MIS Operational Audit:

An Evaluation of Jefferson County's Management Information Systems

February, 2009

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Executive Summary

Introduction

GFOA has been retained by Jefferson County to complete an operational audit of the Management Information Systems (MIS) function. In conducting our work, we looked at information technology from multiple perspectives:

- Organizational Structure
- Planning and Communications
- Technical Competencies
- Software Applications
- Security and Controls Environment
- System and Integration Capabilities

To gather data for each area, we first issued an online survey to gauge overall strengths and weaknesses within MIS from a user perspective. Detailed discussions of specific concerns were held with departmentally-based focus groups and individual interviews were held with selected staff as well. GFOA conducted a findings validation workshop with key stakeholders in January to gain consensus on our observations. At the same time, GFOA conducted market research to benchmark certain MIS parameters from other Wisconsin counties.

These steps resulted in a series of recommendations which are discussed below. These recommendations were presented in a workshop with the MIS Operational Audit team, made up of key stakeholders from various departments around the County. That workshop refined the recommendations further and was also used to define priorities.

Overall Assessment

The MIS function at Jefferson County faces many of the same issues as similar jurisdictions around the country. In general, staff are competent and users have the tools they need to do their jobs, but there are areas where even small changes can bring significant improvement in operational performance.

As with most organizations, MIS at Jefferson County is almost entirely reactive, with little formal planning or forecasting conducted. While major hardware purchases are planned in advance, specific user-defined issues or projects are dealt with as they arise. Additionally, users expressed an interest in providing more input on how and when MIS resources are allocated. These and other concerns point to a strong need for more alignment between MIS and County departments from a business (as opposed to purely technical) perspective, and many of GFOA's recommendations were developed accordingly.

Related to the issue of reactivity, the MIS departmental staff are typically not focused on providing solutions, but rather on executing specific tasks. While this isn't always a problem, there have been cases where significant business disruption occurred that could have been easily avoided (the Vista rollout is the prime example, but there are others).

Task orientation also results in two other issues. First, users report inconsistency in service levels, largely depending on which MIS staff person (or which of the two MIS departments) is involved in resolving an issue. Second, because of the narrow focus of their work, MIS staff do not exhibit the creativity and innovation required to meet a business need with technology. Again, several of GFOA's recommendations address these concerns.

Recommendations

The recommendations below are intended to address our findings through the data gathering and current state analysis phases of the audit. Some will require board action to implement, while others are administrative or operational in nature and can be implemented at the County's discretion. Additionally, some of these recommendations involve expending funds for items such as training.

RECOMMENDATIONS BY CATEGORY:

	ORGANIZATIONAL STRUCTURE
1.1	Combine the two groups into a single department with a single manager.
1.2	Perform a cost/benefit analysis on outsourcing the desktop and network support function. Optionally, the County can consider outsourcing the entire MIS department, but we doubt that this will be feasible operationally.
1.3	Implement a help desk structure to centralize and standardize customer service. Include an escalation process to ensure more timely resolution of issues.
1.4	Establish an MIS advisory committee, comprised of key department directors, to improve communications and alignment between MIS and County departments.
1.5	Invest in physical plant improvements for the MIS building (minor structural items such as doors and windows, security system, and plumbing repairs to reduce risk from flooding).
	PLANNING AND COMMUNICATIONS
2.1	Develop an MIS strategic plan that enables better alignment between user needs and MIS resources and establishes long term goals and priorities for MIS and the County's technology structure as a whole.
2.2	Provide more transparency into MIS resource allocation and project planning and ensure that resources are allocated based on business priority. This will enable users to understand staffing constraints within

	MIS.
2.3	Develop service-level agreements with departments to set expectations for various types of work requests. In conjunction with recommendation 1.3, this would ensure that users fully understand when their issues or projects will be worked on and would enable MIS to prioritize work.
2.4	Formalize the process for budget, technology, and project requests from users.
	TECHNICAL COMPETENCIES
3.1	Invest in project management training for MIS staff.
3.2	Develop systems and business analysis skills in current staff or create new positions to respond to this need.
3.3	Provide increased training for MIS personnel in desktop applications.
3.4	Provide training for MIS personnel on network administration.
3.5	Develop a formal program for end user training that includes basic, intermediate, and advanced levels. If MIS staff cannot conduct those classes, contract with a local firm for those services.
3.6	Provide cross-training opportunities for all MIS staff.
	SOFTWARE APPLICATIONS
4.1	Develop a long-range plan for upgrades/support of GIS, JD Edwards, and other enterprise applications. This can be part of a larger MIS strategic plan.
4.2	Develop website policy that describes how and when departmental content is updated.
4.3	If departments update their own web content, provide tools and training to enable them to do so.
	SECURITY AND CONTROLS
5.1	Develop internal procedures for controlling and monitoring access to user PCs by MIS staff.
5.2	Update existing security and usage policies for all IT equipment, software, and services.
5.3	Review policies to ensure alignment with departmental operating procedures and goals.
	SYSTEM AND INTEGRATION CAPABILITIES
6.1	Assess and prioritize the need for business intelligence applications or data warehousing.
6.2	Ensure that future software selection efforts include an assessment of integration ability.

GFOA's methodology allows the key stakeholders to not only assist in reviewing recommendations, but in increasing their ownership of the outcomes through a prioritization exercise. The following table presents the same recommendations, but in order of importance as described by the MIS Operational Audit committee:

RECOMMENDATIONS IN PRIORITY ORDER (As defined by key stakeholders):

	HIGH PRIORITY
2.2	Provide more transparency into MIS resource allocation and project planning, and ensure that resources are allocated based on business priority. This will enable users to understand staffing constraints within MIS.
2.3	Develop service-level agreements with departments to set expectations for various types of work requests. In conjunction with recommendation 1.3, this would ensure that users fully understand when their issues or projects will be worked on and would enable MIS to prioritize work.
3.4	Provide training for MIS personnel on network administration.
3.5	Develop a formal program for end user training that includes basic, intermediate, and advanced levels. If MIS staff cannot conduct those classes, contract with a local firm for those services.
3.6	Provide cross-training opportunities for all MIS staff.
4.1	Develop a long-range plan for upgrades/support of GIS, JD Edwards, and other enterprise applications. This can be part of a larger MIS strategic plan.
4.2	Develop website policy that describes how and when departmental content is updated.
4.3	If departments update their own web content, provide tools and training to enable them to do so.
5.1	Develop internal procedures for controlling and monitoring access to user PCs by MIS staff.
5.2	Update existing security and usage policies for all IT equipment, software, and services.
	MEDIUM PRIORITY
1.1	Combine the two groups into a single department with a single manager
1.2	Perform a cost/benefit analysis on outsourcing the desktop and network support function. Optionally, the County can consider outsourcing the entire MIS department, but we doubt that this will be feasible operationally.
1.3	Implement a help desk structure to centralize and standardize customer service. Include an escalation process to ensure more timely resolution of issues.

2.1	Develop an MIS strategic plan that enables better alignment between user needs and MIS resources and establishes long term goals and priorities for MIS and the County's technology structure as a whole.
3.1	Invest in project management training for MIS staff.
3.2	Develop systems and business analysis skills in current staff or create new positions to respond to this need.
3.3	Provide increased training for MIS personnel in desktop applications.
	LOW PRIORITY
1.4	Establish an MIS advisory committee, comprised of key department directors, to improve communications and alignment between MIS and County departments.
1.5	Invest in physical plant improvements for the MIS building (minor structural items such as doors and windows, security system, and plumbing repairs to reduce risk from flooding).
2.4	Formalize the process for budget, technology, and project requests from users.
5.3	Review policies to ensure alignment with departmental operating procedures and goals.
6.1	Assess and prioritize the need for business intelligence applications or data warehousing.
6.2	Ensure that future software selection efforts include an assessment of integration ability.

The key stakeholder group tended to give higher priority status to those recommendations that had a more direct and immediate impact to users, while operational, management, and communication concerns were considered of medium priority. In GFOA's experience, this is not unusual, but the reader should keep in mind that County leadership may have a different view of these priorities.

Market Research

GFOA interviewed eight Wisconsin counties to understand their solutions to some of the issues that were raised in our assessment. Detailed results from this research are presented in Appendix B.

Conclusion

Based on the results of the survey, focus groups, and interviews, it is clear that while day-to-day user needs for technology and service are being met, there is a strong need to improve the alignment between MIS and other departments. There are several steps needed to accomplish this, most of them focused on restructuring the department,

improving communications, and formalizing decision making processes based on business priorities.

Within the MIS department, there is considerable focus on technical skill, whether as a desktop support specialist or as a programmer. As a result, there is very little focus finding business-appropriate solutions with a strong customer service perspective. Many of the training and alignment recommendations are intended to address this area.

If the County chooses to implement these recommendations, it should expect to see improvement in user satisfaction rates and efficient allocation of resources almost immediately. Clearly, the impact of training and organizational changes will take longer to realize, but once complete, should again provide a leap forward for MIS and the County.

Chapter 1 Scope and Methodology

Introduction

This chapter outlines GFOA's approach to the data gathering and analysis steps required to conduct the MIS Operational Audit and develop our recommendations.

Overview

By its nature, an operational audit requires significant input from diverse groups of employees. To gather this data, GFOA performed the following steps:

1) Online survey – All employees were invited to complete an online survey to provide an initial view of the MIS function. Survey results are provided in Appendix A.
2) Focus Groups – Several departments participated in facilitated discussions about specific issues from the survey results, as well as broader topics about MIS and information technology in general.
3) Interviews – Some department heads, MIS liaisons, and others requested one-on-one interviews to share their concerns and ideas regarding the MIS function at the County.
4) Executive Interview – Gary Petre, the County Administrator, was interviewed at the project kickoff and again at the end of the data gathering phase to gain insights into executive level concerns and goals as well as the desired future state of MIS.
5) Site visits – MIS management provided a tour of the MIS building and infrastructure sites to assess the overall physical plant for MIS operations.

Concurrently with our on-site work, GFOA conducted market research, surveying eight other Wisconsin counties about their MIS organizations, staffing, planning, and technology platforms. This market research provided us with a comparative baseline as we developed our recommendations. Detailed results from the research are presented in Appendix B.

Once all the data had been collected and consolidated, the results were documented in presentation format. Key stakeholders from the data gathering stage were brought together to review the presentation and provide feedback on the analysis. This validation meeting was intended to ensure that the GFOA auditors correctly heard staff concerns and ideas and to ensure that no major concerns or ideas were missed.

With the validation completed, recommendations were developed to address the particular findings. To provide some structure, both the findings and recommendations were aligned with the categories that GFOA uses for its MIS Strategic Planning practice. Those categories are:

1) Organization Structure
2) Planning and Communications
3) Technical Competency
4) Application Environment
5) Security and Controls
6) System and Integration Capabilities

As with the initial findings, the recommendations were then discussed in a workshop format. The workshop is used to generate a higher degree of acceptance and ownership of the recommendations, which should ensure a higher degree of success upon implementation.

This report captures the results of each stage of the project but is especially focused on recommendations.

Phase I - Data Gathering

Online Survey

This phase of the project began in November, 2008, with a kickoff meeting conducted with the MIS group and Administration, outlining the project plan, approach, and logistics. Following this meeting, GFOA finalized an online survey instrument that was eventually provided to all employees.

287 County employees and board members responded to the survey, a response rate of over 50% of full-time staff. This is very high response rate and provided the audit team with a good view of the MIS function from a user perspective. Respondents were allowed to remain anonymous, although some demographic data was captured relative to position and years of service in order to better classify the results (Appendix A contains the detailed survey results).

The survey was intended to gather information about the degree to which MIS services are used and how effectively they are provided. Only 17% of the respondents indicated frequent usage of MIS services, with “frequent” defined as one contact with MIS per week or more. Six percent of the respondents reported daily contact with MIS.

Respondents were asked to evaluate the MIS department in terms of timeliness, efficiency, effectiveness and technical skill, and professionalism. Responses followed a bell-shaped curve with few responses of excellent or poor, and the remainder in a relatively even distribution between fair and good. The same held true when respondents were asked about services such as training, technical advice, and planning.

The rest of the survey focused on perceptions of how well the MIS department serves overall County needs, as opposed to individual or departmental needs. Again, the results followed a basic bell-curve shape, although a significantly higher proportion of

responses were in the 'strongly agree' category as opposed to 'strongly disagree.' Overall, few respondents (less than twenty percent) disagreed with statements such as "the County makes a sufficient investment in technology" or "the MIS Department keeps the County up to date with technology."

Each respondent was allowed to provide comments as well. Here, the audit team found additional information that proved critical in preparing for the focus groups and interviews.

We noted that many comments suggested that having separate surveys for the two MIS groups would have been more informative. Respondents were generally more positive about the application programming group, although they do not field nearly as many customer service calls as the network and desktop group, and to a certain extent that result was expected. A more detailed analysis of this topic is presented in the next chapter.

Focus Groups

Facilitated sessions were held in late November with the following groups:

- Administration, HR, and Finance
- Department Heads
- Sherriff and Emergency Management
- Human Services
- Countryside Home and the Health Department
- Land Information, Land and Water Conservation, and Zoning and Planning
- Highway, Parks, Fair Park, UW Extension, and Child Support

In total, 87 people were invited to attend the focus group sessions. Actual attendance was slightly lower, with about 60 participants.

The primary goal of the facilitated focus group discussions was to explore in more detail the systems and services that MIS provides to each group. Participants were asked about particular software and hardware platforms and the quality of the support that MIS provides for their technology needs. Discussion questions included the topics of planning and budgeting, project planning and communications, and training and support. Finally, each group was asked to respond and provide input to potential future state items such as the benefits and risks of a combined department, the need for a help desk or other centralized support structure, the potential impact of third party training providers, and other topics.

Each group was very forthcoming with both concerns and ideas, and these were noted for later analysis. Participants were also asked to provide specific examples of their concerns in an effort to understand the operational impact and degree of severity of their issues. In addition to discussing problems, the groups also highlighted areas where they think MIS is doing well.

One-on-One Interviews

Five one-on-one interviews were conducted, following the same format as the focus groups. Three of these were required due to scheduling conflicts, and two were follow-up discussions. The intent of the follow-up discussions was to uncover further details about particular responses from the focus group sessions. Again, those results are presented in the next chapter.

Executive Interviews

County Administrator Gary Petre was interviewed in a slightly different format to gain not only his perspective on some of the issues raised during the focus group meetings but also to understand the long-term vision and desired future state of the MIS function at the County. In this discussion, we explored the overall value of MIS, alternative IT governance structures, communications, and alternative service delivery models.

Site Visits

In one of the executive interviews, GFOA was asked to investigate and provide recommendations regarding overall infrastructure and the physical plant, or MIS Building. A site visit was conducted in early December to complete this request.

The training room in the basement of the courthouse building was assessed first, focusing on accessibility, appropriateness of the space, technology, and room setup and use. Afterwards, GFOA was given a tour of the MIS building, and the two MIS managers were asked about the pros and cons of the current physical space, with a focus on the overall appropriateness of the workspace. Renovation and maintenance projects were also discussed, as well as concerns about storage, security, and ADA and OSHA compliance. Finally, we discussed what would be involved in moving to a different location and the perceived benefits/costs of such a move.

After touring the MIS building, GFOA was also given a brief tour of the data centers in the courthouse building and at the UW Extension. Again, we discussed operational and physical plant concerns and ideas for the future use of the space.

Phase II – Analysis

GFOA's analysis of the results of Phase I included two distinct steps. First, data was consolidated into specific findings that are presented in chapter three of this report. Second, market research was conducted to develop a baseline to contrast Jefferson County's MIS function with other comparable Wisconsin jurisdictions.

Market Research

GFOA interviewed eight Wisconsin County IT Directors about their MIS operations, focusing on organization, scope of operations and services, staffing, budget, technology, training, support, and planning. A summary of the results is included below. Detailed results of the research are presented in Appendix B.

Summary of Market Research Findings	
IT Topic Area	**Summary / Comments**
Number in IT Department and Skills	Department size ranges from six to 14 employees, except for Rock County, which is a larger county with 22 IT staff (note that Douglas County essentially combines its three staff members with three staff members from the City of Superior's IT Department). Skills and roles of the full staff vary, but all counties have one department head and a network administrator. In some cases, GIS specialists are a part of IT. The number of staff dedicated to help desk support ranges from zero to three.
Organization of IT Department	All of the IT Departments are centralized, but in most cases, large user departments or departments at remote locations have their own IT specialists or liaisons to the IT Department. This reduces the number of points of contact with IT. Reporting hierarchies differ slightly, but most of the County IT Directors report directly to a County Administrator. Some report directly to a committee of the County Board.
Technology Platforms	All of the counties interviewed are using a variety of platforms, including AS400, iSeries, and Windows servers. Many are moving to more web-based applications. Based on these findings, it appears that Jefferson County is in line with its peers in terms of technology platform and adoption of more web-based applications.
Help Desk / Support	A majority (6) of the comparable counties have a formal help desk and a systematic method for tracking calls and resolutions. Most have at least one person dedicated to help desk support, with cross training of other staff to fill in as needed. In Counties without a help desk, calls generally go through the IT Director or someone else in a leadership position who then delegates work.
Training	Most counties provide some periodic user training on Microsoft Office or other county-wide applications, typically on an as-needed basis. In some cases, an on-site training facility is maintained, and training is contracted to outside firms. Departments are sometimes responsible for inviting outside trainers or conducting their own training on department-specific applications.
Collaboration with Departments	In most counties, collaboration and communication with departments are fairly informal processes. Input is typically gathered during the budget process and communication about IT initiatives occurs via email and during monthly department head meetings. In most counties, IT is available to provide recommendations and conduct research to find solutions to meet department needs. IT is more proactive in this area in some counties than in others. Counties with more formal communication and project proposal process typically require user departments to submit forms with IT requests and justifications. These requests are then reviewed and prioritized.
Strategic Planning	Goals and priorities for IT are typically established via collaboration among the IT Director, the County

	Administrator, the oversight committee of the County Board, and/or department heads during budget development or during a county-wide planning process. In two counties, the IT department has a significant amount of control over developing its own goals and priorities. Four of the counties have formal strategic plans. The other counties use less formal planning mechanisms, such as a capital outlay plan, a budget plan, or linkage of department priorities and initiatives into county-wide goals. Whether formal or informal, all counties with some form of planning mechanism review and update the plan annually at a minimum.
Other	Only one county has implemented Office 2007 county-wide. This was done with extensive user training up front. Most counties have some amount of wireless internet capability within some county buildings, but only two counties currently has full wireless networks available in the county government center and other buildings.

Conclusion

Several avenues of input were explored through November and December, 2008, in order to gather the data necessary for the MIS operational audit. Participants were given the opportunity to respond to an anonymous survey, participate in a group discussion, or provide input in a one-on-one setting. Overall participation was very high, with respondents from all levels of the County and nearly every department.

In addition to internal County input, external data was gathered from eight Wisconsin counties to provide a comparative benchmark.

Chapter 2 Findings

Introduction

This chapter outlines GFOA's findings after analysis of the data gathered in Phase I. Again, these findings are organized according to the following categories:

- Organizational Structure
- Planning and Communications
- Technical Competencies
- Application Environment
- Security and Controls
- System and Integration Capabilities

These findings were validated with a group of key stakeholders in January, 2009, and reflect their comments and feedback.

Overall Findings

As noted during the project kickoff meeting, it was not our expectation that we would find significant deficiencies in day-to-day operations, given that County operations were being supported without significant issues when the project began. Indeed, core operational technologies such as financial systems, the County website, and email all function relatively seamlessly on a fairly robust network infrastructure. That infrastructure includes redundancy and control mechanisms that some significantly larger jurisdictions would be happy to have.

Similarly, the JD Edwards application that supports most County procurement and financial operations is generally incident-free. For the most part, data is readily available, and programmers are familiar enough with the system to provide query and report capabilities on an ad hoc basis.

However, analysis did uncover some concerns from stakeholders, generalized below:

- MIS is a reactive organization – Most focus groups noted that there is little strategic or tactical planning within either of the MIS groups. Instead, daily operations and project planning are largely done in a reactive mode based on perceived issue severity and need. Any planning that is done focuses almost exclusively on large capital purchases.
- A successful relationship requires alignment – Some focus groups reported a good working relationship with MIS (specifically, the network and desktop group), while others were quite negative in their assessment of that same group. More detailed analysis revealed that the primary determinant of a good departmental relationship with MIS is the degree of alignment between that department and the overall direction of the network and desktop manager. Those departments that want to investigate alternate solutions to an issue,

explore new technologies, or invest resources differently than proposed by MIS find themselves in a sometimes contentious relationship. In some cases, however, lack of collaboration and cooperation can go both ways – department requests for MIS services are not always clearly communicated.

- Business understanding is limited– Several departments reported that the MIS staff do not have a business solution focus to their work. In other words, MIS staff do not fully understand *why* a certain issue has priority or *how* a problem impacts a department because they lack understanding of what the user, work group, or department is trying to accomplish. Often, MIS staff only see the technical side of each issue, and they tend to prioritize work based on the technical, rather than the operational, impact of the problem. This was especially evident during the Vista deployment, as reported by all of the focus groups. This finding is discussed in more detail in the organizational structure and technical competency sections below.
- Quality of customer service is variable – Some MIS staff are considered extremely helpful, empathetic, and technically skilled. Others are viewed much more negatively or even as 'hit or miss.' Customer service levels are highly variable, and users are unable to set expectations regarding resolution of problems. Consequently, MIS staff that are viewed more favorably tend to receive a disproportionate amount of requests for help, resulting in uneven resource allocation. A few user groups also believed that MIS was doing everything it possibly could to provide quality service, but that lack of staff prevented them from achieving a higher performance level.
- Lack of innovation – Several user groups reported a tendency towards tried-and-true solutions that do not take advantage of technologies that other counties are known or perceived to be using. This concern may be indicative of a communications issue, as many users are unaware of cost, compatibility, maintenance, or other possible reasons for lack of adoption of certain technologies. Other users reported that they were doing their own research and investigation into technology solutions, which they felt MIS should be doing.

Organizational Structure

Finding 1.1 – There are underlying issues with the current structure
MIS is really two departments - the network and desktop group, headed by Roland Welsch, and the applications programming group, headed by John Rageth. Roland and John both report to the County Administrator.

Surprisingly, focus groups reported few issues with communication as a result of this split structure. The County is small enough that even new employees quickly determine who to contact for any given type of IT service. MIS staff have informally developed roles that are well-known across the organization (for example, Kelly does most of the desktop fixes and Pat does training)

However, there is a general lack of accountability for delivering overall business solutions to the user community that is at least partly a result of this structure. Generally speaking, a business solution involves using technology to meet a specific, required outcome as defined by the user and measured in business terms. As a generic example, Human Services or the Health Department may need to have access to State of Wisconsin applications, which is a technical problem to solve. But the desired *business outcome* is the ability to meet regulatory requirements for reporting certain types of financial activity.

In this example, one side of MIS would be responsible for delivering the underlying technology, and the other side would be responsible for ensuring that the relevant financial data are available for the users to report to the state. Both groups tend to treat the project as a technical exercise. There is no one who is responsible for the entire solution, meaning that the users are often in a position of "making everything work" themselves.

Several focus group discussions indicated that this lack of accountability is a concern, citing instances where MIS staff members of one group push problems to the other group. Note, however, that some focus groups find that the two groups work well together and are willing to help in all areas if possible. Similarly, some focus groups reported excellent working relationships with MIS in all capacities, and other focus groups were very disappointed with MIS capabilities. This variability is, in itself, a concern.

Finding 1.2 – Not everyone agrees with the need for a help desk

In another somewhat surprising finding, users were split on desire for a centralized help desk function. A help desk would act as a central contact point for all user requests; all requests would then be prioritized and assigned available resources based on that priority. The help desk would also be responsible for communications and follow-up with each user who reported an issue.

About half of our focus group participants did not see the need for such a structure. This group felt that a direct line to specific staff was better than a perceived "middle man," and that service levels have been adequate. This group also felt they were rarely in a position where they were not sure of the nature of a problem or were unsure of who to call. As a result, this group was satisfied with the current processes for reporting and resolving problems.

Other staff reported that service levels were highly variable. This group indicated that they spend significant time following up on calls, providing additional data, and escalating issues. These staff thought that a centralized help desk structure would smooth out the service level and response times and would also provide a communication vehicle while an issue was still outstanding as well as a mechanism for tracking problems and resolutions.

MIS staff were non-committal on this topic and were able to see both sides of the issue. Resource availability in MIS is managed informally, and internal communications are generally sufficient to ensure that a high percentage of reported issues are dealt with timely and effectively. Nonetheless, MIS staff conceded that there would be some value in maintaining central communications, having a database of resolutions, and having the ability to analyze issues to forecast training needs, technology concerns, or process issues.

Planning and Communications

Finding 2.1 – There is a lack of transparency in MIS costs and budget
Several focus group participants, especially at the department head level, expressed frustration with the inability to understand the value of MIS expenditures. Beyond the often-expressed confusion over the method of allocating MIS costs, these participants indicated that they wanted a better understanding of what is entailed in specific costs, why those costs are necessary, and what the alternatives might be.

Since all MIS costs are allocated, several department heads are in a position where the allocation is a significant percentage of their overall operating budget. Understandably, they would like to know what those costs are, and whether alternatives were explored. This group felt that there was little information available to help them understand these costs and that the MIS budget is developed from a primarily technical viewpoint. They felt that the budget development process would benefit from increased transparency and focus on business or operating needs.

Finding 2.2 – Capital planning is not sufficiently formalized
Most of the concerns raised in Finding 2.1 were related to a recent capital budget item, where certain capital expenditures that were planned for future years were instead budgeted in the current budget year as a result of committee action. This item relates to network components that are due for replacement.

Whether the budget action makes sense is not the issue here. What is a concern is that most department heads were caught off guard by the size of the MIS allocation and were unaware of its rationale. This suggests that the capital planning function requires more formality and increased communication.

Finding 2.3 – Departments want more input
Many of the issues brought forth in the focus groups are related to what is known as IT Governance. Broadly speaking, the function of MIS within government is to support the information technology needs of the various departments that provide services to citizens. To do that effectively, MIS must educate staff on what is possible and also learn from staff what is needed. To maximize scarce resources, business cases are needed that allow the government to prioritize MIS work and investments based on their alignment to overall County goals.

Alignment between MIS and County operational objectives is the goal of good IT governance structures. These often take the form of IT strategic plans, IT steering committees, and program management offices. There are no such structures in place at the County to facilitate communication and interaction between MIS and the user community. Rather, such communication is ad hoc and narrowly focused. As a result, MIS is sometimes frustrated with what it perceives as unreasonable demand, and users are sometimes frustrated with what they perceive as unacceptable service.

Technical Competencies

Finding 3.1 – Staffing and skills are generally appropriate for the organization
Within the applications group, users reported that programmers are able to provide queries and reports that met most of their needs for data and workflow. Additionally, this group has dedicated itself to increasing abilities in web-based programming, which is in keeping with industry direction for most applications and development platforms.

Similarly, the desktop group is able to successfully resolve a high percentage of user reported problems in day-to-day computing. These are typically items such as printing, user ID/password issues, connecting to a website, email, and other daily needs and functions. Network monitoring and maintenance is augmented through a contractor, which addresses the County's needs in information technology infrastructure.

Finding 3.2 – But, there is a lack of business and systems analysis skill in MIS
As noted earlier in this report, the MIS department takes a largely technical view of its work and tends to allocate resources based on the technical side of a given issue rather than desired business outcomes or operational impact. Operational concerns are certainly not ignored, but they do not play as large of a role in decision making as the technical side.

There are no positions within either side of MIS called "systems analyst" or "business analyst," so it would not be fair to suggest that MIS staff are not performing a required function. In fact, the programmers would not be able to do their jobs without a certain amount of systems analysis work, at least at a detailed program design level. This finding is intended to point out that there is a lack of systems analysis skill with a larger, operational focus, even though it exists at the more detailed programming level. Again, while there is a need for this type of skill within the department, no such positions exist.

A systems analyst would be responsible for understanding the business and operational goals of a given department, understanding the current technology available to support those goals, and ensuring that the technology continues to meet the department's needs. This skill set evaluates whether technology is appropriate to the business function which it is intended to support. Additionally, systems analysts ensure that the operational impact of maintenance, development, or other MIS projects is taken into account.

Several users expressed a desire to have access to systems analysis skills. In many cases, they felt that they were unable to effectively communicate business and operational impacts of an issue or project. Similarly, they felt they sometimes did not understand what MIS was doing or why certain activities took place within specific projects. A staff person with systems analysis skills would help bridge this communications gap and increase alignment between user departments and MIS.

Finding 3.3 – There is a lack of project management skill in MIS
This finding is best evidenced by the Vista deployment, which by all accounts was disruptive to each department and was the one topic on which there was nearly universal agreement and lengthy discussion during the data gathering phase of the audit.

More project management experience was needed to understand the technical and organizational impact of such a project prior to committing resources to it. Even if the decision was still made to move forward, deeper experience with project management may have dictated a longer testing period or a different rollout approach.

Once the decision was made to move to Vista, the deployment itself was not well planned or executed. The Vista rollout was a surprise to nearly everyone who received it, indicating that communications about the project were nearly nonexistent. Several departments reported that the Vista upgrade did not follow work groups or organizational lines, and that it was not clear whether all applications would even run on Vista. Several users reported that they were not given sufficient training to clearly explain the differences between the old and new operating system and many users had to teach themselves how to use the new system. Again, additional project management experience would have provided for much better planning, communications, and user support.

Users in the focus groups reported other examples of the lack of project management skills in MIS, although none as wide ranging as the Vista rollout. MIS staff reported that there is rarely time for the planning and communications activities that would help rectify these issues, and cited the “lack of opportunity” for conducting good project management practices.

Finding 3.4 – User training is provided at only a basic level
Several users reported that training provided by MIS is “good as far as it goes.” Namely, users new to PCs or new to Microsoft Office typically benefit from the training that MIS can provide. Users who are looking to expand their skills with Office, Access or other desktop tools do not have a training outlet outside of books or online help. Several individuals indicated that they would like to do more data analysis, but lack the skills with desktop tools to do it. As a result, opportunities to increase efficiency and productivity are often missed.

Interestingly, MIS has an entire course catalog of basic, intermediate, and advanced training offerings that run the gamut of desktop applications. This suggests that either the user community is unaware of these training opportunities, is unable to take advantage of them, or in some other way does not find them useful. MIS indicated that they view this as a communications issue, and that they intend to do more to publicize their capabilities in this area.

Finding 3.5 – Network skills are outsourced

MIS has a contractor available to assist with any monitoring, maintenance, upgrades, and other tasks that are required on servers, switches, routers, and other devices. Some MIS staff expressed a desire to learn more about this type of work, but did not feel that there is any opportunity to do so.

MIS management did not express any issues with this arrangement, pointing out that network administration would not likely be a full-time job and that highly specific (and presumably expensive) technical skills are required which are not available on staff.

Finding 3.6 – There is little cross-training within MIS

Because of the organizational structure and communication paths, MIS staff are typically focused only on the sets of tasks that users contact them for. As a result, there is a higher degree of specialization than GFOA typically sees in MIS organizations of this size. This specialization is self-reinforcing, as users have a direct line to the staff that they feel are most able to assist with a given issue. As their skill level increases, users contact that same staff member more and more often. The staff person becomes even better at resolving that class of issues and is then viewed as the “go to” person by most users.

There were few strong concerns expressed about this finding, other than recognition that if one or more staff were to leave County employment, there would be a difficult hole to fill. Additionally, the validation team pointed out that there is little time to perform cross-training and that MIS is not the only department with this issue.

Finally, MIS staff pointed out that they have been conscious of cross-training needs, and at least within their own work groups have tried to ensure that there is a backup person for most activities. While they acknowledged they could always do more, it should be noted that they have made strides in this area.

Application Environment

Finding 4.1 – Core systems do a reasonable job of supporting the County
Core applications such as the JD Edwards financial system, Microsoft Office and email, the web site, and GIS meet County needs. These are the software platforms that most users interact with a daily basis, and few issues were reported with these packages. Additionally, these platforms are scalable, meaning that any future changes in number of users or technology will not likely affect MIS' ability to support County operations.

Finding 4.2 – Connectivity is a minor issue
Users who need to access state-supported systems reported general satisfaction with the level of service that MIS provides. A few users indicated that there are occasional problems with connectivity to the state and that there is some finger-pointing between MIS and state staff about who supports those applications. Occasionally, this causes a disruption in departmental operations; however, issues are generally resolved without significant or lingering impacts.

Better and more prevalent wireless connectivity was reported by some users as a need, especially those working in the courthouse building and outlying facilities such as the Fair Park. GFOA believes that the security issues with wireless technologies mentioned by MIS can be resolved, as evidenced by the number of local governments across the US that have successfully met that challenge.

Security and Controls

Finding 5.1 – Security and backup are more robust than similar organizations
Most jurisdictions of similar size understand the need for redundancy, security, backups and a good disaster recovery/business continuity plan. Unfortunately, few organizations are able to fund and implement those requirements. The County's efforts to address these needs provide a measure of assurance that its information technology assets will be accessible and functioning under any foreseeable circumstance. Additionally, the infrastructure is well-documented, providing an extra measure of security.

GFOA noted that the security approach taken by MIS is one of restricting access as opposed to after-the-fact monitoring. Security is provided through generalized restrictions that are occasionally and temporarily lifted when operational needs arise. Most organizations take a less restrictive approach, opting to allow access that might be beyond strict operating requirements, but monitoring that access and reporting misuse or abuse as policy dictates. There is no evidence suggesting one approach is more effective at protecting assets and mitigating risk than the other, and GFOA did not note any significant deficiencies or issues with the approach chosen by the County.

Finding 5.2 – There is no formal policy or training for users
Users reported that on occasion, they were unaware of a security restriction or concern until they inadvertently triggered one. A common example cited by a handful of participants was the need to access a work-related website that was restricted. In those cases, users must contact MIS to have access granted to the website until the task is completed.

Some participants noted that there was no single policy outlining security and related procedures. These staff indicated that developing a formal security policy (or updating the current phone and computer use policies) and providing proper training might be a way to address access questions or issues before they arise or become problematic.

Finding 5.3 – There is no monitoring or reporting of desktop access
A handful of participants reported that MIS staff had accessed their desktop without their knowledge, and at least one participant believed that email had been read by MIS.

Most jurisdictions state that staff members have no right to privacy given that hardware and software are provided by the organization for the organization's benefit. Accordingly, MIS has the responsibility to develop and implement security procedures, which may include accessing individual PC's. Nonetheless, most organizations also recognize the issues that can arise from unrestricted access by MIS staff. First, if data is lost or if fraud or malfeasance is attempted, the organization must be able to identify who is accessing information assets and from where. If MIS staff have the ability to access a user PC remotely, using a generic id/password or the user's id/password, it impossible to identify who is doing what. This level of organizational risk can be mitigated if MIS staff are limited in their ability to access user PC's, can only do so with their own id and password, and if someone outside of MIS is monitoring that activity.

Second, employment regulations and laws have not always kept up with technology, and there are instances where it is still unclear what rights and expectations employees and employers have in regards to email, voice mail, and other forms of communication. To mitigate risk in this case, most jurisdictions monitor or keep transaction logs to indicate when MIS or other staff access user desktops. As an example, some organizations require a human resources specialist to review any access not related to maintenance in order to reduce organizational risk.

It should be noted that MIS has recognized this issue, and is currently testing a software package called Dameware that will provide more notification and information to users when their PC is accessed for service. MIS hopes to roll this package out soon, which should mitigate some user concerns in this area.

Systems and Integration

Finding 6.1 – There is little integration in place, but demand is low
Integration refers to the ability for data and information to flow between applications without employees re-entering data. For example, systems that automatically generate payroll transactions from time records then create journal entries for the general ledger and generate labor reports for managers are considered to be tightly integrated. Typically, such an environment requires MIS staff to maintain system interfaces or develop complicated messaging architectures that enable systems to exchange data.

GFOA could not find any instances at the County of significant systems integration. The JD Edwards financial system is integrated within its own modules, but does not exchange data with other systems. GIS and other applications are also stand-alone.

There is little organizational impact to this finding, due to the fact that no participants expressed significant desire to see such integration. This suggests that departments and users have processes and systems that generally support their needs (see finding 4.1), and there are few reasons to integrate these applications. However, MIS staff did express an interest in increasing the level of integration among systems.

Finding 6.2 – There are no business intelligence applications, but demand is low
GFOA was not advised of the use of any data warehousing or business intelligence software. These tools are intended to aggregate data from disparate systems and then provide analytical tools that identify trends, compare activity and results to key performance indicators, or highlight potential budgetary issues. Often, these tools take the form of a 'digital dashboard' where managers and executives can get a quick glimpse of key metrics and then drill into details across systems and databases.

Again, there was little, if any, demand for such applications among supervisor, manager, or department head groups. This suggests that existing data and decision-making tools and processes are adequate for the needs of the County at this time.

Chapter 3 Recommendations

Introduction

GFOA has several recommendations to address the findings described in chapter three. This chapter provides additional detail for each recommendation, including estimated costs and operational priority as determined by key stakeholders during our February 10 Recommendations Workshop. Where applicable, we also discuss risks and implementation concerns. As with the findings section, these recommendations are organized along our IT Strategic Planning categories.

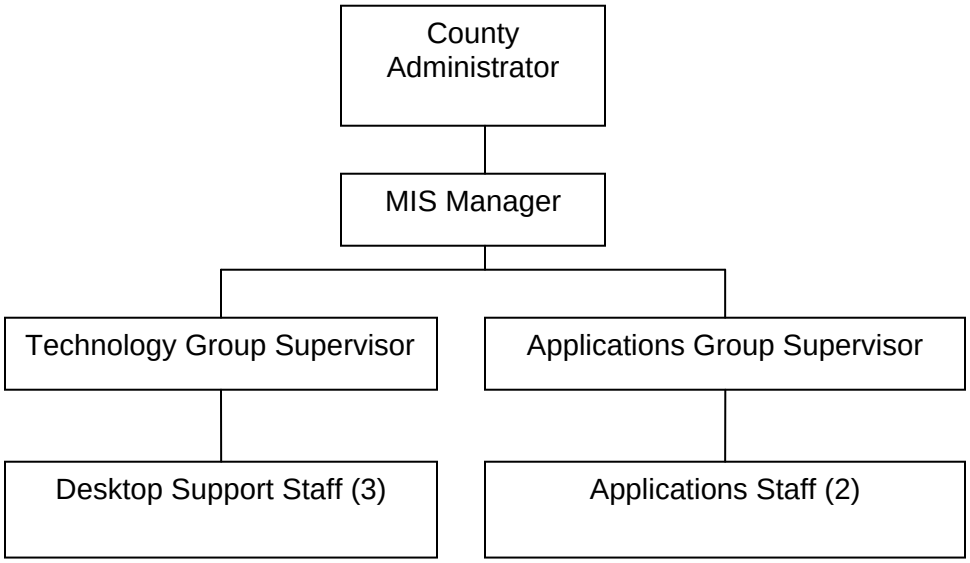
Organizational Structure

Recommendation 1.1 – Create a single MIS department with one manager

Priority: Medium
Cost Range: $0 to $125,000
Findings Addressed: 1.1

To increase accountability and lay the foundation for improved communications between executive management, MIS, and the user community, GFOA recommends that the two MIS groups be combined into a single department. Several possibilities for implementing such a structure were discussed at the recommendations workshop, and consensus was reached to present two of them here with pros and cons for each:

OPTION A



In this option, the two departments are essentially kept intact, with a new position created to oversee both. The new position, MIS Manager, would assume all department-head level responsibilities. The existing manager positions would revert to supervisory roles, losing their responsibilities for planning, budgeting, and reporting to the County Administrator or board.

The new MIS Manager would need to have the following skill set:

- *Significant management experience with a track record of successful leadership.* The successful person in this role must be able to delegate day-to-day work and focus on creating IT value for the County. A strong background in project management, application development, systems or business analysis will be important, as well as knowledge of technical infrastructure, networks, and hardware.

- *Ability to develop and implement long-range strategic plans for the County's IT function as a whole.* This necessarily includes recognition of decentralized staff who perform IT liaison functions, department-specific technologies, and all enterprise-wide platforms. In essence, the MIS manager must become conversant in technical, functional, operational, and organizational areas across the entire County.

- *Deep understanding of government operations.* The MIS Manager position must be able to understand business and operational issues in order to apply technology solutions.

- *Ability to work well with all department heads and the County Administrator.* The MIS Manager role will require significant communication with other department heads and innovative problem-solving to meet departmental needs.

- *Ability to understand and bring to bear cost-effective technology solutions.* The MIS manager will need the ability to develop technical alternatives and discuss them in business terms with other County leaders. The MIS manager will need the ability to match issues and opportunities with potential solutions, risks, and costs to manage the County's information assets.

To summarize, the MIS manager role requires excellent customer service and communication skills and the ability to discuss technology issues in business and operational terms. The individual in this role will be most successful if they can build strong working relationships with other department heads, understand operational priorities, and develop innovative solutions that take the best possible advantage of existing resources.

In GFOA's estimation, this would be a new and transformative position for the County, and it is not likely that any current staff could successfully fill this role. From a technical perspective, neither of the two current managers have sufficient knowledge of the other's area of expertise. Organizationally, it would be difficult for department heads to see either of them in a new and strategic role, and it is reasonable to assume that there would be significant communication gaps.

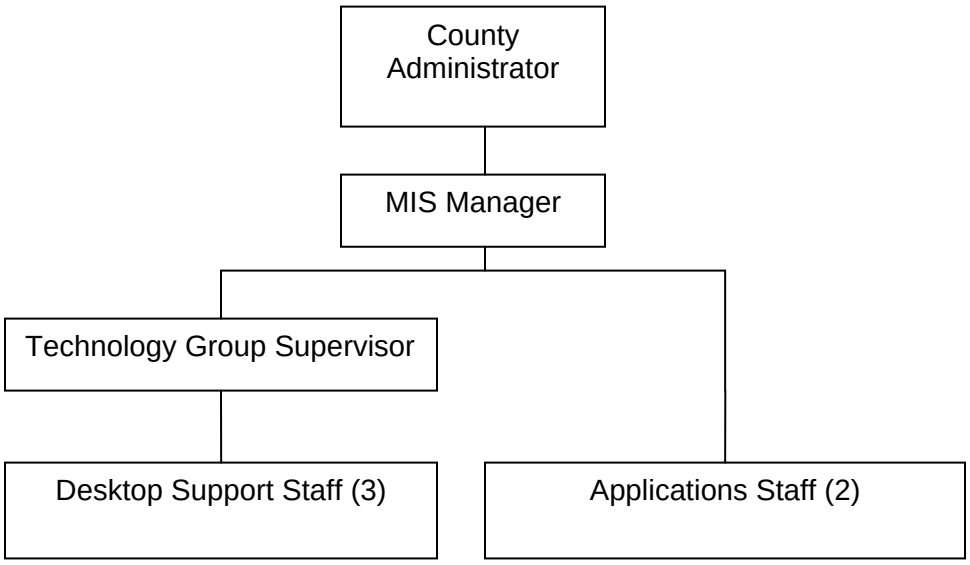
Pros:

- Retains all current staff, ensuring that there is continuity and preservation of institutional knowledge
- Aggregates management, budgeting, and decision-making authority into a single position separate from more technical responsibilities
- Provides a single point of contact for key stakeholders at a management level

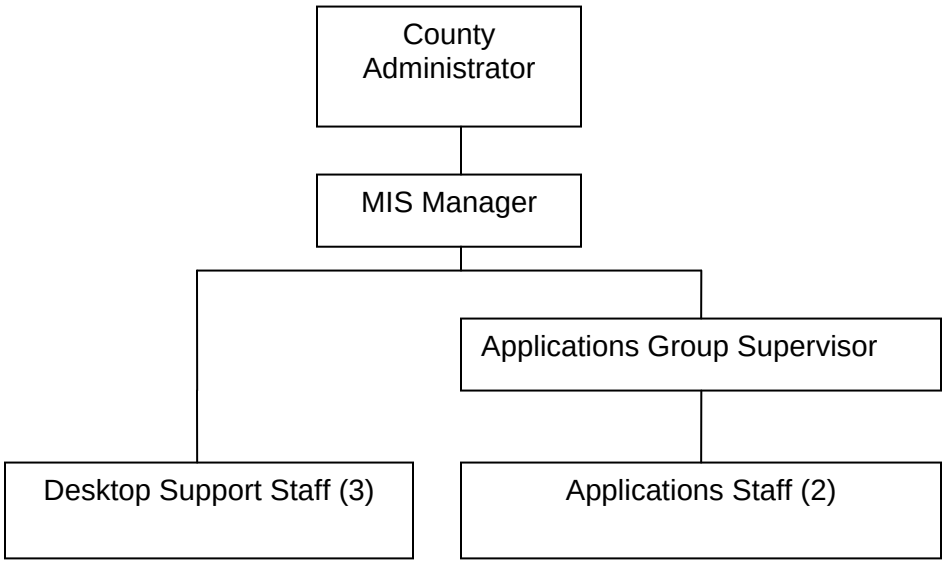
Cons:

- Cost – an IT manager will likely have an annual salary between $60,000 and $85,000, with total compensation approaching $125,000. This alone may render this option not feasible.
- A high number of supervisory personnel relative to the size of the department
- Assuming the successful candidate for the MIS manager comes from outside the organization, the two existing managers would, in effect, be demoted to supervisor. It is likely that such a move would wreak havoc on departmental morale.

OPTION B



Or



In this option, the MIS manager position is added as in option A, but one of the existing managerial roles is eliminated (note that either of the two current manager positions could be eliminated. *GFOA cannot make a recommendation as to which position to eliminate without a more detailed personnel evaluation, which is outside the scope of this audit*). In essence, this option maintains the same staffing level while adding a new skill set.

Pros:

- Less costly, although the savings from eliminating a position will not wholly cover the cost of adding the MIS Manager. For the purposes of this study, we can assume that the total increase in overall cost will be in the neighborhood of $25,000 in salary and benefits.

- Aggregates management, budgeting, and decision-making authority into a single position separate from more technical responsibilities

- Provides a single point of contact for key stakeholders at a management level

Cons:

- Because there is no net change in the number of positions, this option creates a loss in staff availability as the new manager will not have the time for “hands-on” work. As a result, either the applications group (programming) or technical support (network and help desk) will lose a full time person. This would be a significant loss to the user community in either case.

- Eliminating either of the two current manager positions while hiring a new manager will be a tremendously sensitive proposition and will need to be handled extremely well. Even then, the County should expect some morale-related repercussions if this option is taken.

OTHER CONSIDERATIONS

a. The County could choose to elevate one of the current managers to the MIS Manager role, eliminating some of the human resource related concerns of option B. In that case, significant training will be needed in the areas of supervision and management, effective communications, project management, and systems analysis.

   GFOA believes that it will be difficult for either of the two current managers to succeed, as they will be asked to play a different role in the organization with a much different skill set. This is not to say that they cannot achieve that level of performance over time, but historically they have not been asked to do so. It is also not clear that other leaders in the County (or even MIS itself) would be immediately accepting of such a change, and it would be extremely challenging for either one of the current managers to bridge this gap.

   Finally, it should be noted that prior experience is a double-edged sword. While it is tempting to preserve the institutional knowledge that an internal candidate might have, it would also be difficult for that person to bring innovative, new ideas to the County since they are already part of the current culture.

b. The small size of the department suggests that it may be possible to eliminate the intermediate supervisory level altogether, creating a very flat organization where all employees report directly to the MIS manager. The difficulty is that more time is required in day to day supervision in such an organization, but with the extensive experience of current staff, this may be less of a concern.

Recommendation 1.2 – Investigate the feasibility of outsourcing technical support

Priority: Medium
Cost Range: $0 - $5,000
Findings Addressed: 1.1

The County should perform a cost/benefit analysis of outsourcing network and desktop services. Network maintenance and troubleshooting is already being outsourced to a contractor, and there are numerous organizations in southeast Wisconsin that provide help desk services.

The intent of this recommendation is to determine proactively if there is any financial benefit to the County in outsourcing a portion of MIS. In these difficult fiscal times, most organizations will at least explore the question of outsourcing, if for no other reason than to assure themselves and their constituents that the option was investigated.

GFOA does not believe that the results of such an investigation will demonstrate significant savings. Outsourcing arrangements that result in savings tend to do so because of economies of scale – an outside firm has the expertise and tools to do the same job with fewer people. Because the MIS staff at the County is relatively small, it will be difficult for an outsourcing firm to provide the same level of service with less people, and as a result, savings may be difficult to find.

In conducting this investigation, it will be important for the County to first define its desired service levels. Outsourcing firms demand additional fees for clients who require immediate or near-immediate response time for each call, as opposed to clients who agree to a tiered support structure based on issue severity. Most outsourcing firms can provide several potential cost and service schedules to illustrate the differences.

Clearly, the analysis will need to assume that one or more positions within MIS would be eliminated as a result of outsourcing. GFOA recommends this analysis from the perspective of its financial impact only. We cannot comment on the political or cultural impact that such a decision might have.

GFOA does not believe it is feasible or desirable to outsource the entire MIS function. Data and information are valuable assets used in a variety of critical decision-making functions such as budgeting. GFOA believes that maintenance and use of information assets should continue to reside within the County, with MIS responsible for the security and accessibility of that information.

The degree of connectivity to state-supported software applications also makes complete outsourcing difficult.

Recommendation 1.3 – Implement a help desk structure

Priority: Medium
Cost Range: $0
Findings Addressed: 1.2

A centralized help desk function allows for increased visibility and transparency for users, tracking of recurrent issues to improve long-term service, the ability to maximize the value of available staff time, and a host of other benefits. Centralized help desk structures are considered an information technology best practice for these reasons.

A help desk function can be created within MIS without impacting current staffing levels, but there are some critical activities needed to implement this recommendation.

First, MIS will need to set up a single phone and email contact path for all user requests. Secondly, users must be required to use these communication tools, meaning that users who call or email someone directly must be required to resubmit their request via the proper method. Third, one of the current MIS staff must be assigned to monitor email and phone/voice mail and assign resulting work based on user priority, required skill set, estimated time required, and availability. Fourth, MIS should keep a log of requests received, assigned staff, time to resolution, and the nature of the resolution. This log should be available to users so they can see where resources are allocated and where their particular issue is in the help desk queue.

Periodically, the MIS manager should review the help desk log, looking for trends, the need for training, or other patterns. This will help create a more proactive customer service focus.

Implementation of a help desk requires time to be effective. As with any new program, there will be hiccups along the way, and both users and MIS staff will need to be patient while new communication pathways and tools are implemented.

If the County pursues an outsourcing solution, the help desk structure can be used as a communication path to the outsourcer. Most outsourcing firms prefer a single contact to help schedule work as opposed to hundreds of potential callers. This should be discussed further if recommendation 1.2 leads to an outsourcing contract.

Recommendation 1.4 – Implement an IT Advisory Committee

Priority: Low
Cost Range: $0
Findings Addressed: 2.3

A common frustration for MIS staff is not knowing which issues and projects take priority over others. Users and department heads make requests without understanding what else MIS might be working on, and MIS staff find themselves in the difficult position of allocating staff time based solely on their own perception of need. Similarly, users often do not understand why some things are done quickly and others delayed, what resources are needed to complete a request, or what alternate solutions might look like. Overall, MIS is not as aligned with business priorities as County department heads would like.

To address this concern, GFOA recommends the establishment of an IT Advisory Committee, which is a group of key stakeholders (typically at the department manager level) who provide the business case and operational perspective that MIS requires. Where resources are constrained, they can recommend which projects should be executed, delayed, or denied based an overall business case that includes costs and operational impact. In this role, the IT Advisory Committee ensures alignment between MIS activities and County information technology needs.

IT advisory committees typically meet monthly and are a key element in building a good IT governance structure. Other elements that the Advisory Committee would be involved in include developing business cases for new projects and helping to develop and use a strategic plan. These topics are covered in the Planning and Communications recommendations.

Recommendation 1.5 – Implement MIS physical plant improvements

Priority: Low
Cost Range: $5,000 - $20,000
Findings Addressed: N/A

Neither of the current MIS managers feel that a move to another facility would provide benefits greater than the cost and disruption that such a move would entail. However, they do have a number of small maintenance and improvement items related to flooring, security, storage, and flood prevention that could make the existing space more viable. Security concerns are somewhat troubling – a significant amount of valuable hardware is visible from outside the building, which does not have adequate protection against theft or vandalism.

GFOA recommends that the County allocate $20,000 to make these improvements.

Planning and Communications

Recommendation 2.1 - Develop an IT Strategic Plan

Priority: Medium
Cost: $0
Findings Addressed: 2.2 and 2.3

An IT Strategic Plan generally covers a two to five year period and details the vision and goals of the MIS Department as well as how those goals will be attained. Strategic plans do not provide execution-level detail, but rather broadly describe projects and initiatives and the resources required to accomplish them. To the extent possible, the plan should also highlight costs, risks, and stakeholder involvement for each initiative.

There are many templates and ideas for IT strategic plans available on the Internet, and the County should not need to expend consulting fees to develop a format or content for such a plan. The strategic plan should be a "living" document that is reviewed and updated at least once per year to ensure that it stays in alignment with County goals and the current technology environment.

Strategic plans are typically developed by MIS management and receive significant input from the advisory committee. A key feature of a good strategic plan is its alignment to the overall goals of the organization, which is more likely if there is an advisory committee in place to provide input on the plan.

The strategic plan should also include a capital plan that governs the purchase or lease of significant infrastructure and hardware components (and occasionally large enterprise-wide software procurements). Because the costs involved can be significant, a formal capital plan is needed to project those costs over time, give the Board insight into what is needed and when, and allow department heads to understand future allocations. It is GFOA's understanding that a broad, County-wide capital plan is in development, and IT capital expenditures can be included in that plan as a way to implement this recommendation.

Recommendation 2.2 – Provide more transparency into resource allocation and project planning, and ensure that resources are allocated based on business priority.

Priority: High
Cost: $0
Findings Addressed: 2.1 and 2.3

A relatively easy way to address communication gaps between MIS and other departments is to ensure that users and department heads understand where the limited resources in MIS are being used.

In many organizations, this is accomplished through user access to MIS work schedules, project plans, or other documents that indicate where and when MIS staff and funding is allocated. The intent is to provide an educational tool for users and to help answer questions about why certain things need to be delayed or rescheduled.

If possible, GFOA recommends that this be done on a County-wide Intranet platform so that users can get this information whenever it is desired. The benefit to MIS is that valuable time can be spent on resolving issues or working on projects rather than answering user questions about who is available to work on what. Additionally, this transparency can help with resource prioritization, as all users can see what MIS is working on elsewhere at the County and can better understand and gauge MIS priorities. Transparency of MIS operations often helps to smooth out the demand for MIS staff time.

As noted in the findings, MIS work is often scheduled around technical calendars rather than user-defined operational impact. For example, a PC upgrade may be scheduled the same week that critical testing of a new state software application is occurring. Clearly, the upgrade should wait until the testing is completed. Unfortunately, situations like that are sometimes addressed while an MIS staff member is already at the user's office with new equipment.

Our recommendation here is that users be allowed input into when upgrades are scheduled, tests are run, and new equipment is deployed. These projects need to be scheduled around the operational requirements of the user to minimize disruption. Of course, it is expected that users will be reasonable (not all MIS work can be done at night or on weekends).

The benefit of user input to scheduling is not only minimizing disruption but also better coordination of similar activities across multiple locations or within a single location. If a work group is scheduled to receive software upgrades at various points over the course of a month, it may be less disruptive to do them all at the same time, and it will be more efficient for MIS as well.

Recommendation 2.3 – Develop service level agreements with departments

Priority: High
Cost: $0
Findings Addressed: 1.1 and 2.3

To further help cement good communications between MIS and user departments and to ensure that resources are efficiently deployed, MIS should develop service level agreements (SLA's) with County departments. SLA's set expectations – namely, that certain types of services will be provided within a given timeframe. An example:

EXAMPLE ONLY – NOT A RECOMMENDED AGREEMENT

Issue Priority	Time to respond	Time to resolution
Low	Two days or less	Five days or less
Medium	Same day	Two days or less
High	Two hours or less	4 hours or less
Critical	30 minutes or less	2 hours or less

Clearly, MIS will need to work with the user community to define the various priorities and create their own service level agreement.

SLA's can be augmented with performance measures. For example, MIS can measure its performance against the SLA's with a target of achieving the desired service level for 95% of calls over a six-month period. These types of performance measures can then be reported to the steering committee and user departments to further maximize the efficient use of scarce resources.

Recommendation 2.4 - Formalize the process for budget, technology, and project requests from users.

Priority: Low
Cost: $0
Findings Addressed: 2.1, 2.2, and 2.3

This recommendation is also intended to better align MIS with user departments, but in this case the focus is on planning. Currently, department heads conduct ad hoc communications with MIS regarding future hardware, software, or staffing needs, which may not be done in a timely fashion and may or may not become part of the budget. In essence there is no mechanism to collect such requests, analyze and prioritize them, and then allocate funding or staffing resources as needed.

User departments should be required to formally request funding or staffing resources with a firm deadline that will allow sufficient time for analysis prior to submittal of the County budget request to the Board. MIS can collect these requests, determine the funding and staffing impact of each, assess their compatibility with existing infrastructure, and offer alternatives. MIS can then work with the IT Advisory Committee to prioritize those requests.

Projects or requests that are not high priority, are too costly, or are incompatible with overall IT plans and strategies should be sent back to the user with information as to why their request cannot be accommodated. Ideally, analysis that occurs prior to such a determination would include consistent communication with the requesting department so that they are part of the entire analysis process. Again, this extra communication will help align MIS resources and County priorities.

Technical Competencies

Recommendation 3.1 – Invest in project management training

Recommendation 3.2 – Invest in systems and business analysis training

Priority: Medium

Cost Range: $0 to $10,000 per staff person trained, up to $50,000 in total costs if formal certification is sought

Findings Addressed: 3.2 and 3.3

Both of these recommendations are intended to address areas of weakness in the skill sets of current MIS staff. Focus groups continually discussed the inability of MIS staff to see issues or opportunities from an operational perspective, and that was echoed in our validation meeting as well as the recommendations workshop.

MIS staff are reasonably up to date on their desktop and programming skills, but do not have the systems analysis and project management skills to effectively communicate with user departments and develop solutions that are operationally appropriate. It is important to understand that these are skills that can be developed over time and refined by continuing to build on successful efforts. MIS staff have simply not been asked to perform in that capacity, but moving the MIS group forward is dependent on doing so.

Training is often one of the first things considered for elimination when fiscal pressures force budget cuts. Nonetheless, GFOA believes the investment needed to send staff to project management and/or systems analysis training will have a visible impact on the value of the services that MIS provides.

Classroom training, web-based training, or other delivery vehicles are available to start the process, but the first step is for the MIS Manager to develop an overall training plan and seek a more detailed cost estimate. In all likelihood, training of this nature will need be spread out over time due to the costs and the impact on daily operations of having staff off-site. Such a plan must take those factors into account while increasing the skill sets of the MIS staff.

There is also an organizational impact to these two recommendations, as MIS staff will be asked to transform their skill sets from technician to analyst. In practice, these sorts of skill set transformations are not easy, and management should ensure that staff are involved in identifying specific needs, planning, and obtaining the training. In doing so, the County stands a much better chance of acceptance and less disruption.

Recommendation 3.3 – Increase desktop training

Priority: Medium
Cost Range: $0 to $10,000
Findings Addressed: 3.4

This recommendation, unlike the previous two, does not involve transformational skill learning, but rather an expansion of current skills. As a general rule, MIS staff are timely in their responses to the day-to-day issues that users have with their desktops or peripherals. However, when those issues prove more difficult, problem resolution can sometimes slip to days or even weeks.

As a result, there was some dissatisfaction in the user groups with response time to these more difficult technical issues. Therefore, this recommendation seeks to address that by increasing the skill level of support staff to be able to do more with desktop technology. This can take the form of increased training in PC hardware, Windows or Office certification, Exchange administration, or any of the dozens of department-specific software packages currently in use.

As with other training recommendations, operational disruption, cost, and delivery mode must be taken into account when developing a training plan in this area.

Recommendation 3.4 – Conduct network administration training

Priority: High
Cost Range: $0 to $10,000 (higher cost if systems engineering certification is sought)
Findings Addressed: 3.5

MIS currently outsources network administration to a contractor – a strategy adopted by many organizations since market salaries for experienced personnel in this area are out of reach for many small governments. In addition, the size of the user base and the resulting networking needs are not large enough to demand a full-time position.

However, the County can provide some network administration training for selected staff that would enable them to perform basic maintenance and troubleshooting. This could reduce the County's cost for contracting in this area and improve response time for users that have lower level network issues. Additionally, some current staff expressed an interest in learning more about network technology.

Contracting will continue to make sense for component upgrades or other major work that can be time-consuming and demand a higher level of technical skill.

Recommendation 3.5 – Provide intermediate and advanced end user training

Priority: High
Cost Range: $0 to $10,000
Findings Addressed: 3.4

Many of the focus groups indicated that MIS was able to provide introductory or beginner level training for desktop applications such MS Office, email, and desktop publishing. However, most users who need to learn more advanced functions within those applications claimed that they must find alternative ways to obtain that training on their own.

As discussed in the findings, MIS does have a list of intermediate and advanced level end-user training classes that it is willing to provide. Most users were unaware of this, and the few who did mention it claimed that it did not meet their needs (although it may not have been clear to the MIS trainer what those needs were). In any event, there is a need to formalize and communicate training needs and offerings, even if MIS has a training curriculum in place.

If MIS staff lack the time or skill level to provide the kind of training that users are looking for, GFOA recommends that the County consider a contract with a local firm or technical school to provide a series of intermediate and/or advanced classes that users can take for a predetermined fee. Typically, cost savings will result from purchasing a block of training time as opposed to many individuals seeking specific classes one at a time. Often, it is possible for such firms or schools to provide on-going support as well, which may provide an added level of end-user support for a reasonable cost.

It should be noted that actual costs for an advanced end-user training program could be significantly higher than estimated as demand for such training rises over time. Less than 20% of respondents to our survey rated MIS training offerings as “fair” or “poor”, so this may not be a concern initially, but it is certainly something that should be monitored over time.

These classes are generally offered as classroom training, but there are web-delivered options as well. MIS may want to survey users to find the training delivery method that would be considered most effective.

As an alternative, the County could train one of the MIS staff on advanced functionality and have that person provide in-house training. Given the level of demand that we saw, GFOA believes that training (and the support that follows) may take a significant portion of that person’s time, making him or her less available for other work. The MIS Manager will need to take that into consideration in developing an end-user training plan.

Recommendation 3.6 – Provide cross-training for all MIS staff

Priority: High
Cost Range: $0
Findings Addressed: 3.6

Like many departments, specific functions and skills often reside with a single individual, creating significant risk for the department (or even the County as a whole) if that individual leaves the organization. This issue is not unique to MIS.

As with any training program, a plan must be developed first that highlights which staff will be trained in what areas. Ideally, staff should have some input into that plan, as a way to consider their own technical, operational, or career interests. Also, the plan must take into account operational disruption, as time spent learning is time not available for daily troubleshooting, programming, or other duties.

Cross-training is generally provided through job-shadowing, where an individual has a chance to spend a day or more learning directly from someone who is doing work that they would like to learn about. Depending on the skills learned or functional areas covered, this can be done in an ad hoc way as schedules permit to reduce the operational impact of essentially having two people do one job.

The goal of this recommendation is reduce risk, but secondary benefits that many organizations receive from implementing such a program are an increase in productivity and a general increase in overall ability. MIS staff may learn new ways of approaching common technical problems, share a solution that is applicable to another area, or otherwise increase the overall effectiveness of the department.

Software Applications

Recommendation 4.1 – Develop a long-range support plan for JD Edwards, GIS, and other enterprise-wide applications

Priority: High
Cost Range: $0
Findings Addressed: 4.1

The software industry has always been a rapidly changing environment, with periods of explosive growth followed by vendor consolidation as certain products mature while new ones are introduced. Within a product line, new versions are typically released annually, and there may be patches or upgrades released quarterly. In any event, it is a given that the platforms provided by the IT industry are continually evolving.

The County depends on several software products for its core operations, including JD Edwards financials, ESRI GIS, and MS Exchange. These products are not immune from such changes, and the County must be able to respond accordingly.

To do so requires a long-range plan that identifies the vendor's published upgrade cycles, but also incorporates information that can be gleaned from industry publications, user conferences, consultants, and other sources. That information can then be used to outline a plan for the County on how and how often it intends to identify, test, and deploy patches and upgrades.

An enterprise application support plan can go beyond identifying a migration path, and include an analysis of the hardware platforms as well. Some enterprise applications can be delivered over the web or take advantage of server virtualization architectures to reduce hardware costs. This plan can also take a functional and operational view to identify if and when the County needs to consider replacement of an aging technology or when it is in the market for a new solution.

It is important to document this plan, publish it to the user community, and keep it updated every few months. This will help the County allocate resources, mitigate risk, and provide a level of transparency for users and administration.

Recommendation 4.2 – Develop a policy for web site content management

Priority: High
Cost Range: $0
Findings Addressed: N/A

There was some confusion in the focus groups as they tried to identify who was responsible for editing content on the County website, and who was responsible for posting content changes. Further confusion arose when the discussion groups began to think about departmental-specific pages or content as opposed to general County information. GFOA also received a few emails from staff indicating that this was an area of concern.

There are powerful yet easy to use tools available to manage a web site, so it is certainly feasible to make user departments responsible for their own pages. However, what is missing at the County is a written policy that outlines who is responsible for what, how often updates should occur, what the technical and design standards are, and who acts as the web site administrator. Creating such a policy would greatly assist users in understanding their roles in content management.

The recommendations workshop group added two additional requirements to this recommendation. One, that MIS or some other group be responsible for identifying design standards such as color schemes, navigation, and font styles so that there is a professional and consistent format to the web site as someone goes from page to page.

Secondly, the policy needs to identify a web site administrator who acts as the final arbiter of content and design and ensures that the web site meets County policies for both internal and external communication and information.

Finally, it is important to note that such a policy should be flexible. Some departments may have relatively static content needs with little desire to take on a content management role. Those departments may wish to have MIS be responsible for maintaining their pages. Other departments prefer a much more active role and only want MIS to provide tools and training. Similarly, the policy needs to be flexible enough to handle occasional design exceptions, such as color schemes and themes for the County Fair, which may be quite different than the rest of the web site.

Recommendation 4.3 – Deploy tools and training for web site content management

Priority: High
Cost Range: $0 - $10,000
Findings Addressed: N/A

Recommendation 4.2 outlines the need for a policy, but to put it in place requires the identification of a standard content management tool, deploying that tool to personnel identified in the policy, and providing training and ongoing support.

Content management can be handled through a simple toolset that is quite inexpensive, or via much more sophisticated (and correspondingly expensive) software tools. The MIS department can even use programming tools to build their own designs and links, although it is unlikely that user departments would be able to take advantage of these platforms. At the far end of the spectrum are full-blown enterprise content management tools which incorporate design tools and publishing tools into a single platform. Again, these can be quite expensive.

MIS should investigate and provide recommendations on content management tools, including costs, benefits, and requirements for training and support. Once an alternative or set of alternatives is chosen, a project plan should be developed to deploy the chosen solution, including training. This project can then be added to the overall portfolio of projects and prioritized with other efforts.

Security and Controls

Recommendation 5.1 – Develop policies and procedures that govern access to user PC's and laptops, as well as enterprise applications.

Priority: High
Cost Range: $0
Findings Addressed: 5.2 and 5.3

As stated in Finding 5.3, there is clear risk to the organization in not having a well-written security policy. Beyond risk mitigation, such a policy can provide users assurance that their data and work is safe from unauthorized access by other employees.

Most security policies require careful construction, recognizing legal implications and other administrative policies while meeting operational requirements. A policy governing access should address the following:

- *Describe the circumstances under which MIS can access a user PC or laptop.* Generally, maintenance activities should be scheduled with the user, and remote access for maintenance should always require user notification.
- *Identify documentation requirements*. Many governments require MIS to notify a user when they will be accessing a PC, for how long, and what is being done. They also ask MIS to notify the user when the work was completed and what was changed (if anything). The intent is to create a clear audit trail in the event that the user experiences data loss, loss of functionality, or another unintended result.
- *Document a procedure for exceptions*. On occasion, MIS must support a criminal investigation, internal disciplinary action, or other request that requires an exception to the normal access steps. The policy must allow for this and describe the circumstances under which such exceptions are allowed and how they will be documented.
- *Define monitoring and reporting requirements*. Many governments ask MIS to keep a log of user access times and locations as part of an overall network security process. Most network administrative programs do this automatically, and MIS is not required to take any extra steps to provide this.
- *Define a violation reporting process*. In the event that a user or MIS suspects unauthorized access to their data, PC, or laptop, the policy should provide a clear path for reporting and acting on such an occurrence.

Similarly, enterprise applications that run on servers as opposed to desktops also must be protected. These applications often have access points outside of normal channels

(back doors) to allow for easier maintenance of data and transactions. Use of these tools needs to be very limited and restricted to certain individuals, and MIS needs to track usage of such access and be able to report it at a detailed level.

Recommendation 5.2 – Update existing security and usage policies for all IT equipment, software and services.

Priority: Low to Medium
Cost Range: $0
Findings Addressed: 5.2

One of the focus groups informed us that the County has one or more policies governing employee usage of IT resources, presumably governing issuance, expectations for care and use of equipment, and personal use. None of the other focus groups mentioned the existence of such policies, and a few staff members were unaware that these policies exist.

MIS should locate these documents and update them to reflect the current technology environment, including use of laptops and phones, Internet access, and password maintenance. The updated policies should then be published, with some sort of training provided to all affected employees. This can be done via a department-by-department series of meetings, recording of a presentation viewable from the website, or some other format.

If possible, the County should require employee signoff that they have read and understand the policy, which provides the County some measure of protection for its equipment, software, and data. Some labor union agreements or civil service rules prevent governments from implementing that requirement, and this should be verified first.

Recommendation 5.3 – Review policies to ensure alignment with departmental operating procedures and goals.

Priority: Low
Cost Range: $0
Findings Addressed: 5.1

Security policies represent an excellent opportunity to develop lines of communication with user departments and improve the alignment of MIS policies with operational goals. Users often struggle to understand what security measures are in place, and what risks they are designed to mitigate. Similarly, MIS needs to understand the operational impact of security measures so that they can provide adequate protection and risk mitigation without unduly interrupting operations. Both groups need to clearly explain their needs so that a common solution can emerge.

Focus groups discussed a handful of cases where the level of security did not seem to match operational requirements. Access to work-related websites, ability to connect to state systems, or the ability to share data with other County employees can all be affected by security policies and procedures. To date, these have been implemented with little input from the user community. As a result, users have expressed some frustration – in large part because they do not understand how security is implemented, what it is intended to protect, or what the risks and alternatives are.

At times, MIS lacks an understanding of the impact of its security solutions on operations, and as a result it is extremely difficult to ensure that those solutions match the risks they are intended to mitigate. While the County should continue to pursue an active security policy, GFOA recommends that MIS do more to educate the user community, and to understand the operational impact of its policies.

Systems Integration

Recommendation 6.1 – Assess and prioritize the need for data warehousing and business intelligence tools

Priority: Low
Cost Range: $0
Findings Addressed: 6.2

One of the trends that GFOA has seen in government clients across the United States is an increase in the use of data warehousing and business intelligence (BI) software.

Data warehousing software pulls together data from multiple systems into a single database. Users can then use analysis tools (or even Excel or Access) to look for trends, compare data to key performance measures, or do other sorts of comparative or analytical computing. Governments looking to deploy performance measurement programs often need a data warehouse to capture data from disparate systems, such as GIS, core financials, and work order management.

BI software goes one step further and provides analytical engines that support a 'digital dashboard,' or desktop decision-support software. Managers and executives who need fast access to summary data compared against benchmarks often take advantage of such technology. Again, governments that find they need data from a wide variety of non-integrated systems also look to this type of platform to help them manage programs and budgets.

While none of the focus groups nor the recommendations workshop team felt this was a pressing need for the County, GFOA believes that this is a trend that will grow in importance, and the County should stay abreast of it. To do this, MIS should allocate

some time to staying informed about new and innovative technologies and approaches, and how governments are using them. MIS can then evaluate those against County needs to judge their applicability. The results can also be used to update an IT Strategic Plan if the County adopts that recommendation.

Recommendation 6.2 – Update software development and software selection processes to include integration requirements

Priority: Low
Cost Range: $0
Findings Addressed: 6.1

Currently, there is a low degree of systems integration at the County. Systems integration refers to the automated flow of data among systems, which eliminates the need for redundant data entry and helps eliminate transactional errors. Governments that pursue enterprise resource planning (ERP) systems are often looking for systems integration to provide significant benefits in terms of efficiency and productivity.

As with recommendation 6.1, there was very little interest or need expressed by the focus groups or recommendations workshop for a higher degree of systems integration. Most users felt that any duplicative data entry was minor and had little impact on their operations.

GFOA recommends that any future software procurements include requirements built around integration. For example, if the County pursues a new time entry system in the future, it may wish to include a requirement that the software be able to send data automatically to the payroll system or even into the general ledger. Other examples include fleet management, work order systems, or budgeting software.

Appendix A Online Survey Results

287 Jefferson County staff members responded to GFOA's online MIS Audit Survey. The questions and responses are provided in detail below.

Respondent Characteristics

1. Please identify your role at Jefferson County

a. Executive (County Board of Supervisors, County Administrator)	5.7%
b. Managerial (department heads, other elected officials)	11.3%
c. Supervisory (team leaders, area managers)	14.1%
d. Staff Employee	69.3%

2. How long have you worked at Jefferson County?

a. 0-5 years	24.4%
b. 6-10 years	24.4%
c. 11-15 years	16.3%
d. More than 15 years	35.3%

3. What MIS services do you use (personally, not as a department)? Check all that apply

a. Hardware or software purchases	32.8%
b. Desktop support	73.7%
c. Training	43.7%
d. Information Technology planning	16.6%
e. Programming changes, including web page changes	24.3%
f. Generating reports or other data needs	42.5%
g. Other	12.1%

4. How much contact do you have personally with MIS?

a. A lot – almost every day	6.3%
b. Frequently – once a week	11.2%
c. Sometimes – a couple times a month	35.4%
d. Rarely	40.7%
e. Never	6.3%

Rate the MIS Department

5. How would you rate the effectiveness and technical skill of MIS in providing services you have requested?

a. Excellent	24%
b. Very Good	32.7%
c. Good	30.3%
d. Fair	11.8%
e. Poor	1.2%

6. How would you rate the timeliness of MIS in providing services that you have requested?

a. Excellent	20.9%
b. Very Good	31.2%
c. Good	27.3%
d. Fair	13.8%
e. Poor	6.7%

7. How would you rate the professionalism of MIS in providing services that you have requested?

a. Excellent	26.9%
b. Very Good	33.2%
c. Good	28.9%
d. Fair	9.5%
e. Poor	1.6%

8. How would you rate the MIS department's ability to provide training and support on County-provided desktop applications like Microsoft Office, email, etc?

a. Excellent	21%
b. Very Good	28.8%
c. Good	30.9%
d. Fair	14%
e. Poor	5.3%

9. How would you rate the MIS department's ability to provide advice and suggest best-available alternatives for information technology issues that arise in your area?

a. Excellent	16.9%
b. Very Good	29.3%
c. Good	28.5%
d. Fair	19.4%
e. Poor	5.8%

Rate MIS at the County- and Department-wide Level

10. I believe that the MIS department keeps the County up to date from a technology perspective.

a. Strongly Agree	19.9%
b. Agree	34.7%
c. Neither agree nor disagree	29.1%
d. Disagree	12.7%
e. Strongly Disagree	3.6%

11. I believe that the MIS department can effectively help plan and execute information technology projects in my department.

a. Strongly Agree	19.2%
b. Agree	34%
c. Neither agree nor disagree	32.4%
d. Disagree	11.2%
e. Strongly Disagree	3.2%

12. Overall, I believe the MIS department is an effective partner in helping meet my department's information technology needs.

a. Strongly Agree	21.9%
b. Agree	34%
c. Neither agree nor disagree	29.1%
d. Disagree	11.7%
e. Strongly Disagree	3.2%

13. I believe the County makes a sufficient investment in information technology.

a. Strongly Agree	12.5%
b. Agree	38.3%
c. Neither agree nor disagree	32.7%
d. Disagree	13.3%
e. Strongly Disagree	3.2%

Appendix B Market Research

Douglas County			
Population:	44,000	*Number in IT Dept:*	3
Operating Budget:	$59 million	*Number of Employees:*	320
IT Budget:	$780,000	*Technical Architecture:*	IBM i5 and Microsoft Servers

Organization of IT Department

- The Douglas County IT Department is functionally merged with the City of Superior IT Department. Each department has three staff members and shares servers and common costs on certain equipment as well as staff knowledge.
- Staff composition: Each County IT staff member is involved in all aspects of IT administration because of the small size of the staff and the need to fill in when people are out of the office.
- The IT Director reports to the County Administrator, who reports to the Administration Committee of the County Board. Occasionally, the IT Director attends committee meetings to discuss IT initiatives.

Help Desk / Support

- There is no formal help desk.
- Users generally know who on staff to contact for specific issues, but many calls go to the Director who then delegates work.
- City IT technicians provide assistance to the County when needed and vice versa. Staff members from the two departments help each other where they can.

Training

- IT staff does not conduct trainings for departments or users, but IT does maintain an on-site training facility
- Departments are able to use the facility to provide trainings for users. On occasion, experts from the state or from a local technical college are invited to conduct trainings.

Collaboration with Departments

- Communication with departments is informal through memos, email, and meetings with department managers.
- Departments track their own hardware replacement schedule and budget for their own equipment, and IT makes these purchases. IT pays for equipment that affects everyone or many departments.
- If IT sees a need, it discusses this with the department so plans can be made for replacement or purchase of new equipment or software in the budget

Strategic Planning

- IT priorities are determined within the IT Department; the County Administrator does not provide much input on IT priorities.
- The Department plans as far out as 10-20 years, but not in a formal written plan. Rather, projects and upcoming events are recorded and prioritized on a giant whiteboard which is reviewed and adjusted as needed.

Ozaukee County

Population:	87,000	*Number in IT Dept:*	8
Operating Budget:	$82 million	*Number of Employees:*	650
IT Budget:	$1.5 million	*Technical Architecture:*	Windows server, AS400

Organization of IT Department

- Staff composition: one director, one assistant director, one network administrator, two PC technicians, one programmer/analyst, one radio programmer technician (works on Sheriff's radio technology), and one communications manager
- The IT Department is centralized. Most departments have an IT contact who is the primary liaison with the IT Department and who responds initially to user questions.
- The Assistant IT Director is 80% dedicated to support of the Sheriff's Department.
- The IT Director reports to the County Administrator, who then reports to the County Board and the IT oversight committee.

Help Desk / Support

- The County has no formal help desk.
- The IT Director and Assistant Director take calls and issue work orders to PC technicians and programming staff.
- A Track-it program is used to log and track issues. However, the department does not use all functions available in this system.

Training

- Some customized training is offered on Microsoft products, including a recent series on the differences between Office 2003 and Office 2007.
- Department-specific trainings are handled at the department level.
- Outside training for IT staff is limited.

Collaboration with Departments

- Departments are involved very informally in IT planning. During budget development, department heads are asked what resources they need for the upcoming year. IT assists with research on new hardware and software packages as needed by departments.
- IT priorities are not well-communicated with departments. Some communications come through the Administration Department.

Strategic Planning

- The County Administrator sets goals for IT, with input from the IT Director. The IT Department's priorities are based on these goals.
- The County does not have an IT strategic plan.

Other

- Office 2007 has been deployed in some departments. Windows Vista is in use in one department that needed it for a specific software package.

Rock County (larger county, provided as a "best practices" example)			
Population:	170,000	*Number in IT Dept:*	22
Operating Budget:	$165 million	*Number of Employees:*	1200
IT Budget:	$3.8 million	*Technical Architecture:*	Multiple: HP 9000, HPUX, Windows servers

Organization of IT Department

- Staff composition: the department includes 1 director, 1 assistant director, 1 manager of programming and technical services, 5 user support specialists (desktop support), 2 network technicians, 5 programmer/analysts, 1 network engineer, 1 telephone coordinator, 2 help desk staff, 1 admin support
- The IT Department is fully centralized.
- Although some user departments have informal IT "go-to" people that IT staff work with more often, most users call the help desk with questions.
- The IT Director reports directly to the County Administrator as well as the Finance Committee of the County Board.

Help Desk / Support

- A help desk with two dedicated staff members receives 90% of calls.
- All five user support specialists are cross-trained in help desk support functions to fill in during vacations, sick leave, or to help cover heavy call volumes.
- The department developed its own help desk tracking system. All issues are entered in the system and are tracked until they are resolved.

Training

- The County has an IT Training Center with 12 workstations. One of the user support specialists conducts beginning and advanced training on Microsoft Office products and the County's email system on a regular schedule.
- Training is also offered on department-specific applications. Most often, vendors are invited to use the training center to conduct these trainings.
- The County spends approximately $50,000 per year on technical and skill-specific training for IT staff.

Collaboration with Departments

- Most departments or clusters of departments (such as Human Services, Public Safety, Land Records) have an IT committee composed of department leadership, key staff, and representatives of the IT Department. Committee meetings are a forum for sharing information about upcoming projects and department needs.
- For the departments that do not have a formal IT committee, the IT director meets one-on-one with the department heads.
- IT initiatives are communicated through the IT committees, but may be communicated via email, phone calls, or in-person visit from the IT Director or an IT staff member.

Strategic Planning

- IT strategic planning is a collaborative effort among the IT Director, the County Administrator, and Departments. The goal of strategic planning is to keep IT in synch with the business needs of user departments.
- The 5-year strategic plan is updated annually during the budget process. Goals and strategies developed by IT staff, Department leadership, and the County Administrator go to the County Board for approval.
- The IT Strategic Plan is linked to the County-wide capital improvement plan.

Sauk County

Population:	55,000	*Number in IT Dept:*	11 (including 2 GIS staff)
Operating Budget:	Not provided	*Number of Employees:*	620
IT Budget:	$1.5 million	*Technical Architecture:*	AS400, iSeries, IBM P-series

Organization of IT Department

- Staff composition: one director, one application developer, one mid-range systems administrator, one web developer, three help desk technicians, one network administrator, one lead support technician, and two GIS specialists.
- The IT Department is centralized, but large departments, especially those at remote locations, have an unofficial IT liaison.
- The IT Director reports to an oversight committee of the County Board.

Help Desk / Support

- Three people staff the County's IT help desk. It is the starting point for users and departments with IT concerns. Issues are escalated from the help desk to other IT staff as necessary.

Training

- No formal training is provided on Microsoft products. The IT Department will help departments locate outside resources for training if necessary
- Training for other products or department-specific applications is provided based on request. Vendors also deliver some training to departments.

Collaboration with Departments

- An annual budget survey is sent to all department directors to obtain resource needs and input.
- Quality of service surveys are also conducted periodically throughout the year.
- IT initiatives are communicated at monthly department director meetings and via email.

Strategic Planning

- IT priorities are determined in a collaborative effort between the oversight committee and department heads.
- IT strategic initiatives are tied to the county-wide five year strategic plan, which is reviewed and adjusted every two years.
- The IT department's goals are linked to overall county goals. These broad goals and objectives are developed in the budget process with input from the County Board.

Shawano County

Population:	42,000	*Number in IT Dept:*	6
Operating Budget:	Not provided	*Number of Employees:*	<500
IT Budget:	Not provided	*Technical Architecture:*	iSeries

Organization of IT Department

- Staff composition: one manager, one network administrator, one webmaster/desktop support, one communications analyst, one help desk coordinator/trainer, and one GIS analyst
- The IT Department is centralized. Users in large departments usually go through one point of contact (a super user with technical knowledge) for PC issues, major projects, and initiatives. The super user then contacts IT.
- The IT Manager reports to the County's Administrative Coordinator, who reports to the County Board through an Administrative Committee.

Help Desk / Support

- An IT help desk is the first line of contact for IT support in the County. Sometimes users call IT staff directly, but they are encouraged to call to the help desk.
- 80-90% of questions and requests that come through the help desk are resolved over the phone.
- HelpStar is used to track help desk calls and to bill time to departments at an hourly rate (IT is an internal service fund in the County).

Training

- One staff person serves as a dedicated trainer for the County and provides trainings on county-wide applications and applications with many users. In some instances, a train the trainer approach is used.
- One-on-one training is offered for new staff members at no charge to the department
- Courses are offered based on need.
- Trainings are also provided by vendors
- IT staff training occurs as needed, such as a recent week-long training on Office 2007.

Collaboration with Departments

- Collaboration mostly occurs during the budget development process when IT gathers upcoming initiatives and requests from departments.
- Monthly management team meetings are also a venue for obtaining input and informing departments of new initiatives.
- If the IT Manager sees a need in a department, such as a highly manual process, he will work with the department to find a solution for automating the process.

Strategic Planning

- IT staff works together to prioritize projects during a weekly team meeting; the manager has final approval. The County Administrative Coordinator is involved only at a high level.
- A loose three year strategic plan is in place and is reviewed annually during the budget process.
- The Department also develops a 2 year budget plan that is updated periodically based on changes to technologies and budget constraints.

Other

- The entire county converted to Office 2007 over the summer of 2008. Staff were trained before receiving the software on their PCs. The IT trainer developed training materials and used IT staff as "guinea pigs" to test the training before it was administered to users.

St. Croix County

Population:	80,000	*Number in IT Dept:*	8
Operating Budget:	$92 million	*Number of Employees:*	530
IT Budget:	$1 million	*Technical Architecture:*	Windows servers

Organization of IT Department

- Staff composition: one director, one network administrator, one systems programmer, one help desk support, and four technicians
- IT is centralized, but two departments (Law Enforcement and Planning and Zoning) have their own IT specialists on staff.
- The County Administrator is not involved in IT. The IT Director reports directly to the Finance Committee or the County Board.

Help Desk / Support

- The County has one help desk staff as first line of contact with users and departments. If the help desk technician is unable to answer a question, issues are forwarded to the proper IT staff member.
- An internally developed Access database is used as a help desk log. Calls as well as resolutions are recorded so that staff can look back to see how a specific problem was solved in the past.

Training

- Training on Microsoft Office products is offered as needed, particularly when there has been a high amount of staff turnover in a specific department. One of the staff technicians conducts these trainings.
- Departments are in charge of training for department-specific applications
- IT staff members have many opportunities for trainings in the nearby Twin Cities area. Courses are taken as needed.

Collaboration with Departments

- Departments budget for their own equipment and often ask IT for input during the budget process.
- Departments must submit requests for hardware replacement. IT reviews the requests to see if the new equipment is needed before the items are budgeted or purchased.
- IT initiatives are discussed during monthly department head meetings.

Strategic Planning

- IT priorities are discussed and formalized with the Finance Committee during the budget process
- The department used to have a formal strategic plan, but since the plan became out of date quickly, a 3-year capital outlay plan is now used instead.
- The capital outlay plan is adjusted annually, and includes the major goals of the department for each year.

Other

- The County offers wireless internet throughout the government center. This includes a secure network to allow staff access to the County's network as well as an unsecured network for visitor access to the internet.

Walworth County

Population:	100,000	*Number in IT Dept:*	14
Operating Budget:	$155 million	*Number of Employees:*	870
IT Budget:	$1.6 million	*Technical Architecture:*	Intel Systems Server, AS400

Organization of IT Department

- Staff composition; one director, two application development supervisor, one network applications supervisor, three analyst/programmers, one GIS analyst, one network administrator, three support specialists, one help desk analyst, one computer operator
- IT is centralized, but three large departments have IT liaisons for coordination of IT purchases and major IT issues.
- The IT Director reports directly to the County Administrator.
- All IT costs come out of the IT budget.

Help Desk / Support

- All calls for IT support are supposed to go through a help desk. One help desk analyst is on staff, but three support specialists are also able to take help desk calls.
- A Track-It system is used to log all calls and resolutions

Training

- Microsoft and department-specific application training is not provided internally.
- IT coordinates with outside facilities and trainers to provide training based on department needs
- The County has two large training labs, which can be used for IT project roll-out. In addition, these facilities can be used if departments bring in a vendor or an outside resource to provide training on any applications
- Each year, the IT department budgets for skill-specific staff training. The amount budgeted differs depending on training needs.

Collaboration with Departments

- During the annual budget process, departments complete project investment justification forms for any IT projects they would like to initiate in the coming year. Departments write about their needs and IT assists by providing technical assistance and cost information.
- The project investment justification forms are used for decision-making during budget development. IT must also complete a justification form when it proposes a project.
- In addition to using the justification forms to communicate IT needs and projects, the IT department also provides information to user departments in administrative staff meetings.

Strategic Planning

- IT project priorities (as identified in the project investment justification forms) are coordinated by IT director. Decisions about which projects are approved and budgeted are made in collaboration with the County Administrator.
- The five year plan is a hybrid capital outlay/strategic plan. The plan includes direction that the County wants to go with certain technologies.
- At minimum, the plan is updated annually. This year the plan enters a new five year horizon, so it will be closely reviewed and expanded.

Other

- The County recently implemented a wireless project. Currently, wireless network access is available throughout conference rooms, computer labs, and court rooms.
- No public internet access is available at this time, although the County plans to expand its wireless offerings in the future.

Dodge County

Population:	86,000	*Number in IT Dept:*	10 -11
Operating Budget:	$101 million	*Number of Employees:*	800-900
IT Budget:	Not provided	*Technical Architecture:*	AS-400; iSeries; Windows, Linux, and SQL servers

Organization of IT Department

- Staff composition: one director, one manager/project administrator, one network administrator, two network technicians, two systems analysis/programmers, two network analysts, one help desk coordinator, and one system programmer
- The IT Department is primarily centralized. One customer department (Sheriff) has an IT specialist. Others turn directly to the IT Department for assistance.
- The IT Director reports to the County Administrator and the County IT Committee. The Committee sets all policy and procedure for IT and has authority for all purchases and other technology matters in the County.
- An IT Advisory Committee made up of power user department heads is in place. The Committee has no decision-making authority.

Help Desk / Support

- The County has an IT help desk, staffed by one person.
- Cross training of staff allows for help desk coverage during illness or vacation.
- A large share of requests and questions are resolved at the help desk level. Help desk staff use remote desktop support when needed.
- "Tickets" are opened for each help desk request, given a priority level, and assigned to appropriate staff. The staff member assigned has 15 minutes to acknowledge the ticket.

Training

- Training has been contracted out for the last six years.
- The trainings are regularly scheduled and are held in an onsite training room.
- A course list is developed annually, including a range of beginning, intermediate, and advanced trainings for Microsoft Office products.
- The County has an online sign-up system that allows employees to sign up for training with manager or supervisor approval.
- Customized trainings are designed for department-specific applications as needed.

Collaboration with Departments

- Input from departments is gathered in an informal process, primarily from department heads as well as through the IT Advisory Committee. When IT hears that departments/users want something to make work easier, IT will consider the department's needs and develop recommendations.
- Significant changes that will impact many employees or departments are always reported to the Advisory Committee.

Strategic Planning

- The County has a three year Technology Roadmap, which includes broad goals for the IT Department, funding sources, department impacts, impacts on finance, and other information.
- All technology initiatives/requests go through a planning process and categorization. The IT Department reviews requests, and the IT Director has authority to place items

on the road map through prioritization and scoring of the requests. The Advisory Committee plays a role in reviewing requests throughout this planning process.

- The Technology Roadmap is adjusted quarterly or biannually. It is a working document that is regularly revised and updated with new information and initiatives.