



Statewide IT Investment Summary and Analysis

FISCAL YEARS 2010-2011

**STRATEGIC
PLANNING**



Acknowledgements

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Organization of the Statewide IT Investment Summary and Analysis Report

The biennial Statewide IT Investment Summary and Analysis Report for the planning period for fiscal years 2010-2011 consists of five sub-reports. These are:

Executive Summary
Enterprise IT Planning
Strategic IT Planning
Tactical IT Planning
IT Project Planning

A sub-report may have an associated Appendix with reference or supporting data. Appendices are listed under "Contents" for a particular sub-report.

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O verview

This sub-report of the Statewide IT Investment Summary and Analysis Report presents and analyzes information and concerns stated in the agency IT plans from a strategic planning perspective.

The strategic sections of agency IT plans provide the longer-term planning framework for IT decision-making.

The sub-report contains four major sections, as follows:

- **Agency Planning Progress.** Agencies' self-assessments regarding their progress in planning activities.
- **Organizational Assessments.** Agencies' self-assessments in the areas of IT strengths and weaknesses.
- **Project Management Process Maturity Level.** A self assessment by agencies of the degree to which they use project management best practices (documented, repeatable, proven processes) to manage their projects.
- **Consolidated Observations.** The more critical issues from a strategic perspective of agency plans.

1

Agency Planning Progress

This plan section contains information the agency considers significant enough to mention about their progress in planning activities and general IT use within the agency. Since agencies have varying levels of planning maturity, and progress is more difficult for some agencies than others, the topics agencies addressed cover a wide area.

Generally, improvements through recently implemented technology include improved customer/constituency service, improved internal operations, better citizen protection, and greater data and information accessibility.

1.1 Common Themes

The topics in Figure S-1 emerged from analysis of the information on progress provided by seventy-five (75) plans. Topics are listed here if they appeared in multiple plans, or if the issue was represented as significant in an IT plan. The number of plans noting progress in each area is shown in parentheses. Some topics have breakdowns where additional patterns emerged; these are shown in italics.

Planning Progress – Common Themes	
Infrastructure Improvements (34)	
	<i>Network</i> (15)
	<i>Operational</i> (6)
	<i>Increased Wireless Capabilities</i> (3)
	<i>Communication Technology Upgrades</i> (10)
Technology Platform migration, Consolidations, and Upgrades (33)	
	<i>Hardware</i> (19)
	<i>Language/Operating System/Architecture</i> (8)
	<i>Database</i> (5)
	<i>Development</i> (1)
Implementation of Enterprise-Wide Solutions (e.g., OAKS and CAVU e-licensing) (24)	
Internet/Intranet/Web Environment (21)	
	<i>Added/Upgraded Services</i> (10)
	<i>New/Improved Site Appearance and Usability</i> (11)

Planning Progress – Common Themes continued	
Deferred to Next Biennium Due to Budget Constraints (17)	
	<i>Infrastructure & Hardware Improvements</i> (8)
	<i>Application Development/Deployment</i> (9)
Implementation of New Applications (14)	
Security Improvements (14)	
IT Management Practices (13)	
	<i>IT Management Practices</i> (1)
	<i>Project Management Practices</i> (2)
	<i>Disaster Management Practices</i> (7)
	<i>Application/Web Development Practices</i> (3)
Better Utilization of IT Workforce (12)	
Application Enhancements & Upgrades (9)	
Data management (9)	
	<i>Improvements in Data Exchange Between Agencies and Jurisdictions (Federal and Local)</i> (9)
Digitization of Workflow and Management of Documentation (i.e., Documents and Forms) (7)	
System Rewrites/Replacements (3)	

Figure S-1 Planning Progress: Common Themes

1.2 Leading Edge Efforts

Leading edge IT efforts being made in one or more agencies match the direction many are following in industry and in some progressive federal agencies. Other agencies in the state will be helped by the lessons learned from these efforts. The efforts are:

- Expansion of virtual environments with the use of Storage Area Networks (SAN).
- Continued development and implementation of handheld computers.
- Progress made in using virtual servers to realize efficiencies and cost savings.
- Use of electronic licensing system, saving time and operating costs to the agencies.
- Security upgrades to safeguard information and hardware with the use of encryption tools and the implementation of disaster recovery/preparedness plans.

- Implementation of a Project Management Methodology.
- Data exchange between agencies is a growing area pointing to an increase in utilizing data warehousing more and more.

1.3 Comparison to Previous Biennium: Planning Progress

Significant differences between FY08-09 and FY10-11 are as follows:

- Implementation of enterprise-wide solutions rose by 85% primarily as a result of the implementation of the electronic licensing tool. Many agencies reported two direct benefits of using this tool: reduced operating costs and increased customer services.
- The number of agencies reporting security improvements increased by 30%.
- The number of agencies reporting an increase in IT resource utilization doubled when compared to the last report. Six agencies reported this theme in FY08-09 while 12 agencies reported it in FY10-11.
- Hardware upgrades doubled in this reporting period. Nine agencies reported replacing/purchasing desktops and laptops. Another seven agencies reported progress in replacing/purchasing servers.
- Nine agencies reported an increase in data exchange between agencies and jurisdictions as compared to two agencies reporting this activity in the FY08-09 report.
- Some agencies reported deferring projects from FY08/09 to FY 10/11 due to budget constraints.
- Implementation of IT management practices decreased in all categories from the prior biennium, except for the implementation of Disaster Management Practices which had a 75% increase.
- The number of agencies adding new web site services decreased by 52%.
- Digitization of workflow and management of documentation decreased by 42%.

2 Organizational Assessments

Agencies provided organizational self-assessments in the areas of IT strengths and weaknesses. This section presents a high-level overview of the results.

2.1 Agency IT Strengths and Weaknesses

Awareness of an agency's IT organizational strengths and weaknesses provides key indicators for agency planners. These factors indicate opportunities to be leveraged and challenges to overcome.

IT organizational strengths indicate attributes that may help IT programs achieve success and may have a positive effect on IT efforts. IT organizational weaknesses, on the other hand, indicate attributes that may hinder IT programs (e.g., obsolete hardware assets) and have a negative effect on IT efforts.

Agencies can use this information in the planning process to capitalize on their strengths and develop mitigation strategies for their weaknesses. In the agency IT plans for fiscal years 2010-2011, the strengths and weaknesses listed in 2.1.1 and 2.1.2 emerged as common themes. The strength and weakness definition is listed first. The bullet points below each strength and weakness represent comments provided by one or more agencies.

2.1.1 AGENCY STRENGTHS

An entry appears in this section for one of two reasons. First, a strength theme may appear here if it is mentioned frequently among the agencies. Second, a strength theme may appear here if an agency known for IT success notes the strength as a reason for that success.

- **Alignment of IT to Business.** Recognition that IT should be closely aligned with business functions and requirements.
 - The overall knowledge of the business is invaluable in the delivery of IT services.
 - The IT staff understands the mission and programs of the agency and can manage projects in a way which maximizes the agency's business value.

- The use of technology as an enabling tool is a strategic focus by agencies to help meet their goals.
- IT is included in the agency business decision-making process which helps the agency focus on their objectives and provide accurate customer-driven systems.
- **Centralized IT Management.** Mentioned when centralized IT management is perceived to be more efficient than decentralized IT management.
 - Centralized IT management is a strength for agencies because the IT staff understands the mission and organization of the agency which makes them a more efficient provider of IT support.
- **Effective Agency IT Staff and Management.** The perceived effectiveness of the agency's IT staff and management.
 - Many agencies reported their IT staffs are very productive, highly-skilled, and dedicated.
 - Agencies also listed the high level of collaboration within their IT staff as an agency strength. Their IT teams work well together and communicate well within their teams, and with the agencies.
- **Staff IT Knowledge and Literacy.** The degree of IT knowledge by the business personnel in an agency.
 - Boards and Commissions cited the continuing trend of their staff having the ability to solve some IT problems without outside help.
 - Many of their IT problem-solving skills are in the area of troubleshooting PCs and database issues.
 - They also comprehend more technical terminologies.
 - This strength is directly tied to improvements in customer service by the Boards and Commissions.
- **IT Staff Stability.** Length of tenure and low turnover among the IT staff.
 - Several agencies reported their IT staffs have been with the agency for ten (10), fifteen (15), or more years.
 - Many agency IT managers have a number of years with the agency. Therefore, due to the longevity of their careers and their historical knowledge, they fully understand the business and organization of the agency.

- The low turnover provides consistency and continuity of IT policies and procedures.
 - Tenured, experienced staff provides for a stable environment for IT development.
 - Another very important factor supporting staff stability is providing training to keep pace with newer technologies. Training is a core component of some agencies' strategic plans and budgets.
- **Modern/Current IT Infrastructure.** The currency and stability of the supporting IT infrastructure.
 - A strong customer assistance management system (Help Desk) is seen by agencies as improving customer service and helping the agency formally track IT issues.
 - Intranet and Internet systems are seen as critical resources for internal and external customers.
 - Agencies continued to improve and modernize their websites because websites are the most effective tool to communicate important information to the public.
 - Infrastructure and architecture principals are reported to be well aligned with the FEA (Federal Enterprise Architecture)/ DAS IT policies.
 - **Performance-Based Focus.** The existence of a performance-based focus. This theme includes the concepts of quality and best practices.
 - Key terms mentioned by agencies in this strength category are: Application Building Framework, Software Environment Standards, Enterprise Technology Committee, Workflow Implementation, Software Testing Teams, Team Foundation Server, IT Infrastructure Library (ITIL), Standardized Tools, Processes, Metrics, Platforms, and Continuous Improvement Strategies.
 - **Shared Data Model.** The existence of a shared data model.
 - Support is growing for a shared model of information management.
 - The need is growing for interagency data sharing which is proving to be invaluable for distributing information to constituents.
 - **Strategic Partnerships.** Strategic collaboration with key service partners. This can be with functionally similar agencies, supporting service agencies, or vendors.

- Many agencies reported contracting with DAS OIT for services including: systems analysts, desktop support services, shared services, and connection to a central server for backup protection.
- Other agencies list accessing various IT skill levels through consulting relationships with outside firms.
- **Strong Management Support.** The strong support of IT initiatives and solutions by senior management in the agency.
 - Many agencies listed a strong agency commitment to the use of technology as a tool. There is a strong agency commitment to improve staff efficiencies and to provide services and information more efficiently to their customers and the public.

2.1.2 AGENCY WEAKNESSES

An entry appears in this section for the same reasons as those given for strengths in 2.1.1.

- **Aging/Retiring Staff.** Aging staff is considered a weakness by some agencies, along with their imminent retirement.
 - Agencies reported this issue as a weakness primarily because of the knowledge and expertise of this employee group and the fear of or lack of knowledge transfer, resulting in a major agency knowledge gap.
 - Due to budget constraints, agencies expressed difficulty in hiring replacements.
- **Application Documentation.** The absence of documentation for legacy applications mentioned in connection with the strain on IT resources and employee retention problems.
- **Application Maintenance Burden.** The need to continue application maintenance support while support for Web applications adds to the support requirements.
 - This weakness is compounded by the limited funds/budgetary cuts in application maintenance areas.
- **Business Continuity Shortfalls.** A business continuity shortfall is not defining a strategic process encompassing emergency response, crisis management, and business resumption planning, in order to mitigate risk and help assure continuity of operations during different types of emergency situations.

- Some agencies reported their investment in business continuity strategies are below the best practice guidelines established by the Office of Information Technology.
- Implementation of the guidelines was impacted by the budgetary constraints.
- **Funding Constraints.** Problems across many areas of the IT environment because of the unpredictability of the IT budget.
- **Insufficient IT Staff.** The ability of the current IT staff to support traditional responsibilities along with the added responsibilities associated with the Web and expanding digital services. The combination places a severe strain on the support environment.
 - Resources to maintain and enhance agency business applications were not available to match the needs and expectations of agency staff and its customers.
 - Several agencies were forced to supplement staff with external contractors with the effect that a portion of their knowledge base of an application leaves with the expiration of each contract.
- **IT Governance.** The absence of sufficiently documented IT practices. These IT practices fall in categories across the board for IT departments including: software development life cycles, change/configuration management programs, desktop support and processes, lack of planning for disasters, lack of project management process improvement, and no IT planning process.
- **IT Skill Currency.** Lack of training on current technologies and related certifications, along with the need to address skill shortfalls across the IT staff.
 - Agencies reported a direct connection between the lack of training for their staff and the budget constraints.
- **Legacy/Submerging Technology.** The existence of legacy applications and outdated technology.
 - Retention of older technologies and platforms due to the lack of funding, therefore valuable employee assets had to be used to maintain the legacy applications.
- **Retention/Hiring Problems.** The inability to retain or hire new IT staff.
 - It is very difficult for some agencies to recruit new employees without adequate training and mentoring programs.
 - Some agencies could not compete with the salaries offered by the private sector.

- **Infrastructure.** The tools needed to perform business processes most efficiently while also providing optimal customer service.
 - Some agencies reported the need to replace several types of hardware, but unable to due to the budget constraints.
 - There are still some agencies without a website because of the lack of funding.

2.2 Comparison to Previous Biennium: IT Strengths and Weaknesses

When strengths and weaknesses were compared with those reported in the previous biennium, several similarities emerged. It should be kept in mind that in both planning periods, the strengths and weaknesses listed depend on agency self-reports. Many of the strengths and weaknesses agencies listed in FY 08-09 continued in FY 10-11.

2.2.1 IT STRENGTHS

- The agencies continue to report on the technical savvy of their business managers and staff. This has resulted in a decline for the need of IT service fees related to routine PC and database issues.
- Several agencies again listed their modern and current infrastructure as a strength. Their online tools and applications helped them improve their customer service delivery.
- IT staff stability is still considered a very important strength. Many agencies reported very low turnover rates, with IT staff having an average longevity rate in excess of 10 years.
- Technical training for IT professionals continues to be a strength because training helps retain a dedicated and high quality IT staff.
- Many agencies reported the support provided by agency Board members and managers to their IT teams as a strength. There is a strong tendency to include IT in business planning and decision-making because the agency wants to maximize the use of technical tools to the highest extent. This ultimately helps the agency provide better customer service.
- Strong cooperation and collaboration between agencies and supporting service agencies and vendors were frequently mentioned as an agency strength.

2.2.2 IT WEAKNESSES

The same weaknesses listed in FY08-09 were also mentioned in FY10-11. Infrastructure challenges are new weaknesses for FY10-11.

- Funding constraints impacting infrastructure funds was the most dominant theme among the agency weaknesses. Although not within an agency's control, this theme continues to reflect a barrier to organizational effectiveness.
- Retention/hiring problems was the second most mentioned weakness, after insufficient funding. Agencies are most concerned with their aging staff, and losing extremely valuable business knowledge with the retirement of this group of employees. Hiring replacement staff was not possible in all cases because fiscal constraints did not permit the state to compete with private sector salaries and technical training.
- Infrastructure challenges emerged as new weaknesses for FY10-11. The main challenge was the inability to replace aging equipment due to budget constraints.

3 Project Management Process Maturity Level

Part of the IT organizational self-assessment agencies completed as part of their strategic plans included the identification of the maturity level of the agency's project management process. The process maturity level indicates the degree to which the agency uses project management best practices (documented, repeatable, proven processes) to manage their projects.

By understanding its level of project management maturity, the agency can identify opportunities and develop criteria to facilitate improvements in its project management activities. Agency planners selected the level of maturity from the following choices:

- Level 1 – Ad-hoc PM processes, no PM processes are documented
- Level 2 – Ad-hoc PM processes, some are documented
- Level 3 – Manages against some documented PM processes
- Level 4 – Monitors and continuously improves PM processes
- Level 5 – Monitors and continuously improves PM processes and trains the organization on the improvements
- Level 6 – Completely follows and manages against a documented PM methodology (all processes are documented and monitored)

The higher the level, the higher the quality of planned deliverables, and the lower the overall project costs should be.

Figure S-2 displays how the agencies responded to this self-assessment of their project management process maturity. Only 28% consider their project management processes sufficient or better (response levels 4, 5 and 6), while 72% are aware there is room for improvement. In FY08-09 30% considered their project management processes sufficient or better, and 70% were aware there was room for improvement.

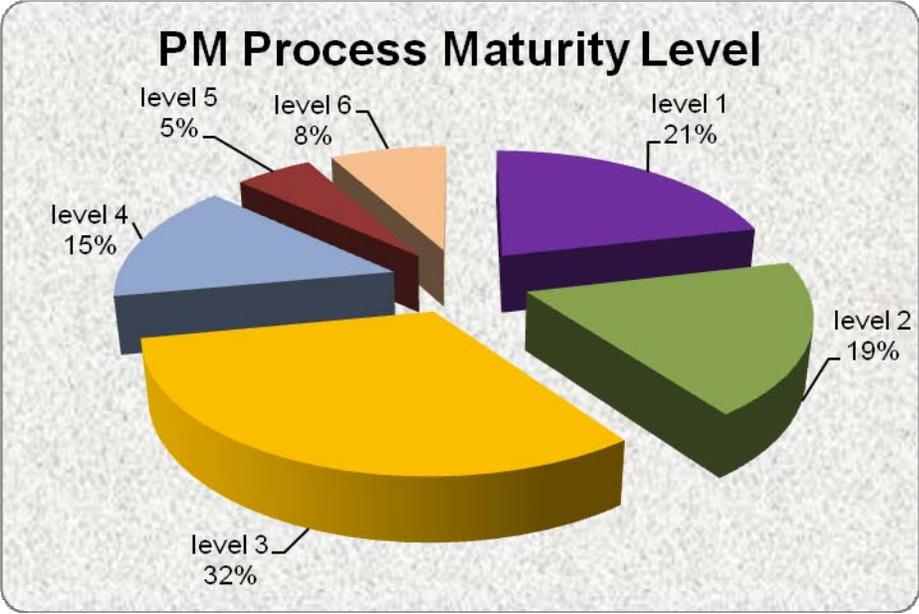


Figure S-2 Project Management Process Maturity Level

3.1 Comparison to Previous Biennium: Project Management Process Maturity Level

The project management process maturity self-assessment from the last four planning periods is available for analysis. Figure S-3 presents the data from a comparison of responses for the four periods.

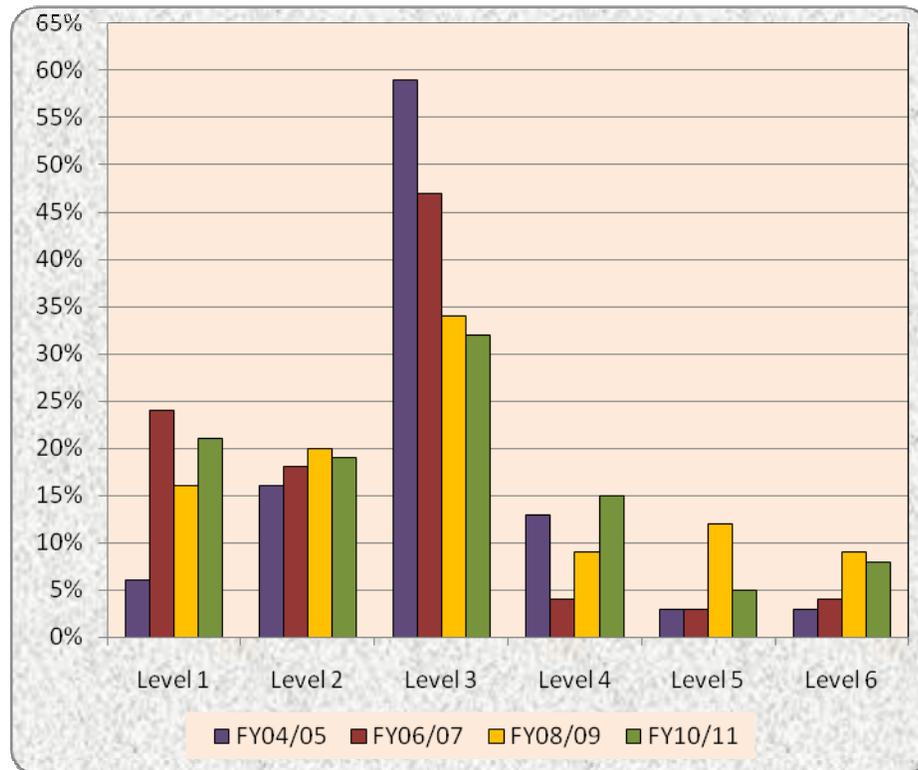


Figure S-3 Project Management Process Maturity Level Biennial Comparisons

In Figure S-3, the columns indicate the percentage of agencies at each project management process maturity level for the past four biennia.

3.2 Project Management Maturity Comments

In addition to the identification by each agency of their project management maturity level, agencies could also add a project management maturity comment. Thirty-nine agencies provided this information.

Agencies rating themselves at levels 1 and 2 mentioned:

- Lack sufficient size to require the use of Project Management techniques.

- Expected to adopt a formalized PM process and provide PM training to IT staff as time and funds become available.
- Initiated the use of a project tracking matrix and will look at sending staff to PM training.
- Participated in group planning processes under the leadership and guidance of DAS.

Agencies rating themselves at a level 3 mentioned:

- Staff is trained in PM techniques. Use of PM software, and continued growth in this direction.
- Project Management office staff works with an IT planning team regarding IT plans and projects for the tactical plan.
- Staff has received State of Ohio Project Management Certification. Will train additional staff as time and budget permits. Continue to use PM practices on projects.
- Formal, modified PM methodology has been implemented, including the adoption of standardized processes and creation of associated documentation.
- Strengthened PM processes with the help of outside consultants. Aiming to take on more of PM duties in-house.

Agencies rating themselves at levels 4, 5, and 6 mentioned:

- Updated and documented agency processes.
- Actively working to improve existing, and implement new industry PM standards.
- Working to update PM procedures and required project documentation.
- Implementing a more structured PM process, including best practices, documentation, tracking via a tool, and reporting.
- PM software recently implemented in support of effort to focus on improved project communication and resource management. Future areas will focus on the areas of change control and risk management.
- Staff trained and certified in PM processes and methodology as defined and described by OIT.

4 Consolidated Observations

The following summary of observations from this document highlights the more critical issues from the strategic perspective of agency plans. Each observation ends with a reference to the supporting section of this document.

- The number of agencies reporting security improvements increased by 30%. (1.3)
- Nine agencies reported an increase in data exchange between agencies and jurisdictions as compared to two agencies reporting this activity in the FY08-09 report. (1.3)
- Some agencies reported deferring projects from FY08/09 to FY 10/11 due to budget constraints. (1.3)
- Retention/hiring problems were the second most mentioned weakness, after insufficient funding. (2.2.2)
- Infrastructure challenges emerged as new weaknesses for FY10-11. The main challenge was the inability to replace aging equipment due to budget constraints. (2.2.2)
- Only 28% consider their project management processes sufficient or better (response levels 4, 5 and 6), while 72% are aware there is room for improvement. In FY08-09 30% considered their project management processes sufficient or better, and 70% were aware there was room for improvement. (Figure S-2)

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