

IT Process Institute Research Study

Three tier maturity model of Recommended IT governance practices

Analysis of IT governance practices at 389 companies in three geographies identifies activities that optimize IT governance efforts.

By Kurt Milne and Adrian Bowles

CA funded a study to assess the maturity of IT governance initiatives. We interviewed 11 IT governance experts to find out what practices are recommended to optimize governance efforts. We then collected and analyzed data from 389 organizations in North America, United Kingdom, and Australia to determine which of 66 practices tested have the biggest impact on performance.

Companies with high maturity IT governance programs focus efforts more on agility and supporting customer facing business initiatives than lower maturity peers. They score higher on performance measures that indicate the effectiveness of governance efforts in the areas of strategic alignment, value delivery, risk management, resource management, and performance management. They also score higher on measures that gauge business value-add in the areas of improved information management, business process efficiency, customer retention, and product enablement.

This report layers high-impact practices in a three-tier maturity model that can help IT executives optimize governance improvement initiatives. Specific practices shown to impact performance can be staged in increasing levels of maturity and performance.

Related Resources

IT Process Institute White Paper – How IT Governance Drives Improved Performance.



IT Process Institute
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About the IT Process Institute

The IT Process Institute is an independent research organization that exists to advance IT management science through independent research, benchmarking, and development of prescriptive guidance. Our vision is to identify practices that are proven to improve the performance of IT organizations. www.itpi.org

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Building an evidence-based IT governance model

The goal of this study was to move away from theoretical maturity models, and develop IT executive guidance that is based on empirical evidence. We developed this framework from analysis of data that indicates how IT governance practices affect performance across a broad sample of IT organizations. We didn't build a framework and then populate it with data. We used data-driven analysis to develop the framework.

We used an empirical data based approach because:

- 1) IT executives want evidence about what works at other organizations¹, and
- 2) Data can reveal specific practices or governance activities have the biggest performance impact, and
- 3) Data can reveal different practices that have the biggest performance impact on low, medium and high maturity organizations.

Maturity models for a variety of IT-related disciplines have evolved since the first staged maturity model published by Richard Nolan in 1974. Maturity models became popular with the Capability Maturity Model (CMM), developed by the Software Engineering Institute at Carnegie Mellon University in the 1980s. The most widely referenced CMM maturity scale grades individual processes based on increasing levels of rigor (e.g. non-existing, ad hoc, formalized, measured, optimized, etc.) Alternative models that use different maturity dimensions are available as well. For instance, the KPMG Maturity Model, grades maturity based on the relative position of the process in the business value chain. However, these models don't identify the relative performance improvement potential of different practices.

Traditional maturity models don't identify the relative performance improvement potential of different practices

In our work, we started with the basic premise that use of high impact IT governance practices will drive higher levels of performance. However, we also assumed that activities that optimize performance at one level of maturity are different than those at another level of maturity. In other words, the performance improvement potential of the "next step" depends on what steps have already been taken.

¹ Without diving to deep into statistics – the methods of this study don't prove causality. They use standard analysis techniques to identify practices that best predict performance variation. In other words, the statistics identified practices that are common to top-performers, that are absent from those with lower levels of performance.

To build an evidence based model, we assessed the performance impact of IT governance practices at IT organizations with similar levels of IT governance maturity. By analyzing performance at different levels of governance maturity, we identified specific practices that IT organizations might focus on to optimize performance as they evolve the maturity of their IT governance initiatives.

As an illustrative metaphor, consider bogie golfers (score 2 above par). Skills that are most likely to improve their performance are different than those that improve performance for par golfers, which are different than skills for professionals who consistently score well below par. The sets of skills mastery evolve.

Increasing levels of skills mastery produces higher levels of performance. Once someone masters one set of skills and scores improve – then they go on to master next level of skills with expectation that mastery will drive a higher level of performance. There are many factors that influence performance for different golfers. But for those learning the game, performance improvement can be optimized by following habits that are shown to best predict top levels of performance for other golfers at their skill level.

We started our study by interviewing subject matter experts to assess current thinking on recommended IT governance practices. We followed the IT Governance Institute model with five IT governance domains as seen in Figure 1.² We also asked them to suggest measures that indicate the practices are working. From the interview findings, we built a survey instrument to collect data designed to identify specific practices that have the greatest impact on performance.

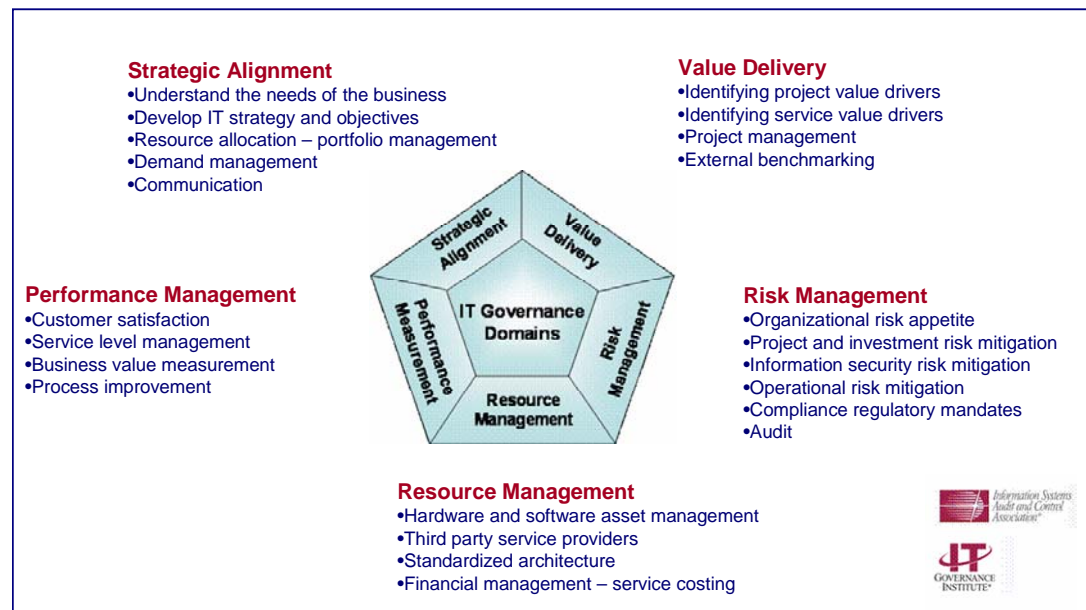


Figure 1. Five IT governance domains and practice areas tested in study

² Board Briefing on IT Governance, 2nd Edition, IT Governance Institute.

We used these results to develop a staged model of recommended IT governance practices. What makes this model unique and ground breaking is that it is based on data from a broad industry sample, and is staged at three levels of IT governance maturity.

The findings of this research will complement rather than replace a controls oriented governance model such as COBIT, or a service oriented best practice framework such as the IT Infrastructure Library. We think this performance-focused approach is the right approach because the model identifies practices that predict top levels of performance across a broad range of organizations. We want to enable IT executives to identify incremental practices appropriate for their current level of maturity that will optimize performance improvement potential.

What makes this model unique and ground breaking:

It is based on data from a broad industry sample,

and it is staged at three levels of maturity.

Analysis that supports the maturity model

A summary of the analysis steps used to develop the model includes:

1. We collected data on each respondent's level of use of various IT governance practices recommended by subject matter experts. Survey respondents assessed the use of each practice at their organization on a 0-10 Likert scale, where "0" means the statement *does not apply at all*, a "5" means it *applies in some aspects/areas* and a "10" means it *applies broadly across the organization*".
2. We also collected data on performance of how well the practices are meeting objectives. Measures are 0-10 Likert scale questions. We calculated a combined score for three measures in each of the five IT governance domains, and an overall performance score that includes all fifteen measures.³
3. We grouped respondents based on IT governance maturity. Maturity was determined by using clustering participants based on common patterns of overall use of practices. This analysis approach identified three groups of IT organizations. We classify them as organizations with high, medium and low IT governance maturity.

³ Both use of practice and performance data were self reported the same IT executive within an organization. We would have preferred to use hard measures of governance performance. However our literature search did not identify consensus on hard measures of governance performance. This approach is sufficient to meet the primary objective of correlating practices to performance, and not identify absolute levels of performance.

4. We found a strong correlation between the use of practices and performance measures in each of the high, medium and low maturity groups.⁴
5. We identified specific practices that had the greatest impact on performance. We created fifteen domain-specific regression models – one for each of three maturity groups, for each of five IT governance domains. The practices in each domain (sixty six total) were tested against the combined performance score in each domain. Forty of the practices were found to predict performance variation at a significant level. Nine of them predict performance variation of more than twenty five percent at various levels of maturity. Twelve of the 66 practices predict performance variation at more than one maturity level.
6. We used regression info (i.e., strength of predictive value) and combined results for each of five domains to build a model showing practices that best predict performance variation for each of three levels of maturity. We identified primary and secondary drivers of performance. Primary drivers are specific practices that predict more than ten percent of performance variation. Secondary drivers are practices that predict between one and nine percent of variation. An example of how the data was used to build the model is shown in Appendix B.
7. Analysis results were used to develop a staged model where level 1 practices should be implemented before level 2 practices, and before level 3 practices. Each step up in maturity predicts higher levels of performance.

Other study findings

Other findings from this study of IT governance practices are available in the IT Process Institute paper titled *How IT Governance Drives Improved Performance*. A summary of key findings includes:

1. The most common IT governance objectives are focused on cost containment (including efficiency, standardization, and automation) and risk reduction (including compliance, security, and public scrutiny of IT failures). This is perhaps not surprising, given the recent economic climate and global surge in regulatory requirements imposed on IT organizations.

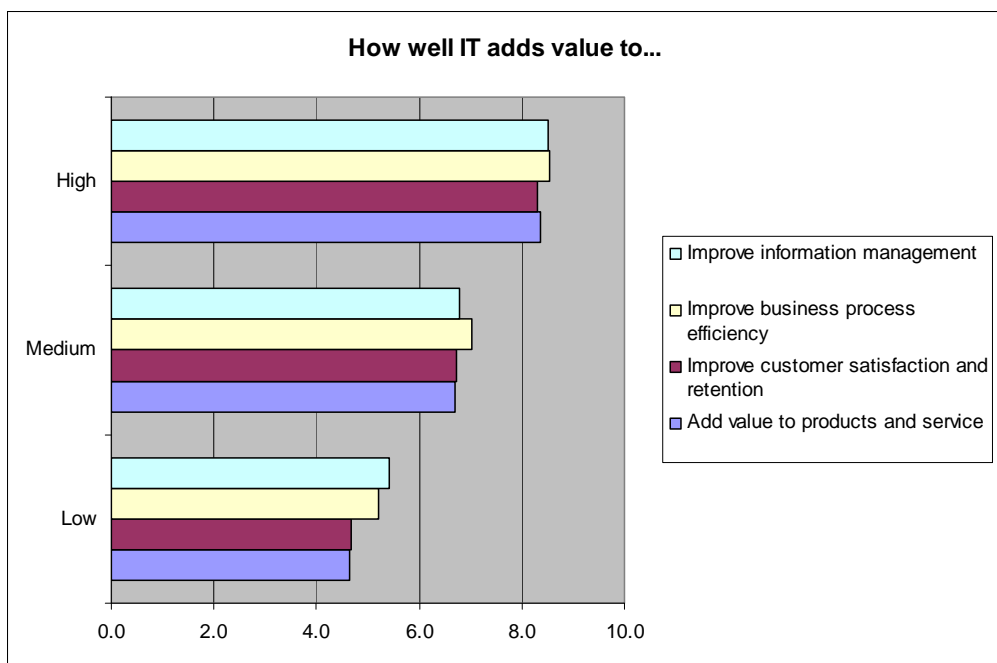
However, given the context of IT organizations transitioning from a utility service provider to a more strategic revenue enabler, the current mix of IT governance objectives is less focused on ensuring that IT enables product and service differentiation, IT agility and innovation related to meeting changing business needs, or even IT demand management and resource prioritization.

⁴ We correlated a single combined performance measure (1-100 scale) with the average score on all practices questions (1-10 scale). The r-squared value of .85 indicates that there is a strong correlation between the use of IT governance practices and overall governance performance.

- For high governance maturity organizations, IT governance objectives are more focused on achieving business objectives than on cost containment and risk reduction. Business focused objectives include customer facing initiatives, competitive differentiation, market share gains, and supporting overall business needs.

High maturity organizations tend to be larger firms in regulated industries. They have similar IT budgets as a percentage of revenue (average 2.1%) but were more likely to have growing budgets (in 2008). High maturity organizations spend more of overall IT capital and operating budget on new initiatives (38%) which is 10% greater than medium and low maturity organizations. They also indicate that they are less likely to have mixed or unclear corporate strategy (25%, versus 33% and 40% for medium- and low-maturity organizations).

- Survey respondents self-assessed how well IT adds value to the business in four key areas, on a 1 to 10 scale. High-maturity organizations score 24% to 65% higher than other maturity groups (8.4 vs. 6.8 vs. 5.0), as seen below.



Overall, high-maturity organizations are more focused on customer and business objectives, and they have significantly higher performance. They have a more even and customer-focused mix of IT governance objectives, current initiatives, and practices—as compared to lower-maturity organizations, which are primarily focused on risk and cost reduction. They also have significantly higher performance in all areas and add more value to customer and product or service differentiation.

Structure of this document

The remaining sections of this document highlight a staged model of recommended practices for each of the five IT governance domains. A summary of the objective of three levels of maturity across five IT governance domains is shown in Figure 2.

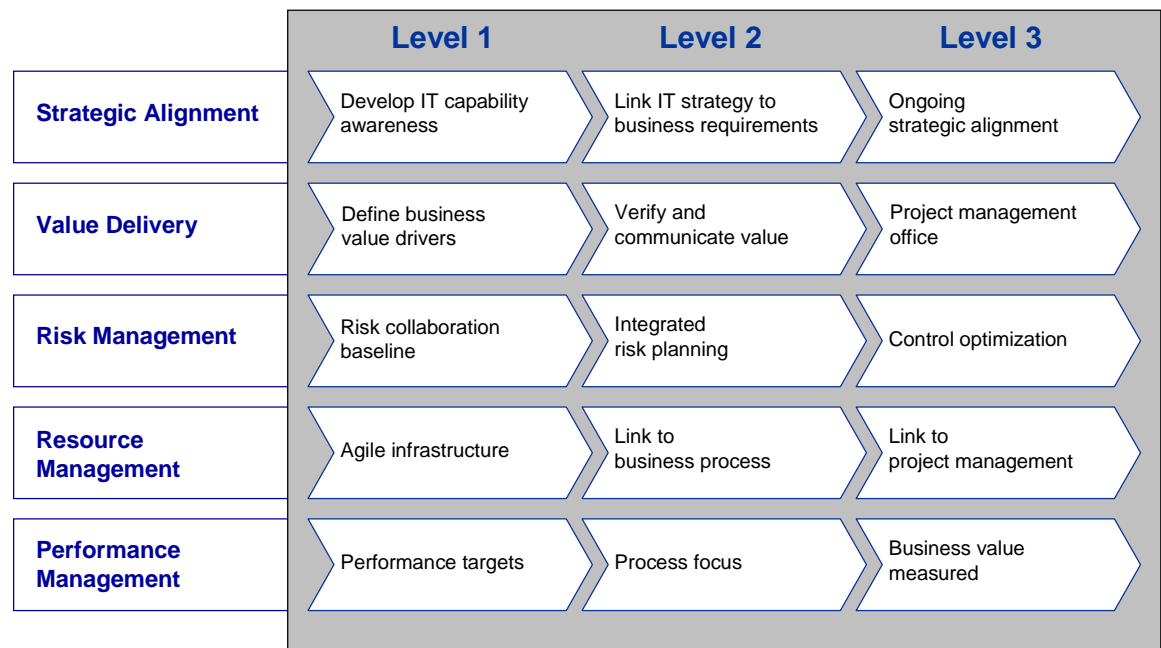


Figure 2. Staged IT Governance Maturity Model

For each of the five IT governance domains, the model presents a stage representation of specific practices shown to impact performance across organizations in this study. At three maturity levels in each of the five domains, we present:

- Objective of that level of maturity.
- Primary performance drivers predict more than 10% performance variation.
- Secondary performance drivers.
- Practices that don't predict performance variation.
- Practices that predict performance variation across more than one maturity level.
- Discussion points – areas where data-driven findings may be different than conventional wisdom.

A summary of the highest impact practices at each level of maturity are shown in Appendix A.

Strategic Alignment

Objective: The objective of strategic alignment is to a) identify the needs of the business and b) develop IT strategies and objectives, and optimized resource allocation that effectively support those business objectives.

Summary of practices tested: We asked 15 strategic alignment practice questions in these areas:

- Understand the needs of the business.
- Develop IT strategy and objectives.
- Identify priorities – strategic portfolio management.
- Managing ongoing tactical resource requests.
- Two way communication with business executives and IT users.

The following ten practices predict variation in strategic alignment performance measures at a statistically significant level. They are listed in order of highest to lowest levels of impact for each level of maturity. Practices that predict more than 10% variation in the strategic alignment performance are highlighted (bold) as primary drivers of performance. Of these, two (italics) predict performance variation at more than one level of maturity.

Maturity		
Level 1	Level 2	Level 3
Develop IT capability awareness	Link IT strategy to business requirements	Ongoing strategic alignment
<p>1. On an ongoing basis –IT strategy and objectives are formalized before resource decisions are made regarding organization structure, 3rd party sourcing decisions, and staffing levels.</p> <p>2. The impact of resource requests on existing IT capacity, skills, and calendar of activities, is considered when evaluating IT investment options.</p>	<p><i>1. IT has a system or framework to evaluate, prioritize and allocate resources to more <u>tactical</u> IT service requests.</i></p> <p>2. Asset management processes are used to leverage existing resources, understand how they are being used and that they meet compliance requirements.</p> <p><i>3. IT has a recognized and published process that allows business managers to make <u>tactical</u> (smaller) IT service requests.</i></p> <p>4. IT has a formal and periodic process to identify the business general strategy, competitive differentiation, and key success factors – as input to</p>	<p><i>1. IT has a system or framework to evaluate, prioritize and allocate resources to more <u>tactical</u> IT service requests.</i></p> <p><i>2. IT has a recognized and published process that allows business managers to make <u>tactical</u> (smaller) IT service requests.</i></p> <p>3. IT actively participates in business improvement initiatives to ensure business needs are met.</p> <p>4. IT has a <u>system</u> or framework to evaluate, prioritize and allocate resources to <u>strategic</u> project requests.</p> <p>5. IT has a recognized and <u>published process</u> that allows business managers to</p>

	<p>the development of IT strategy.</p> <p>5. Business executives participate in a formal IT steering committee to help set IT strategy, objectives, and tactics, determine setting priorities, and evaluate how well IT delivers what is needed by the business.</p>	<p>make <u>strategic</u> (large) project requests.</p>
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Figure 3. Strategic alignment maturity model

Strategic alignment performance is measured by:

Strategic Alignment Measures	Level 1	Level 2	Level 3
The IT organization consistently and effectively identifies what is needed by the business – including business strategy, key success factors, and goals and objectives.	5.0	6.6	8.6
The IT organization consistently and effectively develops IT strategies and objectives that meet the needs of the business.	5.0	6.8	8.5
The overall IT spending mix on existing and new IT capabilities effectively balances the needs of various internal customers.	5.2	6.6	8.5
Average total Strategic Alignment Score	5.0	6.7	8.5

Figure 4. Strategic alignment performance measures.

Level One – Develop IT capability awareness

Objective - Develop a formal IT strategy and objectives based with an understanding of resource capabilities, as foundation for evaluating project and service requests.

Without a general IT strategy and understanding of IT resource capacity, then evaluation of project and service requests has no logical evaluation criteria. The IT organization may make commitments that cannot be fulfilled. The IT organization may optimize business agility in the short term by reacting to tactical business requests, but create unmanageable infrastructure that sub-optimizes IT value over time. Without basic strategy and capability awareness, IT lacks rationale for assessing requests based on ability to deliver, and may not effectively prioritize one project over another.

With these basic capabilities in place, IT can evaluate requests against what is possible. This level of capability does not assure alignment of IT and business strategies, but it does give IT a rational foundation for evaluation of project and service requests. Focusing on having an IT strategy before focusing on business alignment is akin to building a steering wheel before trying to steer the car.

Primary drivers of performance (greater than ten percent impact):

- On an ongoing basis – IT strategy and objectives are formalized before making resource decisions such as organization structure, third party sourcing decisions, and staffing levels.

Secondary drivers of performance:

- The impact of resource requests on existing IT capacity, skills, and calendar of activities, is considered as part of the evaluation of various potential IT investment options.

Level Two – Link IT strategy to business requirements

Objective – Implement links to business planning and business executives to identify and prioritize ongoing business project and service requests, and enable tactical service and project request mechanisms.

At this level of maturity, IT follows a formal and periodic process to identify the needs of the business, and engages business management in an IT steering committee to facilitate formal feedback on IT resource prioritization efforts. IT also develops a framework for evaluating business requests for tactical or ongoing service and project requests, and publishes the request process. IT also expands capability awareness to include asset management processes that ensure IT is leveraging resources per business priorities.

Without business involvement in IT prioritization efforts, and without having capabilities to rationalize resource allocation to business priorities, IT is disconnected from the business. With formal hooks to business priorities in place, and feedback that resources are being allocated per business priorities, IT establishes links to the business. This level of capability assures alignment of IT activities with ongoing tactical business needs.

Primary drivers of performance (greater than ten percent impact):

- IT has a system or framework to evaluate, prioritize and allocate resources to more tactical IT service requests.

Secondary drivers of performance:

- IT has an asset management process to ensure we are leveraging existing resources, understand how they are being used and that they meet compliance requirements.
- IT has a recognized and published process that allows business managers to make tactical (smaller) IT service requests.
- IT has a formal and periodic process to identify the business general strategy, competitive differentiation, and key success factors – as input to the development of IT strategy and goals that meet the needs of the business.

- Business executives participate in a formal IT steering committee to help set IT strategy, objectives, and tactics, determine setting priorities, and evaluate how well IT delivers what is needed by the business.

Level Three – Ongoing strategic alignment

Objective – Extend business linkage to strategic project level, and get IT involved in business improvement initiatives.

At this level of maturity, IT optimizes IT business alignment at three levels. First, mastery of tactical demand management continues to be a primary driver of performance with a formal and published process for resource request and evaluation. Second, IT develops a framework for evaluating requests for strategic projects or services, and publishes the request process. This is often implemented through a project office function following some type of project and portfolio management approach. Third, IT resources get involved in ongoing business improvement initiatives. This goes beyond a steering committee level of business executive involvement, and actively involves IT resources in business process and customer service improvement initiatives. By focusing on active participation instead of alignment, IT resources become a part of the business.

Without participation in business strategy development and a process and framework for evaluating strategic business needs, IT may sub-optimize resource allocation and alignment at the business process or business unit level. With strategic linkages in place, IT can balance business unit requirements with the overall strategic requirements of the organization. This level of capability enables the highest level of IT involvement and support of business initiatives.

Primary driver of performance (predict > 10% performance variation):

- IT has a system or framework to evaluate, prioritize and allocate resources to more tactical IT service requests.
- IT has a recognized and published process that allows business managers to make tactical (smaller) IT service requests.

Secondary drivers of performance:

- IT actively participates in business improvement initiatives to ensure business needs are met.
- IT has a system or framework to evaluate, prioritize and allocate resources to strategic project requests.
- IT has a recognized and published process that allows business managers to make strategic (large) project requests.

Strategic alignment practices predict performance variation at more than one maturity level:

- (Level 2, Level 3) IT has a system or framework to evaluate, prioritize and allocate resources to more tactical IT service requests.
- (Level 2, Level 3) IT has a recognized and published process that allows business managers to make tactical (smaller) IT service requests.

Strategic alignment practices that do not predict strategic alignment performance variation in this study data include:

- Actively enable a trade-off discussion with internal customers to balance the needs of different business units and the need for enterprise shared services or common architecture standards.
- Portfolio management approach to allocate IT resources at the strategic level, and balance the needs of specific business unit requirements and centralized enterprise requirements.
- The business (enterprise and business units) clearly communicates a general strategy, competitive differentiation, and key success factors, so that IT can easily identify what the business is planning to achieve.
- IT has a business relationship manager to actively manage relationship with specific enterprise or business unit executives.
- IT formally communicates IT resource allocation plans to the business.

These practices may be recognized best practice or contribute to success at some organizations. But the presence of these practices did not predict performance variation in our study sample.

Points of consideration

1 – Some may criticize the recommendation of developing an IT strategy before having formal mechanisms in place to align with business strategy, as putting the cart before the horse. But, an alternative view is that it is better to start with understanding of IT capabilities and have a general IT strategy as a guiding force for ongoing demand management requests. IT executives don't operate in a vacuum. Their development of foundational IT strategy will happen with at minimum a general understanding of business needs. Data suggests that it is better to build the steering wheel before trying to steer the car. Once the mechanism for understanding IT capabilities and developing an IT strategy is in place, then IT can get formal about business alignment as a higher level maturity objective.

2 – Data indicates that having formal mechanisms for managing tactical demand management is a performance driver at both maturity level 2 and level 3. And, tactical demand management has bigger performance impact than having strategic demand management capabilities in place. We have seen many IT organizations that struggle more with tactical service requests than strategic projects, because strategic

projects get more attention via both formal and informal management mechanisms. Our hypothesis is that many organizations may have formal strategic demand management function in the form of project office, or an informal function based on funding, which is why it shows up as a lower impact activity.

3 – Data from this study, and the IT Strategic Alignment study conducted by IT Process Institute, indicate that getting IT actively involved in business improvement activities is a high yield objective.⁵ Having a formal business steering committee, which is identified as a level 2 maturity practice, helps get active business feedback on IT resource priorities. However, having IT personnel actively participate in business process improvement, and customer facing product development and support, is a level 3 practice that helps optimize IT support for business objectives. A guiding principle for IT strategic alignment, is that IT needs both formal executive level business participation in IT strategy development and resource prioritization, and it needs IT staff involvement with the business on an ongoing basis. IT active participation in business improvement efforts creates IT business integration that transcends alignment.

⁵ Strategic Alignment Performance study, May 2008. This study leverages an IT archetype model to identify specific practices that optimize alignment for different types of IT organizations. A mini-IT archetype assessment is available free on ITPI site <http://www.itpi.org/itarchetype.php>. This study overall, suggests that active integration of IT with the business makes alignment irrelevant. The study and overview white paper offer a deeper look at strategic alignment practices highlighted in this governance maturity model.

Value Delivery

Objective: The objective of value delivery is to optimize the business value of IT services delivered in support of business objectives and requirements.

Practices tested: We asked twelve value delivery practice questions in the areas of:

- Identifying business value drivers.
- Project management.
- External benchmarking.
- Financial management.

The following nine practices predict variation in value delivery performance measures at a statistically significant level. Practices that predict more than 10% of value delivery performance variation are highlighted (bold) as a primary driver of performance. One practice predicts performance variation at more than one level of maturity (italics).

Level 1	Level 2	Level 3
Define business value drivers 1. Clearly identify the ways each IT project will deliver business value such as improve efficiency, optimize business process results, drive new revenue, etc. 2. Clearly identify the ways that each production service will deliver business value such as improve efficiency, optimize business process results, drive new revenue, etc. 3. Use a formal documented process to evaluate project risks and likelihood of project success before projects are started.	Verify and Communicate Value 1. Clearly identify the cost, resource and time assumptions that were used to justify and prioritize projects which are approved. <i>2. Regularly communicate IT accomplishments to business managers in order to build awareness of IT success and value.</i> 3. Schedule regular points of feedback from the business once a project has been initiated, in order to verify the continued validity of value drivers and project assumptions used to justify the project. 4. Follow a defined lifecycle that clearly identifies when a project is completed and when production operations takes responsibility for managing and supporting the new service.	Project Management Office <i>1. Regularly communicate IT accomplishments to business managers in order to build awareness of IT success and value.</i> 2. Regularly benchmark the capabilities and cost of our IT organization against our competitors. 3. Use a project management office (or other dedicated team) responsible for managing significant projects.

Figure 5. Value Delivery Maturity Model

Value Delivery measures	Level 1	Level 2	Level 3
Clearly identify what drives business value for both existing services and new projects	4.5	6.3	8.5
Identify changes in business drivers or assumptions, and course correct by modifying projects, or re-prioritizing resources	4.5	6.1	8.4
Consistently and clearly communicate the value of IT to the business in both qualitative and quantitative terms	4.6	6.4	8.7
Average total Value Delivery Score	4.6	6.3	8.5

Figure 6. Value Delivery performance measures

Level One – Define business value drivers

Objective – Clearly identify the business value proposition of both new projects and existing production IT services. Also, identify and manage risks to successful completion of projects that might jeopardize transition of projects into value delivering service.

At this level of maturity, IT clearly identifies the business value of new projects and existing services. Without a clear understanding of the value of projects and services, IT can't ensure their efforts are optimizing value of IT efforts in support of the needs of the business. IT may make design or performance tradeoff decisions that sub-optimize the business value of the IT capability. If, for example, the business value of a specific IT capability is to enable the business to be more agile meeting customer demands, then efforts to make the IT service more cost effective while reducing flexibility of the service in the production environment are at odds with the needs of the business. Similarly, if IT doesn't understand the true business value drivers of IT efforts, then reporting and communicating the value of IT services may descend into technical jargon that reduces business confidence and satisfaction in IT efforts.

With a clear definition and understanding of business drivers, IT can ensure optimization of projects and services to meet business needs, and effectively measure performance and results in terms that matter to the business.

This level of capability does enable identification and optimization of value delivery alignment, but it does not optimize communication of value.

Primary driver of performance (predict > 10% performance variation):

- Clearly identify the ways each IT project will deliver business value such as by improving efficiency, optimizing business process results, driving new revenue, etc.
- Clearly identify the ways that each production service will deliver business value such as improving efficiency, optimizing business process results, driving new revenue, etc.

Secondary driver of performance:

- Formal documented process in place to evaluate project risks and likelihood of project success before projects are started.

Level Two – Verify and communicate value

Objective - Develop feed forward and feed back linkage points to the business in order to verify and communicate the value of IT projects, their transition to production service, and ongoing value of production services.

At this level of maturity, IT should understand the cost and benefit assumptions used to business justify projects. IT should also schedule points of validation during project management to ensure ongoing validity of those assumptions. IT should also have a defined lifecycle that transitions projects into production service that carries forward the identification of business value assumptions used to validate the project, so that production can manage and optimize value. Finally, IT should regularly measure and communicate IT accomplishments in terms of the business value drivers associated with production services – not in technical terms.

Without these efforts to validate and communicate IT project and production service success, IT risks drifting away from the needs and requirements identified by the business when new capabilities were approved. With these practices in place, IT can course correct if project assumptions or business needs change. IT can also communicate success in terms that matter to business executives who approved and may have funded IT efforts.

At this level of capability, IT has formalized these practices, but may not have a formal project management office to manage projects or be a centralized point of reference for project and service value, and cost assumptions.

Primary driver of performance (predict > 10% performance variation):

- We clearly identify the cost, resource and time assumptions that were used to justify and prioritize projects that are approved.

Secondary drivers of performance:

- Regularly communicate IT accomplishments to business managers in order to build awareness of IT success and value.
- Schedule regular points of feedback from the business once a project has been initiated, in order to verify the continued validity of value drivers and project assumptions used to justify the project.
- Follow a defined lifecycle that clearly identifies when a project is completed and when production operations takes responsibility for managing and supporting the new service.

Level Three – Project management office

Objective – Create a formal program for ongoing project management, communication, and benchmarking of capabilities against competitors and third party service providers.

At this level of maturity, IT has formalized efforts through a project management office that manages project justification, verifies project assumptions remain on track, and communicates value of IT projects and services. The project management office also may conduct benchmarking to ensure the IT organization provides services at an acceptable service level and cost structure.

Without a formalized program for ongoing project approval, management, and production service transition, efforts may be localized to specific locations or with business units. Levels of value delivery may vary. With this capability in place, value delivery and communication of success can be standardized to best meet the needs of the business.

Primary driver of performance (predict > 10% performance variation):

- Regularly communicate IT accomplishments to business managers in order to build awareness of IT success and value.

Secondary drivers of performance:

- Regularly benchmark the capabilities and cost of our IT organization against our competitors.
- Use a project management office (or other dedicated team) responsible for managing significant projects.

Value delivery practices that predict performance variation at more than one maturity level:

- (Level 2, Level 3) Regularly communicate IT accomplishments to business managers in order to build awareness of IT success and value.

Practices tested in this study that do not predict value delivery performance variation include:

- Follow a defined process and criteria used to cancel or re-prioritize projects that drift from initial function, time, or cost assumptions.
- Regularly benchmark the capabilities and cost of our IT organization against what is available from third party service providers.
- Document project value drivers and cost, resource and time assumptions and document them in a form that follow the project through the project lifecycle.

These practices may be recognized best practice or contribute to success at some organizations. But the presence of these practices did not predict performance variation in our study sample.

Points of consideration

1 – Communication between IT and the business registers as a key practice at level 2 and level 3 maturity. Effectively communicating value builds on a foundation of understanding value drivers for both projects and ongoing services.

2- Some of the practices identified at level 2 maturity, such as documenting project assumptions, getting feedback on project assumptions, and transitioning projects into production service, are often functions associated with the project management office. However, the model suggest formalizing a project management office is a level 3 practice. The level 2 project functions can be established as best practice before a formal PMO is established for centralized project control. In fact, the level 2 project functions should be considered for more tactical demand management efforts identified as key performance drivers at level 2 in the strategic alignment section of this model.

3 – We did not test the impact of customer satisfaction surveys. However, we feel that the use of surveys to collect data on both user and business manger satisfaction of IT services is an effective value improvement tool that should be considered at level 2 or level 3 activity.

Risk Management

Objective: The objective of risk management is to ensure the proper function, integrity and security of IT services that support business capabilities, and meet compliance requirements for the IT organization.

Practices tested: We asked 12 risk management practice questions in the areas of:

- Identifying risk appetite.
- Project risk mitigation.
- Information security risk mitigation.
- Operational risk mitigation (Strategic, Operational, Tactical risk).
- IT audit and compliance.

The following nine practices predict variation in risk management performance measures at a statistically significant level. Practices that predict more than 10% of performance variation are highlighted (bold) as a primary driver of performance. Two predict performance variation at more than one level of maturity (italics).

Level 1	Level 2	Level 3
Risk Collaboration Baseline	Integrated Risk Planning	Control Optimization
<ol style="list-style-type: none"> 1. Business and IT collaborate to develop an overall approach to IT risk management. 2. IT works with the business to identify and prioritize key systems for compliance and disaster recovery. 3. Security is integrated with various IT functional groups to define security requirements and manage system deployment and remediation. 	<ol style="list-style-type: none"> 1. Risk assessment and risk measures are used as a component of IT planning and strategy alignment. <i>2. Business and IT work together to identify an acceptable level of risk per project and per service.</i> <i>3. IT audit has a cooperative relationship with IT operations, and helps verify the use of key operating processes and procedures to mitigate risk as well as improve performance.</i> 	<ol style="list-style-type: none"> <i>1. IT audit has a cooperative relationship with IT operations, and helps verify the use of key operating processes and procedures to mitigate risk as well as improve performance.</i> <i>2. Business and IT work together to identify an acceptable level of risk per project and per service.</i> 3. The organization has a chief compliance or chief risk officer for IT. 4. Link specific IT controls to all applicable compliance, security and operational risks. 5. Regularly test and audit IT controls.

Figure 7. Risk Management Maturity Model

Risk Management Measures	Level 1	Level 2	Level 3
IT has implemented IT controls to address external compliance requirements at a reasonable cost and in ways that improve operational performance.	4.9	6.8	8.5
Analyze risk as it relates to business impact, and prioritize risk mitigation activities based on business risk priorities and not technology risk priorities.	4.7	6.7	8.6
Effectively work with the business to identify appropriate risk tolerance, and adjust project and service capabilities based on our tolerance profile.	4.9	6.6	8.7
Average total Risk Management Score	4.8	6.7	8.6

Figure 8. Risk Management Measures

Level One – Risk collaboration baseline

Objective – Create a foundation for IT risk management efforts with basic integration and collaboration with the business. This requires IT security integration with other functional groups within IT such as support desk, to effectively manage incident response. It also includes evaluating IT compliance requirements with external regulations.

At this level of maturity, IT works with the business to create an umbrella approach or strategy for risk management. This includes basic situational awareness of business objectives, compliance requirements, as well as IT capabilities. A top’s down approach is used to identify business priorities linked to IT risk areas as well as disaster recovery. In order to support this level of collaboration, IT security needs to be integrated with other IT functions in order to jointly manage business prioritized security deployment and remediation controls.

Without business integrated and prioritized risk and security efforts, IT risks taking a bottom up or technology focused approach to managing security and disaster recovery risks that lacks business relevance. With a focus on key business success factors, risk and security efforts can best utilize scarce resources to deliver the biggest impact on overall compliance and security posture. Compliance efforts can be managed to align with and best support business priorities.

This level of capability does focus on business needs, but may not integrate risk and security efforts into planning, project, or service level activities.

Primary driver of performance (predict > 10% performance variation):

- Business and IT collaborate to develop an overall approach to IT risk management.
- IT works with the business to identify and prioritize key systems for compliance and disaster recovery.

Secondary drivers of performance:

- Security is integrated with various IT functional groups to define security requirements and manage system deployment and remediation.

Level Two – Integrated risk planning

Objective – Integrate risk management practices into IT planning as well as project and production service management processes. IT audit becomes a trusted partner with IT operations, and controls are used to improve operational performance as well as mitigate risk.

At this level of maturity, risk assessment and risk measures are an integral part of IT planning and strategy development. Business input is used to identify an appropriate level of risk for projects and production services. IT controls are used to reduce risk as well as improve production performance. Overall, risk assessment is included with cost and benefit assumptions in project and production service value equations.

Without risk elements included in project and service value equations, risk may be measured and controlled without consideration of impact on other business value drivers. With a risk estimation included with cost and benefit assumptions, organizations get a more balanced view of business value.

This level of capability does balance risk, benefit, and cost value elements, but may not fine tune IT controls to optimize an overall performance picture.

Primary driver of performance (predict > 10% performance variation):

- Risk assessment and risk measures are used as a component of IT planning and strategy alignment.
- Business and IT work together to identify an acceptable level of risk per project and per service.

Secondary drivers of performance:

- IT audit has a cooperative relationship with IT operations, and helps verify the use of key operating processes and procedures to mitigate risk as well as improve performance.

Level Three – Control optimization

Objective – Optimize the use of IT controls to achieve operational performance objectives as well as risk reduction objectives.

At this level of maturity, IT builds on the use of IT controls as a tool to reduce risk while also optimizing performance objectives. IT audit is a trusted partner with IT operations to ensure IT controls are functioning as designed. IT controls are linked to compliance and security risks, as well as operational risks. IT controls are tested and audited to ensure proper

function. The IT organization may have a chief compliance officer or risk officer to coordinate and optimize risk management efforts.

Without a joint focus on optimizing controls for risk and operational impact, the IT organization may implement controls to meet compliance requirements without considering impact on operating objectives. With a focus on dual objectives, IT organizations can optimize overall impact and return on risk and control activities.

Primary driver of performance (predict > 10% performance variation):

- IT audit has a cooperative relationship with IT operations, and helps verify the use of key operating processes and procedures to improve performance as well as mitigate risk.
- Business and IT work together to identify an acceptable level of risk per project and per service.

Secondary drivers of performance:

- The organization has a chief compliance or chief risk officer for IT.
- Link specific IT controls to all applicable compliance, security and operational risks.
- IT regularly tests and audits IT controls.

Risk management practices that predict performance variation at more than one maturity level:

- (Level 2, Level 3) Business and IT work together to identify an acceptable level of risk per project and per service.
- (Level 2, Level 3) IT audit has a cooperative relationship with IT operations, and helps verify the use of key operating processes and procedures to mitigate risk as well as improve performance.

Practices tested in this study that do not predict risk management performance variation include:

- Risk management is used as input to the portfolio management or business steering committee efforts to allocate resources.
- IT identifies single points of failure for key systems and implements redundancy strategies to ensure service delivery.
- IT identifies the key IT assets that enable specific business processes.

These practices may be recognized best practice or contribute to success at some organizations. But the presence of these practices did not predict performance variation in our study sample.

Points of consideration

1 – The level 1 maturity risk collaboration baseline is essentially a level of gaining situational awareness. Many IT organizations develop one-sided awareness focused on IT capabilities and infrastructure. Increasingly, the IT dependant business is asking IT to also develop awareness of business strategy and key success factors. Risk and compliance situational awareness links to specifying project and service business value drivers highlighted in level 1 value delivery practices. The Visible Ops Security handbook provides a how-to guide for security executives on how to work through the organization to develop situational awareness, and implement process touch points with various IT functional groups.⁶

2 – Level 2 maturity risk practices further enhance risk assessment as an element to project management functions. Level 2 value delivery activities include documenting project and service cost and value assumptions. Risk assessment can be added to those assumptions.

3 – IT controls were shown to improve operating performance in the IT Process Institute IT controls performance study funded and published by the Institute of Internal Auditors.⁷ IT operations should view IT controls as something that can help improve performance of key operational processes. A collaborative relationship with IT audit can help ensure that key controls and best practices are implemented and executed to optimize performance.

⁶ *Visible Ops Security – Achieving common security and IT operations objectives in four practical steps*. 2008, IT Process Institute

⁷ *Leveraging IT Controls To Improve IT Operating Performance*, 2008, The Institute of Internal Auditors Research Foundation (IIARF).

Resource Management

Objective: The objective of resource management is to manage resource utilization to meet business needs, and optimize return on invested capital.

Practices tested: We asked 14 resource management practice questions in the areas of:

- IT Hardware and Software Asset Management.
- Configuration Management – including asset to service dependencies.
- Manage third party service providers.
- Standardized architecture.
- Financial Management – with focus on service costing and chargebacks.

Only five practices predict variation in resource management performance measures at a statistically significant level. Of these, two predict performance variation at more than one maturity level (*italics*). Practices that predict more than 10% of performance variation are highlighted (**bold**) as a primary driver of performance.

Level 1	Level 2	Level 3
Agile Infrastructure	Link to Business Processes	Link to Project Management
<p>1. Computing resources are designed so that applications and infrastructure are flexible and adaptable to meet changing business requirements.</p>	<p>1. Computing resources are designed so that applications and infrastructure are flexible and adaptable to meet changing business requirements.</p> <p>2. <i>Link current and planned resource capabilities back to the project prioritization process.</i></p> <p>3. Have a system for linking specific hardware and software assets to business owner or business process that rely on the assets.</p>	<p>1. Link current and planned resource capabilities back to the project prioritization process.</p> <p>2. Audit or verify resource capabilities and costs to determine if IT services are delivering expected value back to the business.</p> <p>3. <i>Computing resources are designed so that applications and infrastructure are flexible and adaptable to meet changing business requirements.</i></p> <p>4. Have a system for linking specific hardware and software assets to related services in the IT services in catalog.</p>

Figure 9. Resource Management maturity model

Resource Management Measures	Level 1	Level 2	Level 3
Continually manage and optimize our mix of hardware, software, people, and third party service providers to meet the changing needs of the business.	4.6	6.4	8.4
Consistently align resources to high business value projects and services.	4.8	6.5	8.5
Resource management practices effectively balance the need for agility meeting specific business needs, and efficiency enabled by shared architecture standards.	4.5	6.4	8.5
Average total Resource Management Score	4.6	6.4	8.5

Figure 10. Resource Management measures

Level One – Agile infrastructure

Objective – Design IT resources to be flexible and adaptable to meet the changing needs of the business.

At this level of maturity, IT focuses on adaptability as a strategy for resource optimization. Virtualization and agile computing technologies are used to allow IT organizations to focus resource optimization on agility objectives.

Without a focus on agility, IT organizations may optimize resource utilization on cost reduction or availability or performance objectives. These are increasingly managed as a given capability level within IT. With a focus on agility, IT organizations optimize resource utilization on business alignment, and flexibility to deploy IT resources to meet changing needs of the business.

This level of capability does focus on IT resource agility, but may not tie capabilities to specific business requirements.

Primary driver of performance (predict > 10% performance variation):

- Computer resources are designed so that applications and infrastructure are flexible and adaptable to meet changing business requirements.

Level Two – Link to business processes

Objective – Link IT resources back to business process or business owner with tie to project prioritization process.

At this level of maturity, agility continues to be a key driver of performance. In addition, IT identifies linkages between IT assets and resources, and the business owner or business process that relies on the underlying compute resource. This linkage enables an element of business alignment to resource management efforts. Linking resources to project planning also helps balance agility with resource utilization.

Without a link to business process or business application, disconnected resource management efforts are more likely to be focused on technology related measures, and not business value. With a business use linkage, assets and resources can be optimized for business value or business need.

This level of capability does tie resources to business use, but it may not tie the resource to a specific IT service or verify that the service is meeting business value cost and benefit assumptions.

Primary driver of performance (predict > 10% performance variation):

- Computer resources are designed so that applications and infrastructure are flexible and adaptable to meet changing business requirements.

Secondary drivers of performance:

- Link current and planned resource capabilities back to the project prioritization process.
- Have a system for linking specific hardware and software assets to related services in the IT services in catalog.

Level Three – Link to project management

Objective – Link IT resource capabilities to project management function and verify that projects and services are delivering expected business benefit.

At this level of maturity, IT is able to optimize project success by considering resource capabilities in the project management process. This additional linkage ensures that projects are delivered on time and on budget.

Without a link to the project management process, projects may be late or over budget. To minimize customer facing risk, IT should not attempt to support business strategies that have customer facing products and services enabled by technology. Also, without auditing IT services to verify they are delivering expected business value, return on resource investments may be misdirected.

Primary driver of performance (predict > 10% performance variation):

- Link current and planned resource capabilities back to the project prioritization process.

Secondary drivers of performance:

- IT audits or verifies resource capabilities and costs to determine if IT services are delivering expected value back to the business.
- Design our computer resources so that applications and infrastructure are flexible and adaptable to meet changing business requirements.
- Have a system for linking specific hardware and software assets to related services in the IT services in catalog.

Resource management practices that predict performance variation at more than one maturity level:

- (Level 1, Level 2, Level 3) Computer resources are designed so that applications and infrastructure are flexible and adaptable to meet changing business requirements.
- (Level 2, Level 3) Link current and planned resource capabilities back to the project prioritization process.

Practices tested in this study that do not predict resource management performance variation include:

- Aggregate people, time, and asset costs to specific IT services, in order to determine the cost of delivering key services in the service catalog.
- Aggregate people, time, and asset costs to a cost center, GL code and project.
- Charge IT services to lines of business based on consumption or use.
- Charge IT services to lines of business as a shared cost.
- Resources, processes and procedures are in place to develop service agreements and manage ongoing relationships with third party service providers so that services are delivered at the level and cost agreed to in the contract.
- Resources and processes in place to develop and enforce standard reference architecture for key servers, networks, middleware, databases and other shared or cross-organization infrastructure systems.

These practices may be recognized best practice or contribute to success at some organizations. But the presence of these practices did not predict performance variation in our study sample.

Points of consideration

1 - There are a large number of financial management practices that didn't predict performance variation. Two theories about why:

1. We didn't use measures that explicitly test the impact of these practices. The measures for this set of governance practices are higher level measures assessing the broader concepts of resource alignment utilization. Therefore, the service costing and chargeback practices don't appear as drivers of performance variation on the measures we used.
2. Their use isn't widespread enough to impact performance. Many firms are just realizing mature CMDB implementations that can support service costing, and many have not yet taken steps to implement IT chargebacks. Many firms are also now just implementing service catalogs that create a framework for managing financial aspects of IT services.

2 – Developing agile application and infrastructure appeared as a performance driver at all three levels of maturity. A key concept that emerged in the ITPI strategic alignment performance study is that business and IT timescales are often different. Top performers are better at adjusting to the changing needs of the business, both in responding to request, and in killing projects that are no longer a business priority.

2 - Linking hardware and software assets to business process or business owner (level 2) may depend on linking assets to IT services in service catalog (level 3). Many organizations are concurrently working on asset to business service linkage, and developing service catalog. The order of implementation may be different than the impact of these practices at different levels of maturity.

Performance Management

Objective: The objective of performance management is to assure that IT delivers services at a level that meet business needs and expectations.

Practices tested: We asked 13 performance management practice questions in the areas of:

- Customer satisfaction (business executive and user).
- Service level management.
- Business value measurement.
- Process improvement.

The following eight practices predict variation in performance management performance measures at a statistically significant level. Of these, two predict performance variation at more than one maturity level (*italics*). Practices that predict more than 10% of performance variation are highlighted as a primary driver of performance (**bold**).

Level 1	Level 2	Level 3
Performance Targets	Process Focused	Business Value Measured
<p>1. Key risk indicators are in place and monitored against business impact.</p> <p><i>2. IT executives are actively involved in setting performance improvement goals, and evaluating the success of performance improvement efforts.</i></p>	<p>1. IT organization has a culture where following documented process and procedures is a basic job expectation and IT executive clearly communicate that “process is how we do things here”.</p> <p><i>2. A balanced mix of IT performance measures include operating performance and business value delivered by IT — i.e. customer satisfaction, process efficiency gains, revenue.</i></p> <p><i>3. IT executives are actively involved in setting performance improvement goals, and evaluating the success of performance improvement efforts.</i></p> <p>4. Conduct regular customer satisfaction surveys with business executives to verify that IT is meeting their agility and value</p>	<p><i>1. A balanced mix of IT performance measures include operating performance and business value delivered by IT — i.e. customer satisfaction, process efficiency gains, revenue.</i></p> <p>2. Conduct regular customer satisfaction surveys with users of applications and IT enabled solutions.</p> <p>3. IT organization detects and monitors process exceptions in order to identify process improvement efforts.</p>

	delivery expectations. 5. Have defined consequences if service level targets are not met for those services that are most critical to meeting the needs of the business.	
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Figure 11. Performance Management maturity model

Performance Management Measures	Level 1	Level 2	Level 3
IT performance measures and improvement goals are clearly linked to business value drivers.	3.9	6.1	8.4
IT effectively monitors and measures the value IT delivers to the business.	3.9	6.1	8.5
Actively monitor key performance measures designed to balance control objectives with agility, throughput, and efficiency objectives.	3.9	6.2	8.6
Average total Performance Management Score	3.9	6.2	8.5

Figure 12. Performance Management measures

Level One – Performance targets

Objective – Enable basic level of IT service to build a basic level of operational capability that meets the needs of business funders.

At this level of maturity, IT identifies and manages key performance risk indicators to monitor impact on business services. IT conducts customer satisfaction surveys with business executives who fund IT. IT executives actively set performance improvement goals that are aligned with prioritized needs of the business.

Without foundational performance levels, business loses confidence that IT can support key strategic business processes and functions that enable business success. Without feedback from business executives, and without involvement of IT executives in setting performance goals, IT resources may not be focused on optimizing performance in areas that matter most. With a foundational performance management practices in place, IT can build business executive confidence that IT can enable business success.

This level of capability does focus on core performance capabilities, but may not fine tune IT process and procedures for optimal performance.

Primary driver of performance (predict > 10% performance variation):

- Key risk indicators are in place and monitored against business impact.

Secondary drivers of performance:

- Regularly conduct customer satisfaction surveys with business executives to verify that IT is meeting their agility and value delivery expectations.
- IT executives are actively involved in setting performance improvement goals, and evaluating the success of performance improvement efforts.

Level Two – Process focused

Objective – build core IT process capabilities to ensure service level commitments are met.

At this level of maturity, IT should focus on process as a way to fine tune core functional capabilities to be efficient and effective. Consequences for not meeting service levels should be defined in order to put “teeth” on service level agreements and focus performance on areas that matter most.

Without a process culture or consequences for missed service level commitments, IT resources may not act in concert to meet commitments to the business. With a process culture, IT management can fine tune processes to meet service levels.

This level of capability does focus on building core process capabilities, but may not add business measures to performance capabilities that are being measured.

Primary driver of performance (predict > 10% performance variation):

- IT organization has a culture where following documented process and procedures is a basic job expectation and IT executives clearly communicate that “process is how we do things here”.

Secondary drivers of performance:

- A balanced mix of IT performance measures include operating performance and business value delivered by IT — i.e. customer satisfaction, process efficiency gains, revenue.
- IT executives are actively involved in setting performance improvement goals, and evaluating the success of performance improvement efforts.
- Regularly conduct customer satisfaction surveys with business executives to verify that IT is meeting their agility and value delivery expectations.

- Have defined consequences if service level targets are not met for those services that are most critical to meeting the needs of the business.

Level Three – Business value measured

Objective – Add both business value measures and process exception measures to the mix of performance measures used to optimize IT operational performance.

At this level of maturity, IT should expand performance measures to include customer facing and end user customer satisfaction. IT should also add exception management to process management efforts in order to drive out causes of performance variation that might impact service level agreements.

Without a balance mix of performance measures, IT operational performance improvement efforts may be disconnected from the ultimate impact of IT success or failure – which ultimately may impact both internal and external customer satisfaction. By managing process exceptions and adding customer facing performance measures, IT can most tightly link performance management efforts to the success of the business, which relies on underlying IT systems.

Primary drivers of performance (predict > 10% performance variation):

- A balanced mix of IT performance measures include operating performance and business value delivered by IT — i.e. customer satisfaction, process efficiency gains, revenue.
- Regularly conduct customer satisfaction surveys with users of applications and IT enabled solutions.

Secondary drivers of performance:

- IT organization detects and monitors process exceptions in order to identify process improvement efforts.
- IT executives are actively involved in setting performance improvement goals, and evaluating the success of performance improvement efforts.

Performance management practices that predict performance variation at more than one maturity level:

- (Level 1, Level 2) IT executives are actively involved in setting performance improvement goals, and evaluating the success of performance improvement efforts.
- (Level 2, Level 3) A balanced mix of IT performance measures include operating performance and business value delivered by IT — i.e. customer satisfaction, process efficiency gains, revenue.

Practices tested in this study that do not predict value performance management variation include:

- Tie executive bonuses and promotions to customer satisfaction and retention, revenue or other customer facing business metrics in order to focus IT executives on business value drivers.
- Have Service Level Agreements in place and regularly report the results to the business.
- Have recently strengthened our IT controls to meet control objectives, and are now actively working to improve IT operating efficiency and agility measures while maintaining target levels of control.
- Use a defined process to set service level targets when projects are completed and new capabilities are moved into production service.
- IT actively uses a formal system for process improvement such as TQM or Six Sigma.

These practices may be recognized best practice or contribute to success at some organizations. But the presence of these practices did not predict performance variation in our study sample.

Three-tiered high impact model summary table

Our analysis identified specific practices that have the biggest impact on performance for each maturity level. Out of 66 individual practices, 40 were found to predict top levels of performance at a statistically significant level. Nine were found to predict performance variation of 25% or more. Those high-impact practices tend to have measurable impact for a single maturity group. Figure 13 below shows the top five practices in descending order of contribution to performance for each level of maturity.

Level 1 - Risk and Decision making baseline

1. Collaborative Risk Management* - Business and IT work together to develop an overall approach to IT risk management.
2. IT Strategy Baseline* - IT strategy and objectives are formalized before making resource decisions such as organization structure, third party sourcing decisions, and staffing levels.
3. Agile Infrastructure* - Computer resources are designed to be flexible so that applications and infrastructure can adapt to meet changing business requirements.
4. Explicit Project Value* - The business value of each IT project is clearly identified - such as improving efficiency, optimizing business process, driving new revenue, etc.
5. Explicit Service Value - The business value of each production IT service is identified - such as improving efficiency, optimizing business process results, driving new revenue.

Level 2 - Efficiency and demand management improvement

1. Process Culture* - Following documented process and procedures is a basic IT job expectation and IT executive clearly communicate that “process is how we do things here”.
2. Risk Based Planning* - Risk assessment and risk measures are used as a component of IT planning and strategy alignment, including project and service level management.
3. Tactical Demand Management - A defined system or framework is used to evaluate, prioritize and allocate resources for more tactical IT service requests.
4. Transparent Project Assumptions - Approved projects include cost, resource and time assumptions used to justify and prioritize the project, in addition to business value assumptions.
5. Asset Management – Focus on efficient use of existing resources, including alignment with business service and compliance requirements.

Level 3 - Customer and business focus

1. Resource Planning Linkage* - Current and planned resource capabilities are linked back to the project prioritization process.
2. Collaborative Audit Relationship* - IT audit has a cooperative relationship with IT operations, and helps verify the use of key operating processes and procedures improve performance as well as mitigate risk.
3. Business Value Measured* - IT performance measures include operating performance as well as business value delivered by IT — i.e. customer satisfaction, process efficiency gains, revenue.
4. Customer Satisfaction Measured - Surveys are used to measure the satisfaction of users of applications and IT enabled solutions.
5. Business Communication - IT regularly communicates with business managers to review accomplishments and build awareness of IT success and value.

* indicates a practice that predicts greater than 25% variation in performance

Figure 13. Three tier high-impact model

The low maturity group is focused primarily on risk and decision making IT governance objectives. At this initial level of maturity, the organizations are implementing foundational practices that enable basic IT governance capabilities. While these practices will typically be in place before the higher level practices can be the focus, improvement to the implementation of lower level practices is ongoing.

The medium maturity group practices focus on cost and efficiency objectives, in addition to risk and decision-making. As firms roll out these efficiency-oriented practices, they continue to benefit from improvements in basic risk management practices. It is a virtuous cycle.

Finally, the high maturity group focuses customer and business needs, in addition to cost, compliance, and decision making. It should come as no surprise that the most mature IT organizations have a relentless focus on customer satisfaction. What bears mentioning, however, is the key role that IT auditors play at this stage of maturity. At lower maturity levels, IT auditing is often viewed as a constraint. Mature organizations, however, have learned to use IT auditing as a tool to achieve their goals.

Summary and Conclusions

This study provides empirical data about IT governance practices that predict top levels of performance. Overall, this study indicates that IT governance efforts work. Those organizations with more practices in use have higher performance. Some practices are shown to impact performance at multiple levels of maturity. Other individual practices have high impact potential.

Identification of 40 practices (of 66 studied) that best predict performance for three different levels of maturity suggests a staged maturity model that can be used to evaluate potential IT governance improvement projects.

IT executives looking to focus resources on improving IT governance should consider the practices that are identified in this study. Analysis of high impact practices at three levels of IT governance maturity suggests practices that optimize performance for organizations at different stages of maturity.

When considering IT governance initiatives, data about practices that are shown to impact performance at a range of organizations in the study should be considered along with other sources of guidance.

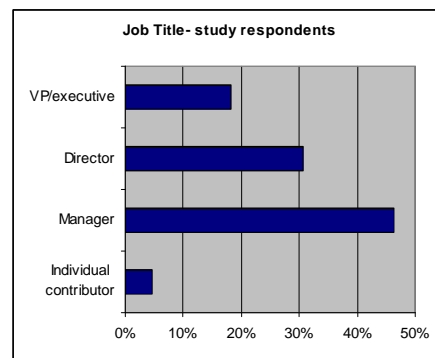
Appendix A: Study Demographics

We developed a web-based survey to collect data on IT governance practices and performance measures.

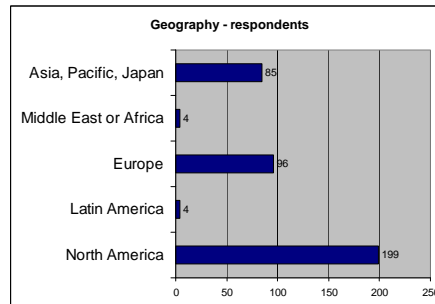
HANSA/GCR, a custom research firm developed the web-based survey, and managed data collection in October 2007. The survey respondents were invited from IT executive interview panels in North America, the United Kingdom, and Australia.

A broad range of industries are represented in the study population, with the top represented industries including Banking, Finance and Insurance (13%), Manufacturing – not high-tech (13%), Health Care (10%), Government (10%), Business Services (10%) and High tech manufacturing (9%).

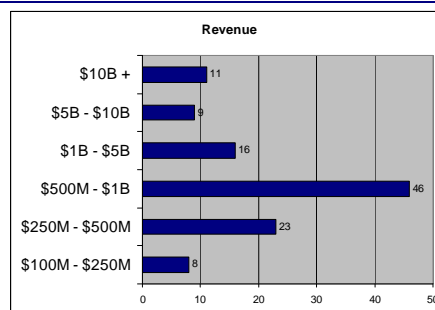
Almost 50% of survey respondents were VP, IT Executives or Director level job titles.



Surveys were all conducted in English, with respondents located in North America, UK, and Australia.



A broad range of company revenues (or operating budgets if public agency) are represented with 31% less than \$500M, 46% between \$500M and \$1B, 25% between \$1B and \$10B, and 11% from companies with revenue >\$10B.



Appendix B – High impact practices layered into model

We developed the staged maturity model by determining the impact of different practices on the performance measures. Survey participants were grouped based on patterns of use of governance practices. This analysis approach identified three groups of IT organizations. We classify them as organizations with high, medium and low IT governance maturity.

Maturity Group	# in group (% of 389)	Average score all practice questions (0 to 10 scale)	Average Performance (0 to 100 scale)
High	137 (35%)	8.4	85
Medium	158 (40%)	6.4	65
Low	93 (25%)	4.4	47

We developed five different regression models to determine the strength of predictive value of how practices impact performance. The table below shows 12 value delivery questions, and identifies how much each question impacts value delivery performance. For example, question 1 predicts 25% of performance variation for value delivery measures.

Value Delivery Survey Questions		Maturity Group		
		1	2	3
1.	We clearly identify the ways each IT project will deliver business value such as improve efficiency, optimize business process results, drive new revenue etc..	25%		
2.	We clearly identify the cost, resource and time assumptions that were used to justify and prioritize projects which are approved.		11%	
3.	We document project value drivers and cost, resource and time assumptions and document them in a form that stays with the project.			
4.	We schedule regular points of feedback from the business once a project has been initiated, in order to verify the continued validity of value drivers and project assumptions used to justify the project		2%	
5.	We have a defined process and criteria used to cancel or re-prioritize projects that drift from initial function, time, cost assumptions.			
6.	We have a formal documented process in place to evaluate project risks and likelihood of project success before projects are started.	4%		
7.	We have a project management office (or other dedicated team) responsible for managing significant projects.			2%
8.	We have a defined lifecycle that clearly identifies when a project is completed and when production operations takes responsibility for managing and supporting the new service.		2%	
9.	We clearly identify the ways that each production service will deliver business value such as improve efficiency, optimize business process results, drive new revenue etc., and document them in a form that stays with the services.	17%	20%	
10.	We regularly benchmark the capabilities and cost of our IT organization against our competitors.			4%
11.	We regularly benchmark the capabilities and cost of our IT organization against what is available from 3 rd party service providers.			
12.	We regularly communicate IT accomplishments to business managers in order to build awareness of IT success and value.		6%	11%