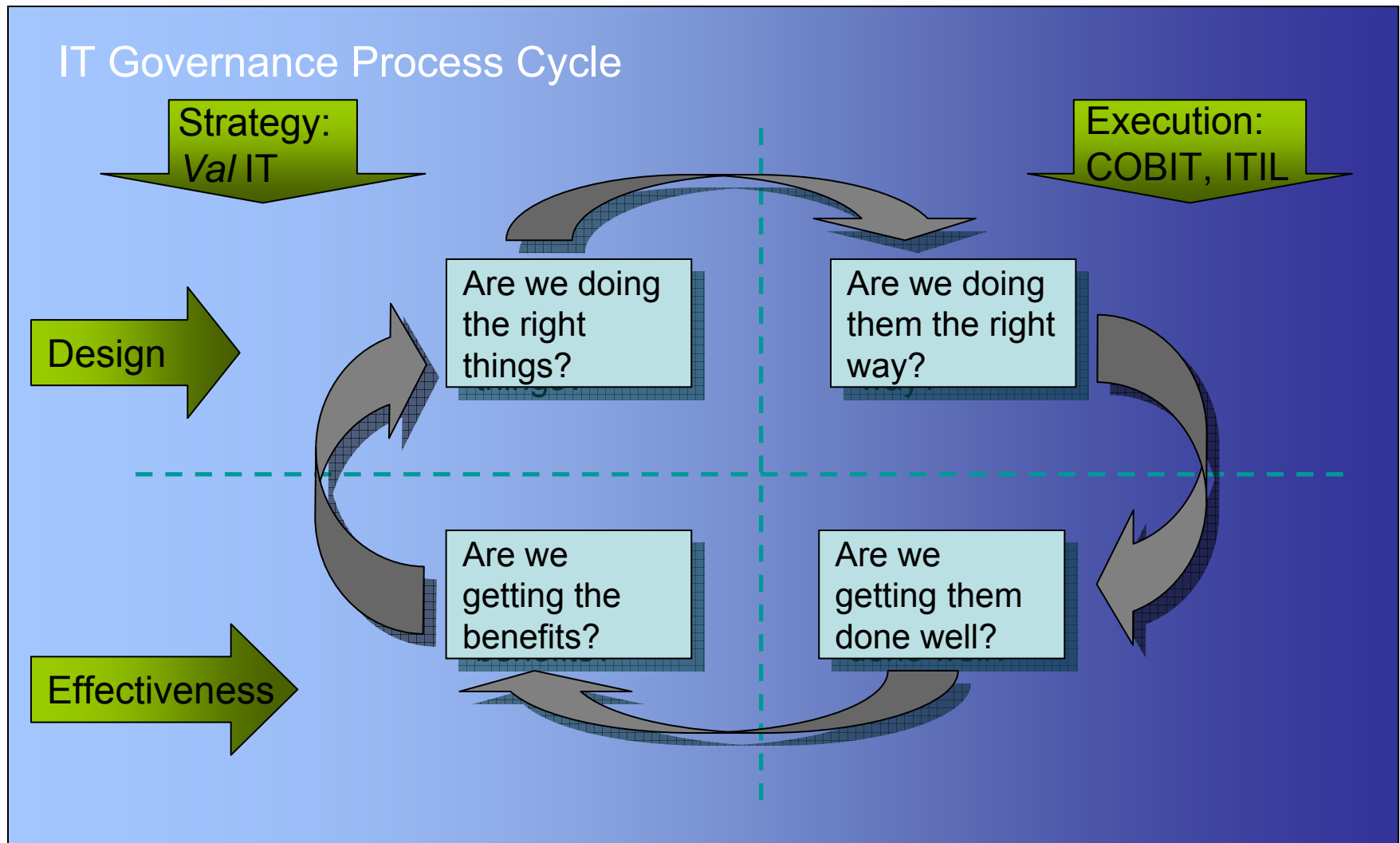


Best Practice for establishing an IT Strategy: *Val-IT*

What is *Val IT*?

- › It is a framework defined by the IT Governance Institute (ITIG)
 - Designed to define the value of IT for organizations
 - Transforms IT into clear business value
 - Helps to “Get it right”
 - Provide a structured approach
- › Compliments and depends upon other standard control frameworks like COBIT (Control Objectives for IT) and ITIL (Information Technology Infrastructure Library)
- › *Val IT* is a cycle – a continuous process that provides a realistic ROI at the inception of the project and provides tools for monitoring the investment to ensure that ROI is realized
- › *Val IT* drives proper design which is integrated with effective execution

Val IT



Optimize technology investments

Sub Process	GPA Today	Highly Effective Utilities
Optimize technology investments	<ul style="list-style-type: none">› Projects are not managed under a strategic plan with GPA's mission and goals reflected as well as the department's mission.› Projects are generally defined for one or few selected departments. Minimal cross-departmental communication on projects exists.	<ul style="list-style-type: none">› Technology investments correlate to desired outcomes that align with the IT strategy, which supports the organization's vision and goals. Projects are established in the short and long term, with measurable results and can meet more than one outcome. Projects should be defined with the entire organization in mind.

Optimize technology investments (cont.)

Sub Process	Gaps	Roadmap/ Recommendations
Optimize technology investments.	<ul style="list-style-type: none"> › A short and long term comprehensive technical investment strategy is not in place at GPA. 	<ul style="list-style-type: none"> › Develop and implement comprehensive change management/system development life cycle methodologies, processes and procedures (e.g. project planning, scoping, requirements definition, building, testing, user acceptance testing, maintenance).
IT procurement	<ul style="list-style-type: none"> › A centralized procurement policy is not utilized at GPA for all departments. 	<ul style="list-style-type: none"> › Require all IT and IT-related procurements go through one central department as part of the procurement and implementation of new software and tools.

User support and service desk

Sub Process	GPA Today	Highly Effective Utilities
User support and service desk	<ul style="list-style-type: none"> › GPA today lacks a formal user support/service desk model that ensure immediate response with minimal disruption of information and technology to users. 	<ul style="list-style-type: none"> › Highly Effective Utilities establish user support/service desks or incident handling capabilities to enable the organization to respond to and manage technology related issues. The response to these issues is a critical component of the information technology support services and is used to ensure business efficiency, continuity and risk management.

User support and service desk (cont.)

Sub Process	GPA Today	Highly Effective Utilities
User support	<ul style="list-style-type: none">› Users generally find support inadequate. IT support employees do not have enough in-depth knowledge.	<ul style="list-style-type: none">› Business analysts exist and are trained and experienced in software functionality and can support end users.› End users are adequately trained.

User support and service desk (cont.)

Sub Process	Gaps	Roadmap/ Recommendations
<p>User support and service desk</p>	<p>› IT management does not have a problem management system such that data integrity and access control issues are recorded, analyzed, resolved in a timely manner and reported to management. System problems may not be identified or resolved, potentially resulting in inaccurate data or systems being unavailable for use.</p>	<p>› Consider the acquisition and implementation of a help desk tool. There are many packages available. In general, they track calls, incidents and requests and assign ticket numbers. The tools track the progress of any given problem or request and provide metrics on problems and requests. The systems may also be used to track it change requests, track IT equipment, etc.</p>

User support and service desk (cont.)

Sub Process	Gaps	Roadmap/ Recommendations
User support	<ul style="list-style-type: none">› Lack of a sufficient set of resources to address user questions and issues, including configuring and updating software modules for users.	<ul style="list-style-type: none">› Select personnel to train in the functional configuration of JD Edwards ERP software.› Place trained personnel in Business Analyst positions to support the major business processes.

Project management and change control

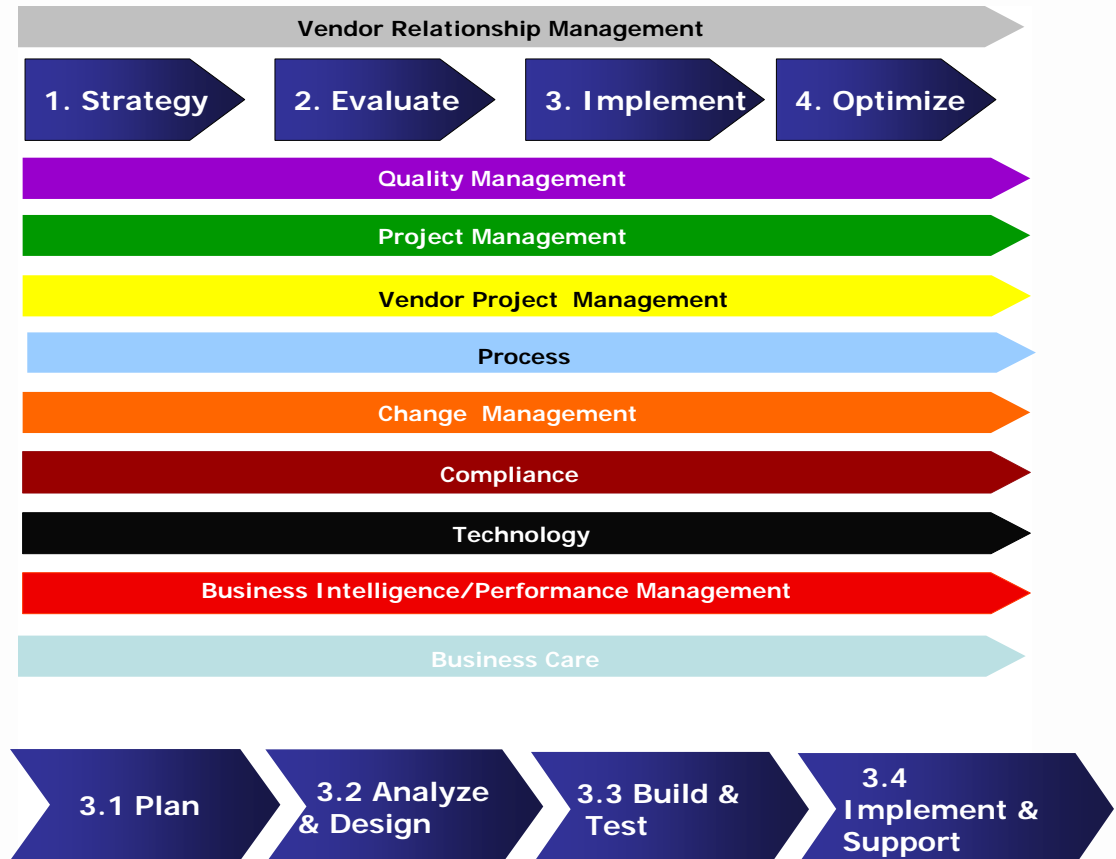
Sub Process	GPA Today	Highly Effective Utilities
Project management and change control	› Lack of a complete process for project management/ change control.	› Have a formal process for prioritizing application changes, assigning user requests to programmers, testing changes, approving changes, migrating changes to production, and monitoring the completeness of changes.

Project management and change control (cont.)

Sub Process	Gaps	Roadmap/ Recommendations
<p>Project management and change control</p>	<ul style="list-style-type: none"> › Lack of a formal process for defining changes needed (e.g. user or vendor requests). › Lack of a formal project management and change control methodology and guidelines. › Lack of skilled resources to manage the change process. › Lack of an IT manager to audit and monitor changes. 	<ul style="list-style-type: none"> › Establish the process for managing change requests. › Ensure that changes align with IT and GPA strategies and mission. › Establish formal project management and change control methodology and guidelines based upon various types of changes. › Train or hire skilled resources who can support change management. › Hire IT manager to ensure change control process is followed.

Projects should follow a robust structured methodology

Example: Baker Tilly standard package implementation methodology phases and sub-phases



System effectiveness

Sub Process	GPA Today	Highly Effective Utilities
<p>System effectiveness / business process efficiencies</p>	<ul style="list-style-type: none"> › JDE is not fully utilized to support processes. › Users find JDE difficult to use and unreliable. 	<ul style="list-style-type: none"> › ERP systems are configured to meet business needs › The appropriate use of reporting tools meets business needs. › Ensure technology related investments are communicated to one central department. › Use technology investments to process information electronically throughout the organization with limited use of hard copy paper processing. › Train users to use reporting tools to meet business needs and not rely on third-party service providers or IT staff to create, modify and process reports.

System effectiveness (cont.)

Sub Process	Gaps	Roadmap/ Recommendations
<p>System effectiveness / business process efficiencies</p>	<ul style="list-style-type: none"> › Information in the JDE system is not readily available to personnel. › JDE is not fully utilized to support processes. 	<ul style="list-style-type: none"> › Undertake a study to optimize JD Edwards. This may be done as a part of a migration to version 9.2 of World or to version 9.0 of EnterpriseOne. This can only be done after GPA personnel obtain a fuller understanding of JDE capabilities and configuration. › Enhance utilization of JDE functionality. › Determine if additional reporting tool(s) could provide better reporting to meet business needs. › Improve data workflows and business rules in JDE. › Improve systems support functions and maintenance.

System effectiveness (cont.)

Sub Process	Gaps	Roadmap/ Recommendations
System effectiveness / business process efficiencies	› Users do not fully utilize JDE capabilities.	› Design and deploy formal training in each of the modules to be used in JDE. › Provide clearly documented user manuals defining the proper use of the system. › Formally train all new hires or transfers in the use of the system as it applies their job description.

Risk management

Sub Process	GPA Today	Highly Effective Utilities
Risk management: hardware location and recovery plan.	› IT systems in same location as GPA business office. No backup location.	› Store backup hardware in a separate location from production servers. If removable media are used, store media at a readily accessible off-site location or with a service provider.

Risk management (cont.)

Sub Process	Gaps	Roadmap/ Recommendations
Risk Management	<ul style="list-style-type: none"> › A disaster recovery plan is not completed. Utiligy (Customer Information System) does not have a disaster recovery plan, the tools or hardware for disaster recovery, and no back ups other than replication 	<ul style="list-style-type: none"> › Investigate the possibility of relocating backup hardware in a separate location from production servers. If removable media are used, store media at a readily accessible off-site location or with a service provider. › The business should prepare Business Continuance Plans (BCP) outlining how the business will continue to operate through manual means while systems are down.

IT controls

Sub Process	GPA Today	Highly Effective Utilities
IT controls	› Does not mandate IT controls used.	› Maintain IT controls as part of standard internal audit functions.

IT controls (cont.)

Sub Process	Gaps	Roadmap/ Recommendations
IT control	<ul style="list-style-type: none">› IT controls are not established and documented.› Internal audit does not check controls.	<ul style="list-style-type: none">› Documentation of IT controls needed to ensure data accuracy, reliability, availability and security› Implement and maintain IT controls

Third-party service management

Sub Process	GPA Today	Highly Effective Utilities
Third-party service management	› Policies and procedures for managing 3 rd party service providers are not defined.	› Manage third-party service providers define minimum standards with providers and monitor providers regularly to ensure the contract and statement of work are being met.

Third-party service management (cont.)

Sub Process	Gaps	Roadmap/ Recommendations
Improve third-party service management.	› Policies and procedures for managing third-party service providers is not defined.	› Implement polices and procedures for managing third parties. › Ensure third-party service procedures meet minimum GPA standards on a regular basis.

Develop IT strategy

A. Recommendation Scope & Objectives

- › Define and implement an Information Technology strategic plan used to guide Information Technology decision making, support and resource planning.

B. Approach/Work Plan

- › Define Information Technology Strategy that supports GPA priorities and goals.
- › Define the Information Technology vision and goals.
- › Define the Information Technology's desired outcomes. Outcomes should be measurable.
- › Establish short and long term initiatives or projects that align with vision, goals and desired outcomes. It is recommended that the initiatives or projects be set up to meet more than one goal and multiple outcomes.
- › Specify tasks needed to support strategic plan.

C. Risks and Dependencies

- › Requires resources, time and funding
- › Utilizes an IT Director/Manager to oversee and manage
- › Is an ongoing and evolving process that may span several years
- › Is influenced by a wide range of factors throughout the organization as well as external sources

D. Benefits

- › IT aligned with business objectives.
- › Promotes IT service delivery
- › Supports innovation
- › Supports timely and more efficient IT projects
- › Improved reporting and decision support.
- › Greater data integrity and reliability
- › Improved user confidence in systems and data.

E. ROI

- › A technology plan that aligns IT, IT investments and resources and meets GPA's goals and priorities.

F. Deliverable(s)

- › IT Strategic Plan

G. Estimated Timeframe

- Less than 4 weeks
- 4 - 8 weeks
- 8 - 12 weeks
- 12 + weeks

H. Estimated Cost

- < \$50k
- \$50K – 75K
- \$75K - \$100K
- > \$100K

Hire IT manager

<p>A. Recommendation Scope & Objectives</p> <p>Objectives in Order of Impact:</p> <ul style="list-style-type: none"> › Hire IT Manager and establish IT governance system <p>Recommendation Scope:</p> <ul style="list-style-type: none"> › GPA IT Governance › JDE World system › Utiligy system and interfaces to JDE › Other key business systems 		<p>B. Approach/Work Plan</p> <p>Hire IT Manager with the following major goals:</p> <ul style="list-style-type: none"> -Improve IT controls and procedures -Prioritize and manage risks -Establish objectives and measure results -Implement policies, guidelines and regulatory frameworks - Supervise employees and ensure the delivery of training to employees - Manage enterprise security - Manage projects - Manage IT operations - Communicate with project and change managers - Manage IT assets and financials - Provide application support - Collaborate and communicate with business unit managers - Collaborate and communicate with legal counsel - Collaborate and communicate with Internal audit 	
<p>C. Risks and Dependencies</p> <ul style="list-style-type: none"> › IT cannot proceed with improvements due to lack of business support › Lack of trained, knowledgeable resources on staff › Lack of change management to align user and business expectations with planned improvements 		<p>D. Benefits</p> <p>A position dedicated to direct, plan and manage IT for GPA; Establish IT initiatives; Acquire/develop information technology; Implement information technology projects; Maintain the information technology and goals; Measure the return on investment and benefits realization through the entire life cycle of the investment/project</p>	
<p>E. ROI</p> <ul style="list-style-type: none"> › \$95,000 	<p>F. Deliverable(s)</p> <ul style="list-style-type: none"> › IT Manager in place 	<p>G. Estimated Timeframe</p> <p><input checked="" type="radio"/> 4 - 8 weeks</p> <p><input type="radio"/> 8 - 12 weeks</p> <p><input type="radio"/> 12 + weeks</p>	<p>H. Estimated Cost</p> <p><input type="radio"/> \$50K - 75K</p> <p><input checked="" type="radio"/> \$75K - \$100K</p> <p><input type="radio"/> > \$100K</p>

Optimize technology investments

A. Recommendation Scope & Objectives

Objectives in Order of Impact:

- › Perform analysis of current ERP functionality.
- › Provide recommendations for opportunities for process improvements through ERP and gaps.
- › Design optimizations for processes, applications and data.
 - Functionality
 - Reporting

Recommendation Scope:

- › JDE World system (with possible upgrade to version 9.2)
- › Interaction with Utiligy

B. Approach/Work Plan

- › Gain acceptance from GPA for need for ERP optimization
- › Evaluate current system
 - Identify current gaps and issues
 - Identify potential remedies through improved use of existing functionality
 - Determine gaps that will not be filled through functionality improvements
 - Evaluate impact of unresolved gaps
 - Issue report to stakeholders

C. Risks and Dependencies

- › Training cannot proceed with improvements due to lack of business support
- › Lack of trained, knowledgeable resources on staff to design and conduct training

D. Benefits

- › Improved efficiency in use of the system
- › Increased use of system and less reliance on manual workarounds
- › Improved user confidence in system data
- › Greater data integrity and reliability

E. ROI

- › Expect a minimum improvement of 5% in efficiency each for a Finance cost of \$1,192,162 and a Customer Service cost of \$1,962,767.

F. Deliverable(s)

- › Functional specifications for changes to the existing ERP
- › Report of unresolved gaps
- › Revised Policies/Procedures
- › Preliminary recommendations for next steps for ERP

G. Estimated Timeframe

- Less than 4 weeks
- 4 - 8 weeks
- 8 - 12 weeks
- 12 + weeks

H. Estimated Cost

- < \$50k
- \$50K - 75K
- \$75K - \$100K
- > \$100K

Improve data integrity and reporting in JDE and Utiligy

A. Recommendation Scope & Objectives

Objectives in Order of Impact:

- › Perform analysis of current reporting and tools.
- › Provide recommendations for improved reporting including possible acquisition of additional reporting tools.

Recommendation Scope:

- › JDE World system
- › Utiligy

B. Approach/Work Plan

- › Gain acceptance from GPA for need for better reporting
- › Evaluate current reports
 - Identify useful reports as well as reports that are not useful
 - Determine requirements for additional or improved reports
 - Determine capabilities of current tools to deliver desired reports
 - Issue report to stakeholders

C. Risks and Dependencies

- › Analysis cannot proceed with improvements due to lack of business support
- › Lack of trained, knowledgeable resources on staff to evaluate tools

D. Benefits

- › Improved efficiency in use of the system
- › Increased use of system and less reliance on manual workarounds
- › Improved user confidence in system data
- › Improved reporting and decision support
- › Greater data integrity and reliability

E. ROI

- › Improved service delivery to GPA departments
- › Improved process and data efficiencies

F. Deliverable(s)

- › Training Documentation
- › Revised Policies/Procedures

G. Estimated Timeframe

- Less than 4 weeks
- 4 - 8 weeks
- 8 - 12 weeks
- 12 + weeks

H. Estimated Cost

- < \$50k
- \$50K – 75K
- \$75K - \$100K
- > \$100K

Develop training program for JDE users and IT support

A. Recommendation Scope & Objectives Objectives in Order of Impact: <ul style="list-style-type: none"> › Provide JDE training to IT staff for functional configuration › Provide JDE training to end users Recommendation Scope: <ul style="list-style-type: none"> › JDE World system › Interaction with Utiligy 		B. Approach/Work Plan <ul style="list-style-type: none"> › Gain acceptance from GPA for need for End User Training › Evaluate modules in use and configuration to customize training <ul style="list-style-type: none"> - Gather current policy/procedure documentation and existing training materials - Revise training materials as needed - Schedule and conduct training - Follow up with users to determine the effectiveness of training 	
C. Risks and Dependencies <ul style="list-style-type: none"> › Training cannot proceed with improvements due to lack of business support › Lack of trained, knowledgeable resources on staff to design and conduct training 		D. Benefits <ul style="list-style-type: none"> › Improved efficiency in use of the system › Increased use of system and less reliance on manual workarounds › Improved user confidence in system data › Greater data integrity and reliability 	
E. ROI <ul style="list-style-type: none"> › \$49,000 	F. Deliverable(s) <ul style="list-style-type: none"> › Training Documentation › Revised Policies/Procedures 	G. Estimated Timeframe <ul style="list-style-type: none"> <input checked="" type="radio"/> Less than 4 weeks <input type="radio"/> 4 - 8 weeks <input type="radio"/> 8 - 12 weeks <input type="radio"/> 12 + weeks 	H. Estimated Cost <ul style="list-style-type: none"> <input checked="" type="radio"/> < \$50k <input type="radio"/> \$50K - 75K <input type="radio"/> \$75K - \$100K <input type="radio"/> > \$100K

Implement risk management and IT controls

A. Recommendation Scope & Objectives

Objectives in Order of Impact:

- › Develop Risk Management plan
- › Develop IT controls
- › Deploy controls as part of ERP Optimization, if that project is undertaken.

Recommendation Scope:

- › IT manager to review systems affected by IT and needs for a Business Continuity Plan
- › IT controls

B. Approach/Work Plan

- › Develop a risk management plan including a Business Continuity Plan
- › Store backup hardware in a separate location
- › Document current IT controls
- › Review current IT controls and determine if existing controls are adequate. Adjust where necessary.
- › Implement annual IT control audit procedures to ensure controls are maintained in the future.

C. Risks and Dependencies

- › Business Continuity Plan (BCP) needs to be created with cooperation from various system users.
- › IT controls need to be documented and reviewed by knowledgeable persons
- › BCP and IT control documentation need to be updated as changes are made to be useful.

D. Benefits

- › Plan in place to use if systems go down and manual processes must be utilized.
- › Assurance of adequate IT controls for security, availability, reliability, and data accuracy.

E. ROI

- › Addresses concerns of large customers over the security and reliability of GPA systems. It also helps to address audit and compliance requirements.

F. Deliverable(s)

- › Business Continuity Plan
- › Documented IT controls
- › Documented IT audit procedures

G. Estimated Timeframe

- Less than 4 weeks
- 4 - 8 weeks
- 8 - 12 weeks
- 12 + weeks

H. Estimated Cost

- < \$50k
- \$50K - 75K
- \$75K - \$100K
- > \$100K

Develop procedures and controls over third party service agreements

A. Recommendation Scope & Objectives

- Objectives in Order of Impact:**
- › Develop policies and procedures for third-party service agreements
- Recommendation Scope:**
- › IT manager to develop policies to manage third-party service agreements.
 - › Policies to be implemented by IT department and business units.
 - › IT manager should require regular reporting on the management of third-party service agreements.

B. Approach/Work Plan

- › Evaluate current third-party service agreements and determine gaps and/or inefficiencies.
- › Implement policies and procedures for managing third parties.
- › Review third-party service procedures on a regular basis to ensure the contracts are meeting GPA standards.

C. Risks and Dependencies

- › Current department heads managing their own third-party contracts may be reluctant to cede control to IT department.

D. Benefits

- › Ensures no duplication of work performed/contracted.
- › Ensures contracts and statements of work are honored.
- › Ensures vendors are managed and audited proactively.
- › Promotes vendors providing efficient services in a timely manner.
- › Promotes GPA standards, such as GPA standards for information security, are managed.

E. ROI

- › Better realization of current and future contracts
- › Decreases costs related to potential overlap of services
- › Decreases risks related to not meeting GPA standards

F. Deliverable(s)

- › Report reviewing current third-party service agreements
- › Documented third-party policies
- › Annual audit program of third-party policies

G. Estimated Timeframe

- Less than 4 weeks
- 4 - 8 weeks
- 8 - 12 weeks
- 12 + weeks

H. Estimated Cost

- < \$50k
- \$50K – 75K
- \$75K - \$100K
- > \$100K