



Maricopa County

Internal Audit Department

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From: Ross L. Tate, County Auditor 

Subject: Countywide Information Technology (IT) Governance Review

Date: June 11, 2009

We have completed the Countywide IT Governance review in accordance with our approved audit plan. The scope of our review included current County IT governance policies and initiatives. Our objective was to determine how the County employs IT governance and make recommendations for improvement.

Effective IT governance can save millions of dollars and ensure that IT solutions successfully meet critical business needs and customer services. Ineffective IT governance can result in costly failed IT projects and poor IT investments. Maricopa County's current IT governance is weak. In order to strengthen the County's IT governance, the Office of Enterprise Technology (OET) has proposed a new County IT governance model. While the new model is in its early stages, Internal Audit recommends some best practices to enhance current efforts.

What is IT Governance?

IT governance is how management formally decides to employ Information Technology (IT) in supervising, monitoring, and directing their organization. If this decision-making is not formalized, IT governance is deemed weak. IT governance is vital to overall enterprise governance. IT investment is no longer limited to implementing piecemeal IT solutions; it is viewed as implementing IT-enabled organizational change. IT governance can ensure that IT performance creates real value, manages IT-related risks, and optimizes resources.

Effective governance requires that the Chief Information Officer (CIO) collaborate with an organization's executive business leaders. If a CIO has the sole responsibility for creating, approving, prioritizing, and executing IT related plans, other key stakeholders are excluded and the risk of IT failures increases. IT decisions must be guided by broad-based business knowledge, not just technology expertise.

"There is no silver-bullet technology that fits any budget and unfailingly pays back the investment. The key to getting value from technology investments is IT governance."¹

¹ Shayne Kavanagh and David Melbye, *Shrewd Investing in IT Assets through IT Governance*, Government Finance Review, February 2009, published by Government Finance Officers Associations (GFOA). Expanded excerpts from this article are included in Appendix B at the end of this memo.

Why is IT Governance Important?

IT spending can rise quickly as technology embeds itself in every business process. IT investments include hardware, software, maintenance, human resources (adequate staffing, training, and retention), and security. To maximize IT investment value and minimize risk, an organization should involve organization-wide stakeholders in decision-making and accountability. IT governance can increase the likelihood of positive, effective, cost-beneficial outcomes, and help entities achieve their desired benefits.

The MIT Sloan School of Management, Center for Information Systems Research found that private firms with superior IT governance performance generate up to 40 percent higher returns on investment (ROI).¹ The Research Center's findings suggest that strengthening County IT governance could generate \$1 million more in ROI each year, even if only applying a conservative 10% higher ROI. Definitive calculations are difficult since County IT investment data is decentralized and is not easily available. Our 2007 Systems Development review found that "County leadership lacks the means to accurately track and review County IT projects and, therefore, is not able to monitor Countywide IT spending effectively." A recent review compiled the County's total IT expenditure information as shown in the chart below.

| Fiscal Year | Total County IT Expenditures |
|-------------|------------------------------|
| FY2006 | \$65,026,428 |
| FY2007 | \$76,192,087 |
| FY2008 | \$81,587,745 |

SOURCE: Internal Audit's 2009 Countywide Data Center and Disaster Recovery Plan Review

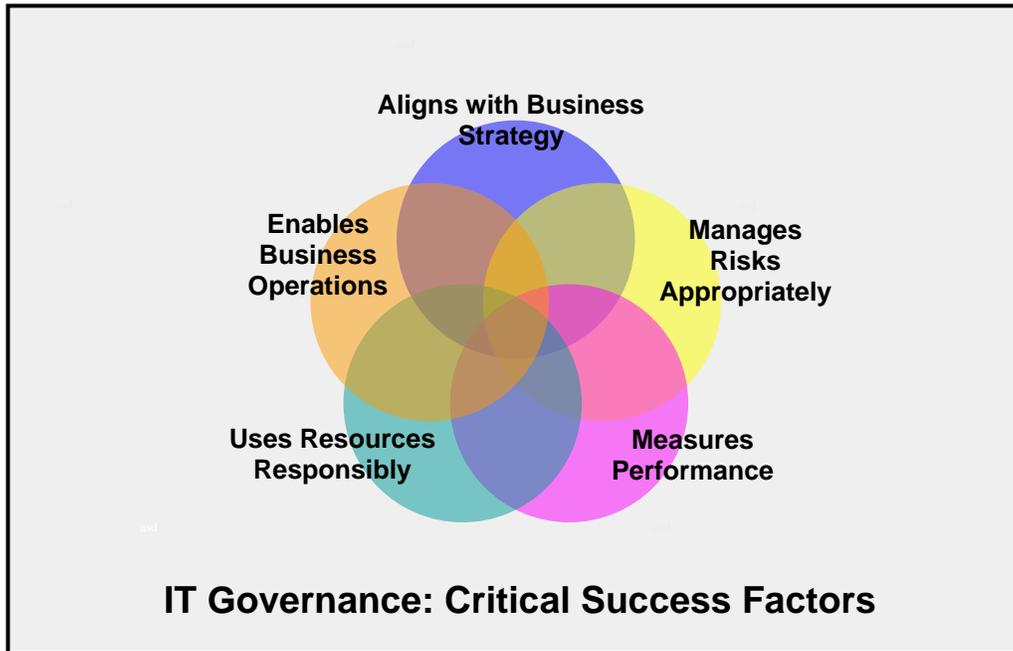
Weak IT governance is costly. Gartner Group² concluded that a recent State of Florida IT project failed due to a lack of IT governance that provides discipline, executive guidance, and decision-making.³ Florida recently suspended work on a 3-year, \$100 million IT project, declaring it an expensive failure. Florida hired a private firm for \$89 million to develop a streamlined accounting system, but ended up using its 25-year-old system.

IT Governance Best Practices

The IT Governance Institute helps business leaders understand their responsibility in managing IT. The Institute established a generally accepted IT control framework called COBIT, or, Control Objectives for Information and Related Technology. COBIT identifies critical success factors for implementing an IT governance structure, shown on the next page.

² Gartner Group is a well-recognized information technology research and advisory company

³ Steve Bousquet, *\$89M down the state drain* (May 18, 2007).



Gartner Group recommends COBIT because it:

“...better aligns with good and best practices in the management of IT and so increases the possibility that its use will result in a better-managed IT environment and, specifically, improve risk management. Therefore, we continue to recommend that enterprises use it to challenge their established IT governance procedures and to improve the controls they have in place.”

The Government Finance Officers’ Association (GFOA)⁴ identifies critical IT governance design features, such as ensuring joint decision-making between IT and business professionals and using explicit criteria to evaluate IT governance performance. (See Appendix B.)

Maricopa County IT Governance is Weak

During our review, we found that Maricopa County’s IT governance structure is weak, having outdated and incomplete IT governance policies. Weak IT governance can result in IT plans not aligning with the County’s business plan. It also leads to poor decisions, inadequate cost determinations, uncontrolled expenditures, failed or subpar systems, weak or nonexistent performance measures, and noncompliance with laws or regulations. The Office of Enterprise Technology (OET), in order to strengthen IT governance, has proposed a new Maricopa County IT governance model. While the new model is in its early stages, Internal Audit recommends several best practices to enhance current efforts.

⁴ Government Finance Officers Association (GFOA) recommends leading financial management practices for governments and their citizens. Maricopa County’s Finance Department and Office of Management and Budget follow best practices in government budgeting and financial planning as recommended by GFOA.

County IT Governance Policy Is Outdated

County policy A1601, Information Technology Governance, has several deficiencies. It does not address critical factors that authoritative sources cite as key to IT governance success such as prioritizing projects, managing IT risk, aligning business and IT objectives, and identifying performance measures.

The policy, issued in 1999 and updated in 2001 prior to the current CIO administration, established an Electronic Government Council as the “highest level IT governing body.” The Council met regularly for a time but was discontinued several years ago. The Council was chaired by the County Manager and was composed of elected officials, senior management, external representatives, and other key leaders.

The lack of an effective updated IT governance policy was noted. During audit interviews, several department IT managers expressed their need for updated, clear IT governance policies and standards to guide them in their business/IT decisions. The County CIO reports a new policy was drafted and is waiting approval by top County management.

IT Governance Meetings Do Not Address Key Governance Issues

The Office of Enterprise Technology (OET) holds monthly “IT Governance” meetings. However, governance, in its true sense, is not the purpose of the meetings. Little or no discussion of prioritizing projects or alignment of business and IT objectives occurs. Attendees are predominantly IT employees; there is scant representation from business leadership. The meetings include vendor demonstrations, current project idea sharing, and OET initiative updates.

Proposed IT Governance Model Still Pending

OET, recognizing the need for stronger County IT governance, is proposing a County IT Governance Model. Overall, the proposed model appears to have a sound framework including many best practices; however, most are not yet implemented and an implementation date is not scheduled. The CIO shared the model with several County IT leaders and with County leadership in general at a management team meeting (February 2009). Using feedback, the CIO plans to revise the model and present it to the County Manager for approval.

Gov't Finance Officers
Association Article:

“IT governance does not occur spontaneously; rather, it is designed and implemented consciously.

IT governance establishes... accountability.”

After the model’s approval, OET will form committees comprised of County leadership (IT and business), industry experts, vendors, and professors to develop IT governance policies, procedures, and standards. The committees will prioritize IT investments and funding, review critical projects, and give input on project methodologies, key architecture, and project control. The proposed model is intended to ensure that IT and business strategies align and IT resources are used efficiently. It should also improve IT-related business decisions, investments, and performance measurement. An evaluation summary of the model is included in Appendix A.

CTS Has Implemented IT Governance Plan

Court Technology Services (CTS) has already implemented its own IT governance plan to use with agencies it supports (Superior Court, Adult Probation, Juvenile Court, Juvenile Probation, Justice Courts, and Law Library). CTS' plan is based on the COBIT framework. CTS credits its IT governance plan for:

- Enhancing communication between IT and business functions
- Focusing efforts on high priority projects
- Improving project documentation
- Reducing interruptions and delays
- Improving management of customer expectations

Recommendations

The Office of Enterprise Technology (OET) should:

- A. Expedite issuing its proposed updated IT governance policies. Policies should address:
 - Ownership of IT governance
 - Alignment of IT strategy with County business strategy
 - Management of IT risks, resources, and performance measures
- B. Ensure the following best practices are part of its proposed IT governance Model:
 - IT investments align with County objectives and goals, and IT projects align with business values
 - IT risks and resources are properly identified and managed
 - IT performance is measured and reported

Audit Standards

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

We reviewed this report with OET management and have attached their response. If you have any questions or wish to discuss the information presented in this memo, please contact me or Eve Murillo at 506-7245.

C: David Smith, County Manager
Sandi Wilson, Deputy County Manager
Stephen Wetzel, Chief Information Officer, Office of Enterprise Technology

APPENDIX A

Maricopa County IT Governance

| Best Practice Goal ⁵ | Proposed IT Governance Model | Following Best Practices? |
|---|---|---|
| IT Strategic Alignment: Ensure Business Goals Drive IT Goals | Proposed model identifies strategic alignment best practices. | Too early to determine. Proposed model not approved or implemented. County CIO to submit model to the County Manager in April 2009. Implementation date not scheduled. |
| IT Value Delivery: Ensure IT Enables Business Operations, Maximizes Benefits, and Links IT Value with Business Values | Proposed model identifies value delivery best practices. Proposed committee charters include updating or replacing current County Policy A1601 with appropriate policies, procedures, and standards. | Too early to determine. Proposed model not approved or implemented. County CIO acknowledges policy A1601 should be updated or replaced; a revised policy was submitted to the County Manager for approval. Implementation date not scheduled. |
| IT Risk Management: Manage IT Risks Appropriately | Risk management practices are to be addressed by proposed model committees. The model's anticipated risk management benefits: <ul style="list-style-type: none"> • Establish a county-wide disaster recovery and continuity plan • Enable unified information security strategy and management control. | Too early to determine. Model not approved or implemented. Office of Enterprise Technology (OET) is currently working on a countywide disaster recovery plan. Implementation date not scheduled. |
| IT Resource Management: Establish IT Abilities Required for Business Needs and Use Resources Responsibly | Resource management practices are to be addressed by proposed model committees. IT governance anticipated resource management benefits include better tracking of IT funding and expenditures. | Too early to determine. Model not approved or implemented. Implementation date not scheduled. |
| IT Performance Measurement: Evaluate Effectiveness of IT Governance | Performance measures are to be identified by proposed model's committees. | No, as of March 2009 measures are not included in the model. Implementation date not scheduled. |

⁵ Best Practice Goals based on COBIT, as issued by the IT Governance Institute.

APPENDIX B

Excerpts from: "Shrewd Investing in IT Assets through IT Governance"⁶

Government Finance Review, February 2009, Government Finance Officers Association

The key to achieving value from technology investments is IT governance. It defines how planning, investment, and prioritization decisions will be made and who will make them. It establishes the accountability framework needed to encourage desirable behavior in the use of IT. It helps an organization maximize its IT investments value by engaging stakeholders from across the organization in the decision-making and accountability processes around IT assets.

A robust governance structure:

- Creates consensus on technology investments broader, strategic business objectives
- Identifies the criteria for evaluating technology investments
- Directs spending toward the highest priority areas
- Evaluates technology spending results and providing accountability for those results
- Realizes economies of scale and synergies from IT spending across the organization

Successful governance does not occur spontaneously; rather it is designed and implemented consciously. Critical design features characteristic of good governance include:

1. **Joint Decision Making** – between IT and business professionals.
2. **Involvement of Top Decision Makers** – such as the CEO, CIO, and CFO to legitimize and provide momentum for the governance structure.
3. **Standard Evaluation Method** – includes explicitly defined criteria decision makers use to evaluate projects based on a number of factors, not simply cost and resources. Other factors include: policy mandates, integration with other projects, or the ability to provide long-term support.
4. **Screen for Technical Considerations** – screen proposed projects for technical considerations and to identify possible synergies. Especially valuable in organizations that tend toward decentralization in IT decision making, since they have greater potential for duplicative or overlapping investments.
5. **Formal Business Case Made** – for all projects. Describes the rationale for the project, including anticipated costs and benefits. It's the reminder of project goals during implementation and the basis for evaluating results at the project completion.
6. **Partnership with the Finance Office** – this partnership allows for more effective funding to the most valuable projects rather than allocating technology spending without regard to the potential payback of the proposed project portfolio.
7. **IT Strategic Plan** – identifies the most important business goals of the government, along with opportunities for using technology to help achieve those goals. IT strategic plans typically cover time periods from 18 months to five years and include both infrastructure and business application investments.

⁶ Shayne Kavanagh and David Melbye, *Shrewd Investing in IT Assets through IT Governance*, Government Finance Review, February 2009, published by Government Finance Officers Association (GFOA).

Additional excerpts regarding IT Governance

Why IT Governance is Necessary

Standish Group, an information technology leader in identifying future trends prepares an annual CHAOS report based on defined key findings from research surveys and personal interviews. The 2009 CHAOS report results are listed below.

IT projects:

- 32% are succeeding (delivered on time, on budget, with required features and functionality)
- 44% were late, over budget, and/or with less than required features and functions
- 24% failed—cancelled prior to completion or delivery and never used
- This year’s results represent the highest failure rate in over a decade

IT Governance Success

Following are examples of companies that have used IT governance to improve return on their IT investment and achieve more value from IT.

State Street is a world financial services leader, with 22,000 employees in 22 countries serving clients in 100 markets. State Street implemented an IT governance structure to encourage desirable behaviors. For example, project managers state that a review process helped deliver solutions quicker because technology issues surfaced before they negatively impacted projects. The IT governance structure enabled consolidation of the IT infrastructure, resulting in significant cost savings and cost avoidance.⁸

Mass. Institute of
Technology (MIT) Research:

“Companies with strong IT governance perform 25 percent better than those without it.”⁷

UNICEF instituted a centralized approach to IT governance. The CIO established a governance structure enabling IT to work with other managers to establish priorities and act on decisions. IT governance transformed the way UNICEF operates and has improved global knowledge, information flow, transparency and communication.⁹

ING DIRECT implemented an IT governance structure that enabled its eight country-based businesses to act autonomously while sharing a common, “standardized” business model. This model standardized applications and achieved a universally compatible architecture.¹⁰

⁷ Peter Weill and Jeanne W. Ross. *IT Governance: How Top Performers Manage IT Decision Rights for Superior Results*. Harvard Business School Press, 2004.

⁸ Peter Weill and Jeanne W. Ross. “Don’t Just Lead, Govern: How Top-Performing Firms Govern IT.” MIT’s *CISR Research*, March 2004.

⁹ Peter Weill and Jeanne W. Ross. “IT Governance on One Page.” MIT’s *CISR Research*, November, 2004.

¹⁰ Peter Weill and Jeanne W. Ross. “IT Governance on One Page.” MIT’s *CISR Research*, November, 2004.

Oakland County, Michigan views technology as a strategic initiative, versus just a provider. IT Governance efforts have saved the county significant money in numerous ways. Efforts have changed their ability to satisfy the needs of their customers, while keeping their process very transparent. This transparency lets the county executive and board of commissioners say yes to new projects with greater confidence.¹¹

How To: IT Governance

IT governance is not a plug-and-play application. It is a journey requiring executive commitment, continuous improvement, effective process management and organizational buy-in. The following are top-line “must haves” for any organization considering IT governance.¹²

Executive Sponsorship: Vision and Enablement. IT governance is driven from the top down by leadership that can provide vision, articulate its benefits to solicit participation, engage the business and overcome roadblocks. Leaders need the courage and fortitude to venture into the unknown and learn as you go. This can start with the CIO, so long as the CIO has a “seat” at the business management table and is already in a role of strategic influence.

Business Participation. When done well, IT aligns with the business, bringing value. Conversely, if IT tries to drive decisions without business involvement, it will only lead to misunderstanding and potential mistrust.

Business Process Initiative. IT governance processes must first be identified and designed. Implementing the process involves a change initiative requiring significant communications and training. Then the process must be managed: identify and assign roles; drive the process management lifecycle; ensure process execution; monitor and measure results; and respond to the data.

Infrastructure for Fact-Based Information. Ultimately, supporting all this should be the technology providing you with valid, timely data.

IT Governance and Return on Investment (ROI)

IT governance is both the holy grail and wholly possible, but it’s not something that can be implemented overnight or with one “magic bullet” solution. Instead, it takes a structured and targeted approach that when followed correctly leads to measurable benefits. Studies show that companies with effective IT governance in place achieve an additional 40 percent return on their IT investment over companies that are flying blind. IT governance leads to this increased ROI by:

- Clarifying the organization’s business strategy and ensuring that IT spending is mapped back to achieving these objectives.
- Ensuring the right people are included in a business decision.

New York City CIO:
“There’s nothing worse than having IT governance not in line with corporate governance.”¹³

¹¹ Phil Bertolini, Deputy County Executive and CIO, Oakland County, Michigan

¹² Steven Romero. “IT Governance: The Holy Grail or Wholly Possible?” Information Management Magazine, March 2008.

¹³ Jane Landon, CIO and Deputy Commissioner of Finance, city of New York.

- Providing an infrastructure that allows the IT department to learn from previous efforts and ensure data is chronicled to help inform future decisions.
- Improving process, monitoring and measuring so that the necessary adjustments can be made to ensure the success of future efforts.
- Allowing organizations to respond quickly to possible process changes or if the needs of a project suddenly change.
- Freeing up the CIO to focus more on leveraging technology for strategic advantage rather than having to “keep the lights on.”

Other Excerpts

IT Governance is more crucial than ever during an economic recession. Governance is a critical component of doing more with less. Particularly under financial duress, IT organizations—and the companies they work for—must establish cohesive IT governance processes and procedures that clearly spell out how IT decisions are made and how IT can benefit the business as a whole.¹⁴

Increasing risks in and expectations of IT in recent years—the growth of the Internet, compliance concerns, mobile computing and advanced security risks—are reasons for the critical need for IT governance.¹⁵

¹⁴ Rachel Lebeaux. “IT governance, corporate governance must align in economic recession.” SearchCIO.com, March 2009.

¹⁵ Craig Crawford, Senior Manager of Advisory Services, Ernst & Young LLP.

Department Response

COUNTYWIDE INFORMATION TECHNOLOGY GOVERNANCE AUDIT RESPONSE
OFFICE OF ENTERPRISE TECHNOLOGY June 2, 2009

Issue #1:

Maricopa County's Information Technology (IT) governance is weak, having outdated and incomplete policies. Weak IT governance can result in IT plans not aligning with the County's business plan. It also leads to poor decisions, inadequate cost determinations, uncontrolled expenditures, failed or subpar systems, weak or nonexistent performance measurement, and noncompliance with laws or regulations. The County CIO reports a new policy has been drafted and is waiting approval by top County management.

Recommendation A: Expedite issuing its proposed updated IT governance policies. Policies should address:

- Ownership of IT governance
- Alignment of IT strategy with County business strategy
- Management of IT risks, resources, and performance measures

Response: Concur – In Process. OET will expedite the issuance of new IT governance policies.

Target Completion Date: 10/31/2009

Benefits/Costs: Increased control and accountability over IT projects and expenditures.

Recommendation B: Ensure the following best practices are part of its proposed IT governance Model:

- IT investments align with County objectives and goals, and IT projects align with business values
- IT risks and resources are properly identified and managed
- IT performance is measured and reported

Response: Concur – In Process. OET will ensure best practices are followed during design, implementation, and execution of the new governance model.

Target Completion Date: 12/31/2009

Benefits/Costs: Improved processes to measure IT performance, identify IT risk and resources, and align County objectives and goals with IT investment and projects.

Approved By : Stephen L. Wetzel 6/2/09
Department Head/Elected Official Date

Sandra L. Win 6-9-09
Deputy County Manager Date

D.R. Smith 6/9/09
County Manager Date