Proposal of an Operations Department Model to provide IT Governance in Organizations That Don't Have IT C-level Executives

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Abstract: For small organizations, there may not be enough resources to justify a 'C' level executive dedicated to information technology. The issue then becomes what structure can be used to provide for the same level of governance without that high-level visibility. One possibility is to include IT in the services that a landlord would normally provide to a tenant. The business units focus on the business and the proposed Operations Department model provides for all of the support structure needs. Those support structures provided by an Operations Department could include IT, facilities, heat, phones, cable TV, fleets, remodels, purchasing, moves or changes and project management. Since the Operations Department will be supporting the business units, it can assist and manage the IT infrastructure and use.

Keywords: IT Governance, organization size, operations

Introduction

IT governance procedures and methods have been studied in detail. Heier et al [7] provide a widely acknowledged list of business drivers that IT governance impacts: increasing IT pervasiveness, compliance requirements, ROI pressure, strategic IT sourcing, and cost control. These factors have been generalized to impact on IT operations in almost any business. One of the areas that have not been studied is the impact of organization size on IT governance. Many smaller organizations may not be able to fulfill the requirements of typical IT best practices due to lack of resources.

Moskowitz and Kern describe the evolution of IT partnering growing from the initial perception that IT is a necessary evil to that of a service provider and finally a business partner [8, p.28].

- Necessary Evil: Fixit staff, maintenance, no client services, and no business coordination.
- Service Provider: Customer service oriented performance management, standards, help desk, training, productivity, and business applications.
- Business Partner: Partnering matrix, revenue enabling, product creation, business alignment, relationship management and education.

Without a CIO, the organizations will have elements of the ‘Necessary Evil’ and ‘Service Provider’ category. The CIO function is necessary to develop the elements of the ‘Business Partner’ category. The CIO role provides the initiative to develop organization wide integrated applications that is not seen in the necessary evil or service provider categories.

One of the key governance issues is the director or C-level visibility for IT. The typical CIO level position is able to implement and enforce IT practices across the entire organization. Moskowitz and Kern also describe the relationship among the enterprise strategy, business IT strategy and business units [8,p.41]. The C-level influence is critical to tie the enterprise strategy and the information technology strategy together.

A small organization may not have a dedicated CIO or C-level type of position. If a small organization does not have the CIO type of position, how can IT strategy, practices, or governance measures be applied across the organization? This paper proposes a new organizational model called “Operations Department model” based on the establishment of an operations department for small organizations.

The Operations Department model provides the services that a landlord might provide to a tenant. Any organization will have both functional lines of business and administrative tasks. The operations department model is designed to allow the functional department to focus on business issues rather than administrative ones. The operations department would be assuming the responsibility for the administrative tasks where possible. Some administrative tasks may need to remain in the department such as secretarial support or items that departments want to maintain for political reasons. For example, some fire departments maintain their vehicle fleets whereas other departments will allow the shared resource to maintain the fleet. The operations department is able to provide the support structure that is necessary to support any business operations such as IT, facilities,
phone, cable TV, central services, purchasing, and project management. The operations department would assign an individual to serve as a client account manager. That person would learn the business logic of that functional unit so that they can act as a partner to them. Since the client account manager role is assisting the firm in implementing the technology, he or she can provide the IT governance function. The operations department then is able to provide the governance function across the entire enterprise from the bottom up as opposed to the traditional top-down approach.

In most organizations, IT provides the first line of support for any technology. If someone is not sure who to ask for help, they will ask IT first. The IT help desk function is available and trained in problem determinations. Even if the issue is not technology related, people will ask IT since IT resources are available. The Operations Department model builds on this role so that the functional business units are asking Operations for support for all of their needs. If we follow Nicholas Carr's "IT is not strategic" argument from 'Does IT Matter' [2] then IT may not be viewed as critical by operating department staffs. They view it as just part of the business. As IT has matured, many of the line department staffers can provide support independent of a central IT organization. The local support detracts from the view that central IT is needed. That in turn leads back to local or department view of what IT is or needs to be. The view becomes shorter sided and the perspective is that of the functional unit and not the entire enterprise. The Operations Department model maintains visibility into each department to help guide the internal IT activities.

There is also a funding issue for enterprise wide projects. Without a C-level presence, the projects will become the property of the department that provides the funding. If a department funds a project, they are the ones that dictate the implementation criteria and functionality. Some projects require a global perspective to get funded such as VoIP phones. No one functional department will have the vision or resources to create enterprise wide implementations. One of the key benefits of any application is not just in the application itself but the integration with other organization applications. Unless there is an IT governance mechanism, the integration of applications across the enterprise will be haphazard and random at best.

A side benefit of the Operations Department model is the career growth of the account managers. The model allows IT staff the capability to better understand the business logic of each department. The account managers can be exposed to all parts of the organization. In so doing, they are more prepared to take leadership roles and some of them may ultimately become the chief executives.

The Operations Department model is based on the assumption that there is no CIO level presence. However, the model would also work if the CIO is in charge of the operations department.

Large versus Small Organizations

One of the key differences between large and small organizations is the lack of resources for small organization’s IT operations. Normal staffing structures and span of control guidelines for a given industry require a specific minimum number of employees for any given level of management. Most C-level executives require that equal to or greater amount than a director level. The titles that a Human Resources function will establish for a company are many times based on the size of the unit. For example, generally Human Resource definitions require a number of classification levels if there will be a senior level. Some governmental organizations require a minimum number of employees in a division before a specific level of supervisor position is approved. For example, Orange County, California, personnel procedures require that there is a larger staff for an IS Manager III than a IS Manager II. The IS Manager III is a higher designation since it manages a larger budget and staff. In the same way, many firms will not allow for a Director or C level without a minimum number of direct reporting staff. Many small organizations cannot afford a C-level executive dedicated to IT since there is not a high enough budget or staffing level to warrant it.

In most small government organizations, IT reports to the Administration Services Department. However, IT can also be a function underneath other departments such as Finance, Public Works, Public Safety and even the Library. Initially, IT has become a part of the department of whichever director had an interest in IT. Over time, it has migrated to the administration function. For local government in the State of California, unless the City has a population over 150,000, IT will not generally report directly to the City Manager. At best, IT will report to the Assistant City Manager or the Administrative Services Director. These numbers come from the membership of the Municipal Information Systems Association of California or MISAC [9].

The traditional governance assumption is that there is high-level management support for IT activities. The situation changes when there is no person directly focused on IT activities. A director level
position may be tasked with IT management but that focus is blended in with other business unit responsibilities. The amount of effort given to IT governance may be dependent on the level of interest of the director. The issue is then how traditional governance activities can be accomplished without a dedicated high-level management presence or interest. The research question for this paper is how can the Operations Department model provide IT governance in small organizations that do not have IT C-level executives?

The Operations Department model is expected to be more effective in smaller organizations. By definition, a smaller organization will have fewer resources. The model allows for a better level of service since there is only one support contact. Smaller organizations have less time and resources to resolve problems or concerns. As the organization grows, there are additional resources to allow the Information Technology function to be a separate department. As this area is explored, a guideline should be developed for the organizational size threshold of when it is more effective to have the IT function as a separate department. For any organizations, there are sunk or fixed costs and marginal costs. The initial revenues for any organization should cover the fixed costs and marginal costs. Once the fixed costs are met, the marginal revenues or benefits will exceed the marginal costs by the amount attributed to the fixed costs. As the organization grows, the marginal revenues or benefits should exceed the marginal costs allowing more resources for specializations and additional functions. For example, if a City has an increase in building inspections, the marginal cost would include additional inspectors but many of the base costs such as automation or in-office functions may not increase. The larger organizations can allow for more business function specialization since there are revenues available. A small organization may not be able to justify a dedicated Database Administrator. There may not be enough database tasks to warrant an in-house resource. As a proxy for database tasks, an increase in organization size will at some point warrant a dedicated in-house resource.

Smaller IT organizations cannot perform all of the normal functions of larger IT departments due to a lack of resources. IT departments from small government organizations tend to be aware of IT best practices. Small government IT departments generally have mature business practices that have been set by legal requirements or business audits. There also tends to be communication and shared practices among the agencies IT departments since the business field does not involve direct competition among agencies. The installation of best practices is not a question of comprehension but a management decision to allocate scarce resources. Some tasks are outsourced and some tasks may not be completed on a regular basis. Some normal IT tasks such as documentation, planning, or testing may not be performed as often as a best practice would suggest.

As part of the MISAC, I have been managing and developing the ‘Excellence in IT Practices’ audit program which evaluates municipal and special government IT operations against best practices criteria which have been customized for local government. For 2009, there are over 100 review questions, which have required detailed responses and samples of policies or documentation. The evaluation program has been in existence for ten years and has reviewed over 200 applications. The consistent finding of the review committees has been that smaller organizations have incomplete processes in the areas of documentation, application testing, disaster recovery, strategic planning, and proactive customer service. Due to the limited resources, the smaller departments are generally reactive in nature. The small departments can develop good customer relationships since there is an intimate environment but there is no time to develop and guide more strategic or proactive processes.

Small organizations may not be able to understand all of the current requirements for business controls such as Sarbanes-Oxley and other recent legislation. For small organizations, many administrative projects are developed in functional departments and may be unique and not repeated. Any knowledge that is learned may or may not be needed for future projects. Similar projects may not be assigned to the same staff members so the knowledge may not be reused. The issue is that the staff that has the specialized knowledge may not understand or develop the business process or reporting requirements. An operations department allows for that expertise to be centralized and implemented across the organization. The projects are assigned to project management staff to coordinate them while fulfilling any legal or business practice requirements. A simple example for government entities might be the development of Environmental Impact Reports or EIR’s. EIR’s can require specialized knowledge in order to meet local legal requirements. For example, California has the CEQA or California Environmental Quality Act that has specific requirements, which need to be fulfilled and documented.

Small organizations also tend to be more risk adverse than larger organizations due to the limits on resources. Especially in the government sector, most small organizations do not see the need to be on the
‘bleeding edge’ of technology. The potential cost in resources for a project failure would outweigh the benefits. Since the business processes are mature, system implementations are more incremental than revolutionary.

The proposed Operations Department model is focused on organizations that have limited revenue for specialization. It is assumed that it is preferred to follow a traditional IT governance model with a C level IT presence. The Operations Department model provides an IT governance structure with a minimum amount of resources. Ribbers et al. [11] discuss that IT coordination and control should be lateral processes running across business units and IT departments. The Operations Department model builds on this concept.

Since smaller firms have less funds for specialization they will be more likely to use outsourced IT resources. Outsourcing can provide for IT Governance at a lower cost but the issue continues to be at what level of effectiveness. The question for each organization is then how to manage the outsourced function. For small governmental organizations the most effective outsource model is to have a single government employee manage the contract and serve as the technology advocate. A number of Cities in California follow this model. The advocate is able to be proactive with each department in integrating the technology and business strategies. Some small cities have tried to have the outsource agency provide the CIO level function but they do not have the constant interaction with the City departments to allow for business philosophy and thought interchanges. There is also a philosophical problem in that the goal of the outsource provider is to maximize revenue or profits, not necessarily providing services. Government agencies need to provide services while controlling IT expenditures.

The Operations Department model provides for the role of technology advocate. The account manager type of position allows for internal resources to manage the outsource contract. The functional department only needs to deal with the internal account manager and not the outsource vendor. The model is designed to have a person, who is knowledgeable about the organizations culture and environment, work with the functional departments in developing new applications and technology implementations.

**IT Consolidation Within Organizations**

Municipal or local government can be used as an example of a mature industry. From a research point of view, the organizations are generally not growing or experiencing great technological change, which would affect the organizational design.

The goal of most IT organizations is to become a separate department that reports to the chief executive. Since the IT Director is then at the level of other Directors, he or she will have visibility into other departments. The Director will also be more likely to get the support from the chief executive. The organization of California IT municipal managers, MISAC [9] has had one of its goals to gain acceptance by the League of California Cities political organization that supports cities. Many city managers use the organizational structure of the League of California Cities as a model. Currently, the league does not have Information Technology as a separate department. MISAC is working towards encouraging the League to designate information technology as a separate department. The recognition would allow smaller IT organizations to have visibility to the chief executive that might not be allowed due to their small staff or resources.

Recently, there has been a reversal of the growth of IT as separate departments and specialization due to economics. The decision makers do not feel that the specialization is worth the cost. In 2008, the City of Davis, California, has reorganized IT from a separate department to one that reports to Administrative Services. In 2009, the City of Stockton, California, has reorganized IT and two other departments out of existence. The job functions have been moved to other departments. The focus has moved away from having a C-level executive since the IT functions are being combined with other departments. There is a cost to having a C-level executive dedicated to IT. Many agencies feel that level of visibility is too expensive.

**The Maturing of IT**

Information technology has matured so that in many ways, it is a commodity but specialized resources are still needed. The Operations Department can provide the skills that are on both ends of the spectrum. The maturing of technology allows for the standardization of technology. As one example, it took a significant effort and time to setup a single workstation using Novel version 3 (1996). Today, networking is a simple choice of menu options in the operating system. IT has matured by choices made in the market place. The marketplace has chosen technology standards.

Printers and workstations have become commodities. The operating system hides almost all of the differences among computer manufacturers. There may be differences between an Intel and AMD processor...
for some applications but they will not be readily apparent for office applications.

The specialized IT support unit within an Operations Department is still necessary for the mundane tasks of:
- Workstation installations and security settings
- Low level Help Desk calls and support
- Purchasing

Some of the activities that include advanced skills include:
- Support of ‘Power’ users and development of specialized applications or databases
- Development of standards and review of technology
- Integrating disparate applications and information
- Providing remote access

As users have become more sophisticated, they need a more advanced level of support. The ‘Power’ users can create their own applications. The support and guidance from the Operations Department staff can help to integrate enterprise data and programming standards into the departmental developed applications. Since the local applications will be using enterprise standards, the data should be in a form that will be available to other applications.

Many of the current technologies, such as Software as a Service and Cloud computing, move the computing away from the organization to a separate entity. There are numerous benefits to the users and support staff but it also is an indication of the maturity of the industry that the developers increasingly host applications. The IT support structure and governance may not have to deal with the routine tasks of maintenance but they will still need to work with service levels and also integrate the information with other organization applications.

A key question is whether an IT Department needs a manager that has a technical background. As an IT department grows in size, the manager’s role changes from consisting of technical tasks to project and personnel management tasks. The City of Ontario, California has approximately 10 IT staff members. When questioned about how often the Director has worked on a PC, he responded it had been a couple of years since he last provided technical support [1]. The City of Santa Clarita, California has always had a focus that they wanted a good manager for the department and not necessarily a technical one [13].

The last two managers have been very successful but have not had technical backgrounds. The previous IT manager was promoted to Assistant City Manager. The size of Santa Clarita’s IT staff is also around 10 members.

From my own experience as an IBM Systems Engineer (1987-1994), the project management and client interaction related skills were more valued than the technical skills. IBM is a sales organization so it makes sense that the Systems Engineers would be motivated to manage the installations of equipment. What is interesting is that the position of Systems Engineer was considered a stepping-stone to mid or high level positions in client or other firms. It was a common occurrence for the SE or marketing representative to be hired as a mid or high-level manager with the same customer that they sold equipment to. The companies were valuing the project management skills higher than the technical skills.

**The Operations Department Model**

The Operations Department model encourages IT governance practices where there is little high level management direction, which is typical of small organizations. Most small government organizations do not have a high-level position dedicated to IT management. If there is no high-level position then there is little emphasis on IT governance. The Operations Department model provides a governance structure that is enforced through policies and practices rather than direction from top management.

Weill and Woodham's IT Governance study [14] provides a number of points that support an Operations Department type of governance model. The model for most small departments would be a Business Monarchy in which one or more senior business executives make all the IT-related decisions affecting the entire enterprise. Since there are no C-level IT executives, the decisions are being made by the CEO, COO, or CFO type of positions.

The key finding of Weill and Woodham's study of multinational firms was that “An effective IT governance structure is the single most important predictor of getting value from IT.” The key of an Operations Department model is to provide that structure to support a de facto Business Monarchy or Federal IT governance structure. Weill and Woodham [14] define governance as “specifying the decision rights and accountability framework to encourage desirable behavior in the use of IT.” They also describe the four domains of governance: principles stating how IT is used in the firm; infrastructure providing the shared, standardized, and centrally coordinated IT services for the firm; architecture defining the standards and guidelines for IT, use of data, design of applications, and change management processes; and investment and prioritization covering the prioritization of IT investments and the procedures for IT project proposals, justification, approval and accountability. Finally, they describe five IT
governance archetypes: business monarchy in which CEO, COO, CFO, and some other senior executives have the decision rights; IT monarchy in which the CIO or a group of IT executives have the decision rights; feudal in which the business unit leaders and their delegates have the decision rights; federal in which the decision rights are allocated to combinations of senior executives, business unit leaders, business process owners, IT executives and end users; and anarchy in which individual business process owners or end users have decision rights. It is straightforward to consider that the operations department model addresses a business monarchy. It also is effective for federal and feudal models since in a small organization there is no upper level IT presence.

The Operations Department model builds on the four domains of governance by controlling the first three: principles, infrastructure, and architecture. It induces an IT Monarchy model in relating to these three domains. The operations department provides the technical services that allow the business departments to use technology.

The Operations Department model expands the traditional IT support structure with other business support functions, including but not limited to facilities, purchasing, vehicle fleets, or other business functions. It includes the normal cross-agency IT functions such as email, document management, imaging, and GIS. The concept is to provide the business functions that support the line of business operations. A synergy can be created in that the client account manager is able to manage all of the services provided to the line of business department. Similar to a sales representative, the account manager understands what is available and can customize the departmental offerings.

Any small organization will have issues with internal politics. Leadership from many departments can be suspicious of assistance from outside sources. Department staffs naturally develop a feeling that they are superior in their understanding of the business. To deflect the impression that an IT support organization is trying to 'take over', the business unit needs to control the business logic. The purpose of the IT organization is to provide the overall support and assistance in strategic planning. Trained or 'super' users in business units can manage the business logic within the applications so that there is no threat of a central IT organization controlling the application.

Since all of the support functions are included in one department, there are benefits for staff development and cross training. There will also be a benefit of improved communications among groups that might not otherwise be grouped in the same department. There is not an expectation that there would be any direct cost savings due to combining the functional parts of the operations department other than possibly reducing management overhead. The proposed Operations Department model is intended to address the limits on functionality due to the small organization size rather than be a cost saving measure.

In the Operations Department model, the staff works with the line of business departments to develop the priorities for IT investments into an investment portfolio that is provided to the C-level executives.

**Governance Patterns**

The goal of the Operations Department model is to provide the basic IT governance structure. This model is a little different from the Federal governance structure. In the Federal model, the three basic domains would be shared by a combination of senior executives, business unit leaders, business process owners, IT executives and end users. The key issue for a small organization is to provide standardization so resources are used efficiently. In a committee structure where power is shared, it is more difficult to enforce standards.

The Weill and Woodham [14] study found IT governance patterns for Inputs to decision-making and Decision Making authority by domain and business archetype. The study found the following data for the Business Monarchy archetype:

- IT Principles: Input 0% Decision: 21%
- IT Infrastructure Input 0% Decision: 33%
- IT Architecture Input 0% Decision: 12%
- IT Investment Input 8% Decision: 58%

For example, stakeholders involved in the Business Monarchy archetype provide no input to decision-making concerning IT principles but make 21 percent of decisions related to the principles. The data follows what would be expected for a small organization that has a Business Monarchy archetype. What is also interesting is that the Federal Archetype had significant input in each domain but no decision authority:

- IT Principles: Input 54% Decision: 8%
- IT Infrastructure: Input 67% Decision: 8%
- IT Architecture: Input 50% Decision: 4%
- IT Investment: Input 67% Decision: 12%

The Weill and Woodburn article also provides for a
number of governance mechanisms such as Executive Committee, IT Councils, Architecture Committee, Capital Investment Approval and Budgets, Service Level Agreements, Charge backs and Process Teams with IT Membership. The Process team’s mechanism relates directly to the Operations Department model. It provides the objective of taking the process view using IT and other assets effectively. It provides for an end-to-end process management. It has the possible situation of stagnation of functional skills and fragmented IT infrastructure. It is measured using ROA and Productivity measures. One of the goals of the Operations Department model is to provide the overall view of the organization. It might lead to stagnation of skills, since standardization sometimes leads to less innovation. The model however would not lead to a fragmented IT structure because the operations department provides the IT architecture decisions.

The Weill and Woodburn study found that leading performing firms, using ROA improvements, had infrastructure and architecture decisions made by a centralized business monarchy. The governance process is designed to obtain agreement on the key IT assets and then encourage the development, utilization and investment in these assets. The leading performing firms measured on profit margin or productivity also have business monarchies for making decision on IT principles.

Weill and Woodham [14] also discuss one other type of governance decision: Business Application Needs specifying the business need for purchase or internally developed IT applications. Details about specifications of business application needs can be found in Earl's Experiences in Strategic Information Systems Planning [5].

Ribbers et al. [11] describe that problem identification and problem solution are mutually interdependent through which stakeholders iteratively cycle through over time. IT governance practices need to be a hybrid approach of both methodological comprehensiveness and social interventions. Ribbers et al describe the methodological comprehensiveness and social interventions in IT governance processes as:

*Problem Identification* => *Problem Solution*

- Collectively diagnose decision problems; Define shared decision problems => Collectively develop and evaluate alternative solutions
- Specify shared decision objectives => Choose the alternative that satisfies decision objectives and meets stakeholder objectives and expectations
- Develop involvement, commitment and shared understanding concerning the chosen alternative among stakeholder constituencies => Monitor decision initiative and communicate results to stakeholders
- Use a variety of communication and negotiation “tools” (e.g., scenario analysis, debate, bargaining, lobbying) => Use a variety of tailored IT decision making methodologies (e.g., BSC, IE, CSF).

For small organizations, the operations model provides the client manager role, which aids in the communication among departments, enabling the social interventions for organization wide systems.

**Development of Internal Staff**

Small organizations need to develop internal staff and succession plans. The Operations Department model provides for more line of business exposure for IT administrators. The account managers get visibility into each of the line-of-business business practices. It has been established within Californian cities that a key promotion requirement is the extent that someone understands the business function of the various units. The account manager role helps to prepare the individuals for higher levels by having them work with and understand each department.

The top management candidates thus need to develop an understanding of the business. Most small cities in California develop leadership skills based on financial projects. The candidates typically have experience in Community Development and Redevelopment activities, Finance or Public Works. All of these areas provide candidates with experience on big budget projects. Most of the information technology candidates are considered as too technical to understand the various social aspects of the lines of business.

However, there is evidence that IT professionals can understand all parts of the business. For example, the Pacific Sunwear Corporation, or PacSun, is a clothing retailer operating a number of stores in the Western United States. The Director of IT was selected to develop a new 400,000 square foot national distribution site in Olathe, Kansas. The Director was responsible for site selection, the real estate transaction, building construction, building automation and move in.

The account manager position can also address management issues described by Drucker in the *Coming of the New Organization* [3]. The account manager role provides the organization wide experience needed as discussed by Drucker when he outlines the management problems of information based organizations [3]:

- Developing reward, recognition, and career opportunities for specialists
- Creating unified vision in an organization of specialists
- Devising the management structure for an organization of task forces
- Ensuring the supply, preparation, and testing of top management people

The operations department model provides for the career opportunities and preparation of management people by providing the opportunity to work with all sections of an organization. The model also helps provide a management structure of task forces by letting the functional departments specialize on their tasks while removing the administrative tasks to a department that is specialized to handle them.

As a staff development tool, Nalbantian and Guzzo [10] propose the Catcher Hypothesis. The model develops an analogy between a catcher for the sport of baseball and the key account manager. The perspective of the catcher allows account managers to develop as future leaders: Catchers are the only ones who face all their teammates, they are always closest to the opponent at the start of the action and they have honed their cognitive skills since they must keep track of a number of things at one time.

Nalbantian and Guzzo [10] list the following attributes for the so-called Key Account Manager position:
- Coordinates offerings from multiple service lines
- Is responsible for substantial revenue
- Maintains close contact with customers
- Possesses a wide range of skills, from social networking to project management
- Communicates regularly up and down the hierarchy

These skills are identical to those necessary for a successful IT manager. Building on the ideas proposed by Nalbantian and Guzzo, the Catcher Hypothesis leads the client manager to have a path to upper management positions.

There can be issues with an account manager position. Account managers may take the view of their clients very strongly. For product-based and services-based businesses account managers can be problematic in the sense that product and service development does require the organization level vision and strategy concerning where the vendor is going and how. An account manager that takes their clients views too strongly may hurt the vendor because products and services can seldom be developed based on individual clients’ wishes. Product management is needed to reinforce the vision and ensure no single client or small group of clients start to dominate the process. The Operations Department model is designed for small organizations where the account manager is able to provide an organizational wide vision.

Operations Departments Support More Than Just IT

The Operations Department model extends support beyond IT. Many small organizations lack standardized project management practices. Many tasks are given to subordinates as an on-the-job training exercise. These projects can be simple facilities moves or alterations, purchases of new equipment or other administrative tasks. A project office could enforce proper project management procedures. Many projects are more administrative or procedural in nature as opposed to requiring line-of-business or specialized knowledge. It is assumed that administrative project management knowledge would be better maintained in a central project office whereas line-of-business knowledge would be better maintained within the functional departments. The goal of the Operations Department model is to support the business functions but not own the business logic.

For small government agencies there are additional laws governing Public Works projects. Those laws require expertise in project management, which may or may not be found in the functional departments. An Operations Department project office could provide those necessary skills.

As technology grows into new applications and implementations, the technology interactions become more complex to manage. For example, as Mobile Data Terminals get replaced by Mobile Data Computers in public safety vehicles, there are additional power and network complexities. An operations department that is responsible for vehicle fleets as well as the radio and computer technology can provide that integrated installation and support service to the functional departments.

Marios Damianides [4] provides a summary of IT processes that are defined by the CobiT governance model. A number of the CobiT processes are included as standard operational services by the proposed Operations Department model:
- Plan and Organize: define a strategic IT plan; define the information architecture; determine the technological direction; manage the IT investments, projects, and quality.
- Acquire and Implement: identify automated solutions, develop and maintain procedures, install and accredit systems, and manage changes.
- Deliver and Support: define and manage service levels; manage third-party services; ensure system security; educate and train users; assist and advise customers; and manage the configurations,
problems and incidents, facilities, data, and operations. CobiT defines configuration management as the identification, controlling and tracking of all versions of hardware, software, documentation, processes, procedures and components of the IT organization.

- Monitor and Evaluate: monitor the processes, assess internal control adequacy, determine quality assurance procedures, and provide for independent audits.

The Operations Department model can help the organization to move from a budget-based to a project-based philosophy. Small organization departments tend to have a silo mentality. Project and budget planning is thus focused on their areas of responsibility. Similar to the CIO function, the client manager will promote organizational wide goals and technology implementations.

Once the organization focuses on the goals and determines the projects, the organization will be better able to align the business goals with IT expenditures. According to Fox and Zonnevald [6], building IT internal controls can help to: enhance the understanding of IT among executives and the overall IT governance, align project initiatives with business requirements, contribute to the compliance of other regulatory requirements (e.g., for privacy), and enhance risk management competencies and the prioritization of initiatives.

The City of Redlands, California

Many representatives of Cities the author deals with on a regular basis have expressed interest in the Operations Department model but, in many cases, business reorganization will require a change in personnel or the political will to implement what can be a difficult political change.

Redlands, a small city in Southern California is developing a model for IT governance that is similar to the Operations Department model. The organization design includes a department of IT and Innovation. The department is going to be responsible for IT governance along with business strategic planning.

The focus for the City of Redlands is to change from a reactive budget model to a project-based budget. The new process is explained in Figure 1. The City recognizes that efficiencies will require new procedures and technologies. In a reactive budget model, the funds are identified and priorities will determine where the monies are spent. In many cases, the budgets are repeats of previous years. Many departments are given the same model as previous years and asked to plan the budgeted line items. In the priority-based model, the budget planning process begins by the organization setting priorities. The priorities are used to develop a strategic plan, which is used during the budgeting process.

Sherer [12] points out that common goals are set to maximize the IT portfolio value. The prioritization of projects is the implementation of the strategic vision. Every organization has limited resources so the business governance process needs to determine between the must-haves and the want-to-have options. The priority-based budgeting system builds on the decision of what projects are selected for implementation.

Figure 1. Toward project-based budgeting in the City of Redlands.

Model Development and Validation

Many of the concepts presented in this paper have been evaluated against the environment of small mature local government agencies. The next step would be to validate the model in the eyes of the people that would implement it. In the case of small cities, the City Managers make the organizational structure decisions. Most small cities or governmental organizations have a strong executive or City Manager as the director for daily operations. The ruling body or council serves in a part-time capacity and provides the strategic directions for the executive to implement.

The model has been evaluated by approximately 20 municipal IT directors and City Managers during one on one interviews along with one small focus group. The model has generally been favorably considered. The internal political and personal interactions of small organizations put a constraint on organizational changes, so it is not anticipated that the model would be adopted immediately.

The next step is to perform a more rigorous survey of a larger number of City Managers and Assistant
Conclusions and Future Research

The Operations Department model may help small organizations that do not have IT C-level visibility implement effective IT governance practices. The model provides support functions to each functional department and, in so doing, controls the implementation and governance of IT. The structure provides IT governance from a bottom-up perspective instead of a traditional top-down one. The Operations Department model could provide services including IT, phone, cable TV, facilities, purchasing, and project management to the functional departments.

The IT industry has matured. That market maturity has taken many of the technical complexities and standardized them. Many of the tasks that required technical skills can now be accomplished by end users. The Operations Department model helps to control the development of end-user computing by providing the needed support and integration efforts across all of the organizations applications.

A side benefit of the structure is that it provides for direct business experience for IT staff. The account manager role allows that person to understand the business environment and practices for each of the functional units. That experience and knowledge is critical in enabling the best members of IT staffs to eventually move into the chief executive role.

While the Operations Department model has been developed in the context of relatively stable small government organizations, it is expected that the model would perform well also in dynamic business environments. Such environments require the ability for rapid changes in business goals, practices and/or structures. Due to its holistic focus on end-to-end processes and enabling technologies, an operations department will better understand the impacts of proposed changes on organization-wide administrative or support structures than the functional departments.

In addition to the future research topics discussed in the model development and validation section, future research needs to compare the Operations Department model to the constraints of the private sector. Since the private sector business model is profit-based rather than based on the provision of services, the model should be evaluated on that basis.

A second goal for future research is to develop a model of agency size and governance function. The research would consider what size or business need would require that an organization have a C-level position focused on IT. It would be expected that a dynamic business environment might require a CIO role for a smaller organization size when compared to a stable business environment. The interaction between the enterprise and technology strategies would evolve faster in a dynamic environment than in a stable one.

References