Software Asset Management – Key to Infrastructure Optimization

October 2008

ADVISORY

About KPMG

- **KPMG is one of the "Big-4" professional services firms, with over 123,000 employees in over 140 countries**

- **KPMG provides three distinct lines of service: Audit, Tax, and Advisory**

- **Under Advisory KPMG provides Software Asset Management (SAM) and Software License Compliance services**

The SAM Optimization Model

What is Software Asset Management

"All of the infrastructure and processes necessary for the effective management, control and protection of the software assets within an organization, throughout all stages of their lifecycle"

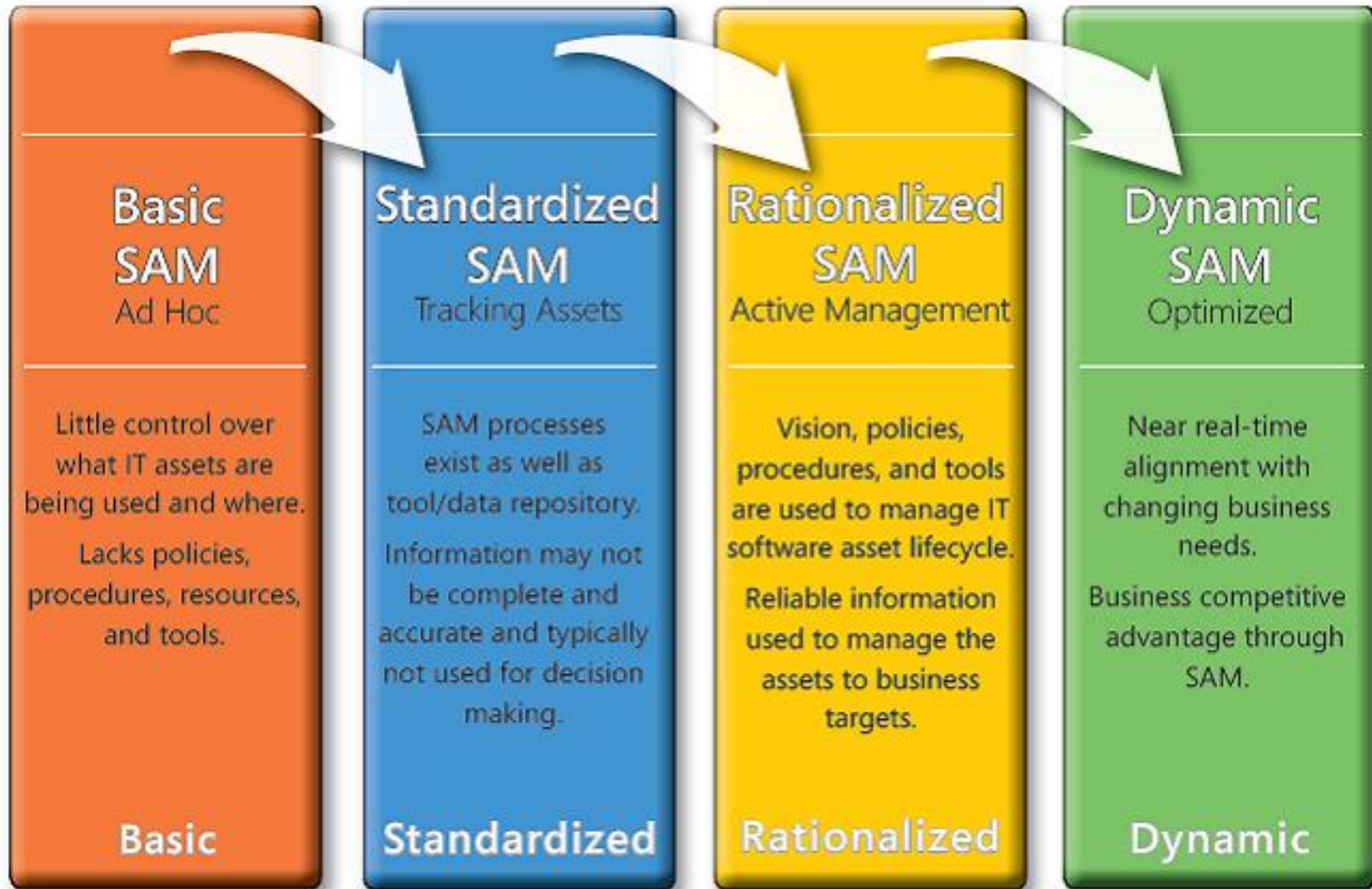*ITIL Best Practice guide - Software Asset Management*

➢ **SAM is NOT just about a tool**

➢ **SAM is NOT just about PCs**

➢ **SAM is NOT just about a one-time discovery exercise**

➢ **SAM is NOT just about IT**

Infrastructure Optimization (IO)

Basic	Standardized	Rationalized	Dynamic
• Reactive • Ad hoc • Problem-Driven • "Avoiding Downtime"	• Reactive • Stable IT • Request Driven • Change Management and Planning • "Keeping It Running"	• Proactive • Accountable • Increased Monitoring • Formal Change Management • SLA's • Improvement • Predictability • "Quality Driven"	• Proactive • Optimizing Costs and Quality • Agile • Self Assessing and Continuous Improvement • "Taking The Lead"

Source: Microsoft Corporation

SAM Optimization Model

Basic SAM Ad Hoc	Standardized SAM Tracking Assets	Rationalized SAM Active Management	Dynamic SAM Optimized
Little control over what IT assets are being used and where. Lacks policies, procedures, resources, and tools.	SAM processes exist as well as tool/data repository. Information may not be complete and accurate and typically not used for decision making.	Vision, policies, procedures, and tools are used to manage IT software asset lifecycle. Reliable information used to manage the assets to business targets.	Near real-time alignment with changing business needs. Business competitive advantage through SAM.
Basic	**Standardized**	**Rationalized**	**Dynamic**

Source: Microsoft Corporation

SAM Optimization Model Competencies

ISO 19770-1	Key Competency	Competency Question
Organizational Management	**SAM throughout Organization**	**How has software asset management (with documented procedures, roles, responsibilities and executive sponsorship) been implemented in each infrastructure group?**
	SAM Self Improvement Plan	**Does your organization have an approved SAM self improvement plan?**
SAM Core - Inventory	**Hardware and Software Inventory**	**What percentage of user PCs and servers are included in a centralized software inventory/CMDB (configuration management database); which is populated by a software tracking tool?**
	Accuracy of Inventory	**How often do you reconcile software inventories with other sources to verify accuracy of assumed license metrics (for example user counts based on HR employee records.)?**
SAM Core - Verification	**License Entitlement Records**	**What percentage of procured software licenses are recorded in a license entitlement inventory (a central repository/tracking of all licenses owned and/or previously acquired)?**
	Periodic Self Evaluation	**How often do you reconcile software deployments (usage) to software entitlements (purchases)? Software entitlements are software licenses owned or previously acquired.**
SAM Core - Operations management and interfaces	**Operations Management records interfaces**	**How do the various Operations Management functions (contracts, financial fixed assets, service support, security, networking) use software and hardware inventories in their daily roles?**
Lifecycle Process Interfaces	**Acquisition Process**	**What percentage of total software purchases in your organization are made through or are controlled & tracked by centralized procurement?**
	Deployment Process	**What percentage of total software deployed across organization's PCs and servers (considering all operating systems) is installed through centralized sources or through a controlled distribution environment?**
	Retirement Process	**What percentage of retired hardware assets are tracked in a way to enable the software on them to be reused?**

Key Performance Indicators for each SAM Competency

Key Comp.	Basic	Standardized	Rationalized	Dynamic
SAM throughout Organization	SAM roles and responsibilities are not defined. Software tracking is not implemented throughout the organization (in every infrastructure group).	A representative with direct managerial responsibility for SAM has been identified for each infrastructure group within the organization.	Software tracking procedures have been formally documented and approved by stakeholders. SAM procedures are implemented throughout all infrastructure groups in the organization.	Senior executives have demonstrated that SAM is a top priority for the organization. All infrastructure groups in the org. use documented SAM procedures and have resources that SAM to track inventories.
SAM Self Improvement Plan	There is no plan for implementing SAM; or no SAM improvement plan has been completed within the organization with executive sponsorship and budget.	A SAM self-improvement plan has been defined with scope, schedule and has an approved budget.	A SAM self-improvement plan has defined scope, schedule, assigned recources and is based on continuing the improvement established after the previous self-improvement plan.	Continuous improvement SAM maturity processes are implemented to support a flexible controlled environment.
Hardware & Software Inventory	The % of total hardware and software tracked in a CMDB is not tracked but is less than 68%	The % is not tracked but is between 68% to 95%	The % is tracked and is between 96% to 99%	The % is tracked and is greater than 99%. Exceptions are continuously decreasing.
Accuracy of Inventory	Inventory details are reconciled with the orginal source rarely or ad-hoc	Reconciliation is done annually	Reconciliation is done quarterly	Reconciliation is done continuously.
License Entitlement Records	The % of license entitlement in a repository is not tracked but is likely less than 68%	The % is not tracked but is between 68% to 95%	The % is tracked and is between 96 to 99%	The % is tracked and is greater than 99%. Exceptions are continuously decreasing.
Periodic Self Evaluation	Deployment & entitlement reconciliation is done rarely or ad-hoc	Deployment & entitlement reconciliation is done annually	Deployment & entitlement reconciliation is done quarterly	Deployment & entitlement reconciliation is done continuously.
Operations Management records and interfaces	Operations Management functions generally do not use software and hardware inventories.	Individual software and hardware inventories are used by each function	A federated system is used which combines and/or reconciles individual inventories. Procedures are documented with assigned roles and responsibilities for stakeholders.	A single inventory/CMDB is used by all Operations Management functions in the organization. Formally documented procedures continually evolve with the organization.
Acquisition Process	The % of software purchases centrally controlled is not tracked but is likely less than 68%	The % is not tracked but is between 68% to 95%	The % is tracked and is between 96% to 99%. Procedures are documented with assigned roles and responsibilities for stakeholders.	The % is tracked and is greater than 99%. Exceptions are continuously decreasing. Formally documented procedures continually evolve with the organization.
Deployment Process	The % of software deployed using a centrally controlled procedure is not tracked but is likely less than 68%	The % is not tracked but is between 68% to 95%	The % is tracked and is between 96% to 99%. Procedures are documented with assigned roles and responsibilities for stakeholders.	The % is tracked and is greater than 99%. Exceptions are continuously decreasing. Formally documented procedures continually evolve with the organization.
Retirement Process	The % of hardware assets that are retired and recorded in a way to enable the software on them to be reused is not tracked but is likely less than 68%	The % is not tracked but is between 68% to 95%	Software on retired hardware is tracked and available for reuse; the % is between 96% to 99%. Procedures are documented with assigned roles and responsibilities for stakeholders.	The % is tracked and is greater than 99%. Exceptions are continuously decreasing. Formally documented procedures continually evolve with the organization.

The Survey

SAM Maturity Survey Overview

Overview

KPMG surveyed software users about what they do to manage their software assets. We measured where software users stand in terms of their SAM maturity.

Methodology

In conjunction with IDC, KPMG conducted 1,013 interviews via a web survey in February 2008. The survey comprised 601 responses from companies with less than 1,000 employees; 304 interviews from companies with more than 1,000 employees; and 108 interviews from government and educational organizations.

Scoring

After calculating question points, each organization was placed into one of following four maturity levels: *Basic*, *Standardized*, *Rationalized* & *Dynamic*.

Key Observations

KPMG distilled four key observations out of the survey responses:

SAM maturity is generally lacking

86% of respondents lack complete and accurate information about software deployments and entitlements. These organizations may not be protected from compliance risk, and may have limited ability to manage their IT environments effectively.

Mature SAM is consistent with achieving lower IT labor costs

The survey indicated that as organizations gain control by proactively managing their software assets, they also realize related IT labor cost reduction by as much as 50 percent. This is prevalent with the more mature organizations and specifically with organizations that use SAM tools and processes to manage the software asset cycle.
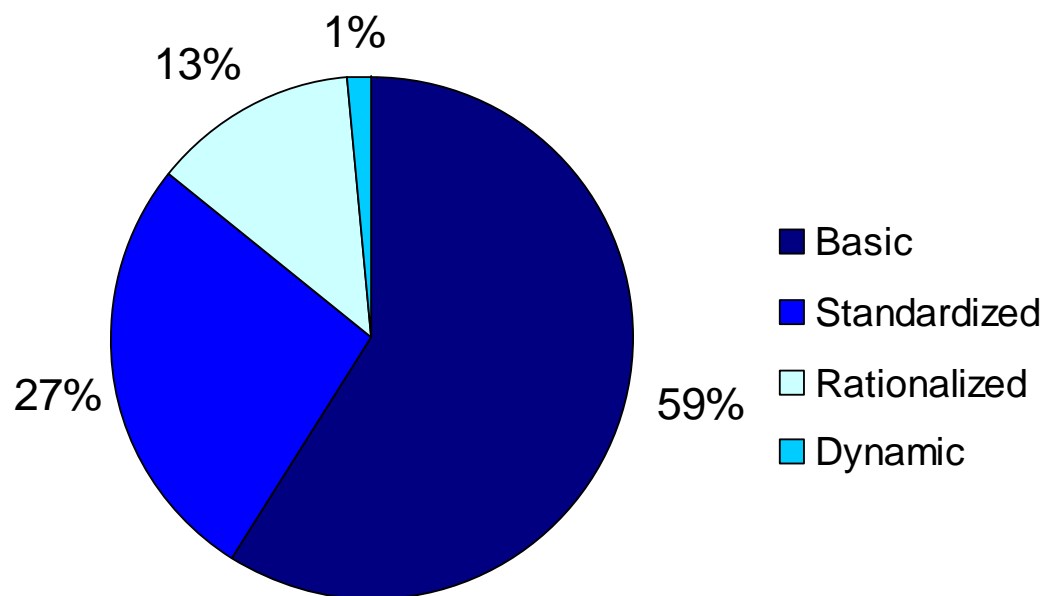
Larger organizations have a tendency to be more mature, overall

Larger companies tend to be more mature, while smaller companies tend to be less mature. This is not surprising given that larger organizations are likely to have more mature IT processes overall.

Certain industries are more mature than others

Certain industries are more mature than others. The more mature industries include automotive, aerospace, banking, insurance, and utilities.

Key Observations

KPMG distilled four key observations out of the survey responses:

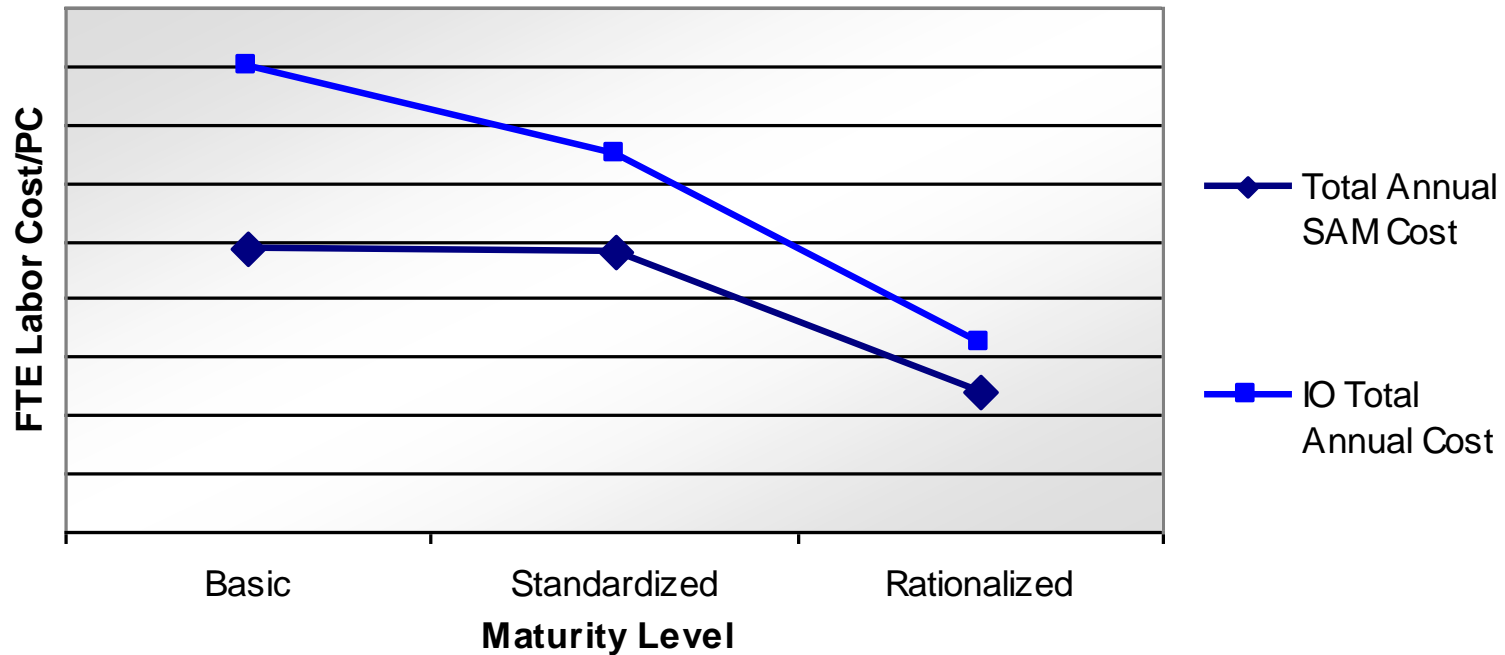|	
SAM maturity is generally lacking	86% of respondents lack complete and accurate information about software deployments and entitlements. These organizations may not be protected from compliance risk, and may have limited ability to manage their IT environments effectively.
Mature SAM is consistent with achieving lower IT labor costs	The survey indicated that as organizations gain control by proactively managing their software assets, they also realize related IT labor cost reduction by as much as 50 percent. This is prevalent with the more mature organizations and specifically with organizations that use SAM tools and processes to manage the software asset cycle.
Larger organizations have a tendency to be more mature, overall	Larger companies tend to be more mature, while smaller companies tend to be less mature. This is not surprising given that larger organizations are likely to have more mature IT processes overall.
Certain industries are more mature than others	Certain industries are more mature than others. The more mature industries include automotive, aerospace, banking, insurance, and utilities.

Aggregate Maturity Observations

Pie chart showing: Basic 59%, Standardized 27%, Rationalized 13%, Dynamic 1%

Legend:
- Basic
- Standardized
- Rationalized
- Dynamic

Key Observations
The survey results revealed that 86% of respondents are *Basic* or *Standardized*, which implies they do not have complete and accurate information to enable their organizations to effectively manage their IT environment.
Organizations in the *Basic* or *Standardized* levels need to implement business practices to ensure their software assets are proactively managed and their enterprises are protected from license compliance risk.

Key Observations

KPMG distilled four key observations out of the survey responses:

SAM maturity is generally lacking

86% of respondents lack complete and accurate information about software deployments and entitlements. These organizations may not be protected from compliance risk, and may have limited ability to manage their IT environments effectively.

Mature SAM is consistent with achieving lower IT labor costs

The survey indicated that as organizations gain control by proactively managing their software assets, they also realize related IT labor cost reductions. This is prevalent with the more mature organizations and specifically with organizations moving into the Rationalized level.

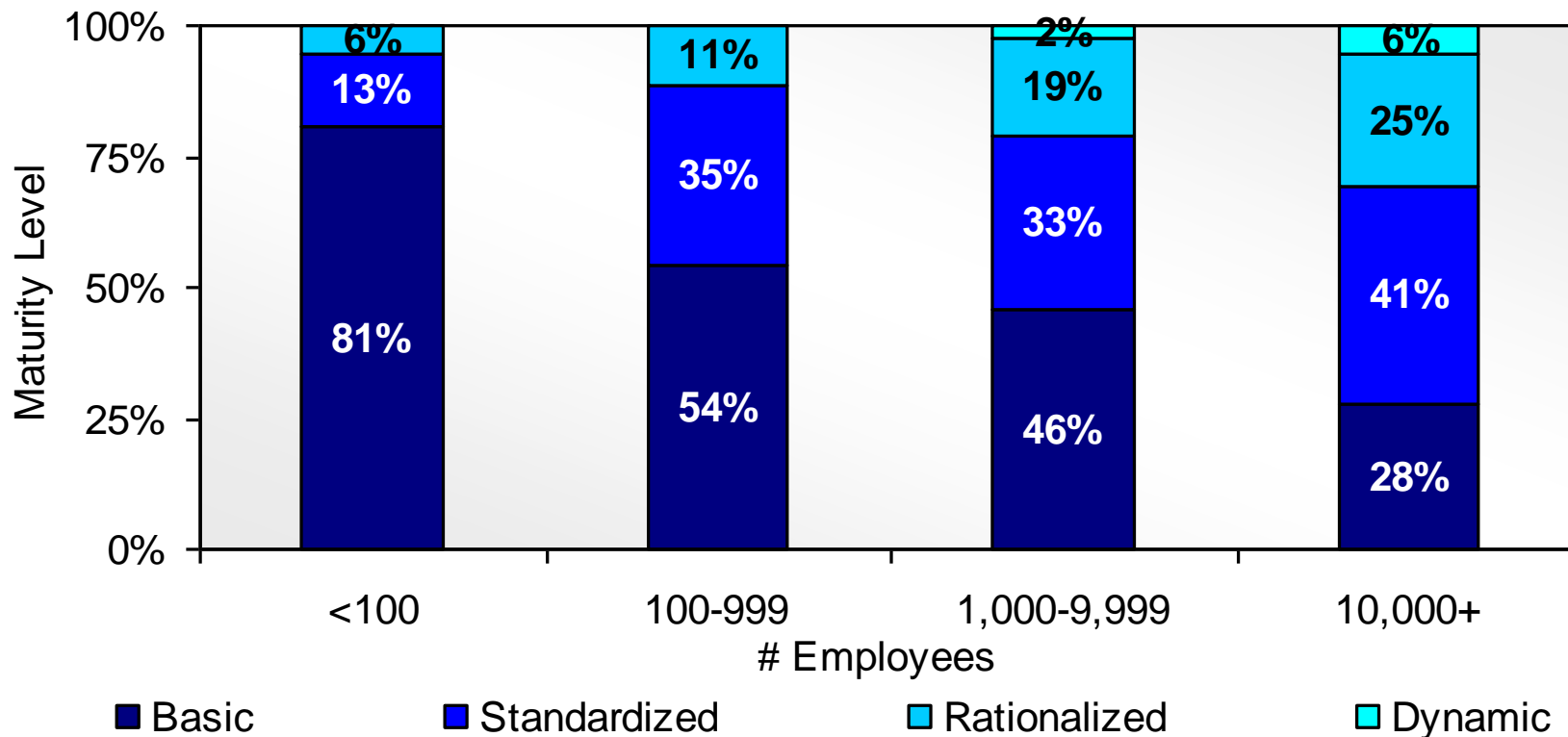**Larger organizations have a tendency to be more mature, overall**

Larger companies tend to be more mature, while smaller companies tend to be less mature. This is not surprising given that larger organizations are likely to have more mature IT processes overall.

Certain industries are more mature than others

Certain industries are more mature than others. The more mature industries include automotive, aerospace, banking, insurance, and utilities.

Total Annual SAM Cost vs. IO Total Annual Cost

Key Observations

IT labor cost for components of SAM reduces consistently with the reduction of IT labor costs for overall Infrastructure Optimization (IO) costs between *Standardized* and *Rationalized*.

Overall IT labor cost savings that companies obtain as they move from *Basic* to *Standardized* in IO are not directly because of SAM IT labor. As companies implement new SAM maturity to move from basic to standardized IT labor cost does not increase.

Key Observations

KPMG distilled four key observations out of the survey responses:

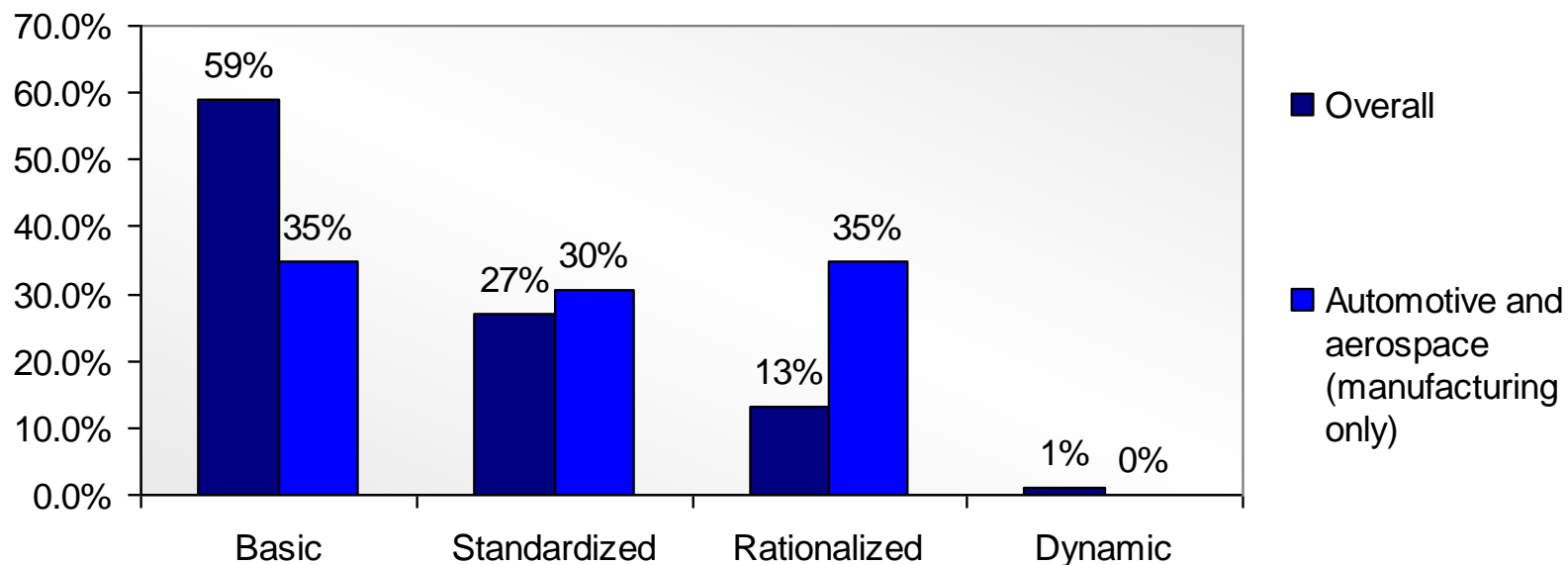|	
SAM maturity is generally lacking	86% of respondents lack complete and accurate information about software deployments and entitlements. These organizations may not be protected from compliance risk, and may have limited ability to manage their IT environments effectively.
Mature SAM is consistent with achieving lower IT labor costs	The survey indicated that as organizations gain control by proactively managing their software assets, they also realize related IT labor cost reduction by as much as 50 percent. This is prevalent with the more mature organizations and specifically with organizations that use SAM tools and processes to manage the software asset cycle.
Larger organizations have a tendency to be more mature, overall	Larger companies tend to be more mature, while smaller companies tend to be less mature. This is not surprising given that larger organizations are likely to have more mature IT processes overall.
Certain industries are more mature than others	Certain industries are more mature than others. The more mature industries include automotive, aerospace, banking, insurance, and utilities.

By Company Size Observations: Overall

Maturity Level (y-axis)

# Employees	Basic	Standardized	Rationalized	Dynamic
<100	81%	13%	6%	
100-999	54%	35%	11%	
1,000-9,999	46%	33%	19%	2%
10,000+	28%	41%	25%	6%

Legend: ■ Basic ■ Standardized ■ Rationalized □ Dynamic

Key Observations

The survey results suggest that larger organizations tend to be more mature than smaller organizations. This result is expected, since larger organizations are more likely to have more mature IT processes in general due to scale of managed operations, increased regulatory requirements, and availability of resources. By contrast, it appears that smaller organizations may not have the means to invest as much in IT in terms of people, process, and technology as they typically have fewer people trying to do more things.

Key Observations

KPMG distilled four key observations out of the survey responses:

SAM maturity is generally lacking	86% of respondents lack complete and accurate information about software deployments and entitlements. These organizations may not be protected from compliance risk, and may have limited ability to manage their IT environments effectively.
Mature SAM is consistent with achieving lower IT labor costs	The survey indicated that as organizations gain control by proactively managing their software assets, they also realize related IT labor cost reduction by as much as 50 percent. This is prevalent with the more mature organizations and specifically with organizations that use SAM tools and processes to manage the software asset cycle.
Larger organizations have a tendency to be more mature, overall	Larger companies tend to be more mature, while smaller companies tend to be less mature. This is not surprising given that larger organizations are likely to have more mature IT processes overall.
Certain industries are more mature than others	Certain industries are more mature than others. The more mature industries include automotive, aerospace, banking, insurance, and utilities.

Survey Respondent Breakdown by Industry

Industries Included in Survey	
Banking (depository)	Wholesale trade
Financial services	Retail trade
Insurance	Engineering and management services
Discrete manufacturing	Accounting and professional services
Process manufacturing	Technology products or services
Automotive and aerospace (manufacturing only)	Other service
Healthcare services	Agriculture, forestry, and fishing
Telecommunications	Construction
Broadcast and other communications	Education
Transportation	Government
Utilities	Other (specify)

By Industry Observations: Automotive and Aerospace

Bar chart comparing Overall vs. Automotive and aerospace (manufacturing only):
- Basic: Overall 59%, Automotive and aerospace 35%
- Standardized: Overall 27%, Automotive and aerospace 30%
- Rationalized: Overall 13%, Automotive and aerospace 35%
- Dynamic: Overall 1%, Automotive and aerospace 0%

Legend: ■ Overall ■ Automotive and aerospace (manufacturing only)

Key Observations
The automotive and aerospace manufacturing industry had the lowest number of companies ranked as *Basic*, highest number of companies ranked as *Rationalized*.
Many in the automotive and aerospace manufacturing industry have already implemented ITIL processes and as a result their ability to manage their IT environment appears to be more mature.

By Industry Observations: Banking
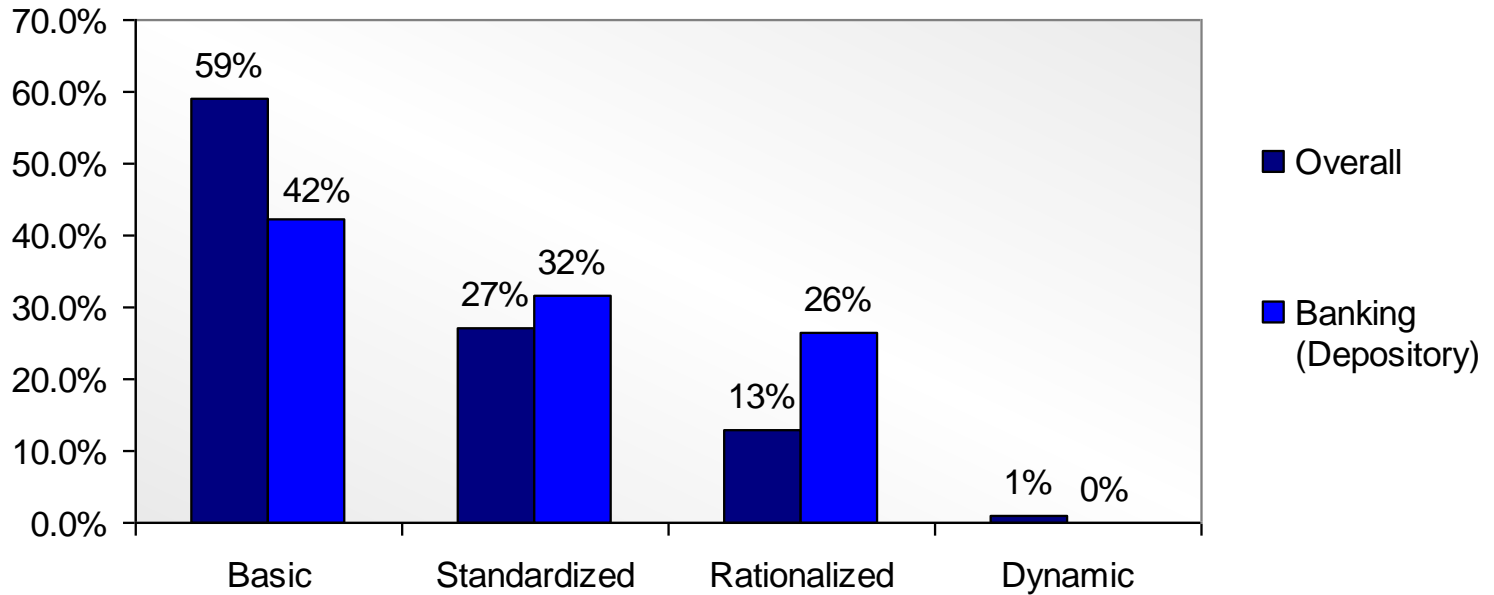
Key Observations

Banking appears to have higher overall SAM maturity compared to the average, which may be a function of the nature of the business and related regulatory requirements

Performance Against Individual Competencies

Sam Optimization Model and Organizations' Performance Findings

The survey was based on 10 key competency questions (part of the SAM Optimization Model) designed to measure an organization's overall level of SAM maturity.

With respect to each of the key competencies, the SAM Optimization Model identifies different expectations for each of the four levels- *Basic*, *Standardized*, *Rationalized*, and *Dynamic*.

The following slides detail sample key competency questions measuring an organization's overall level of SAM maturity as well as overall results of organizations' performance findings against individual competencies.

SAM Components : SAM Improvement Plan
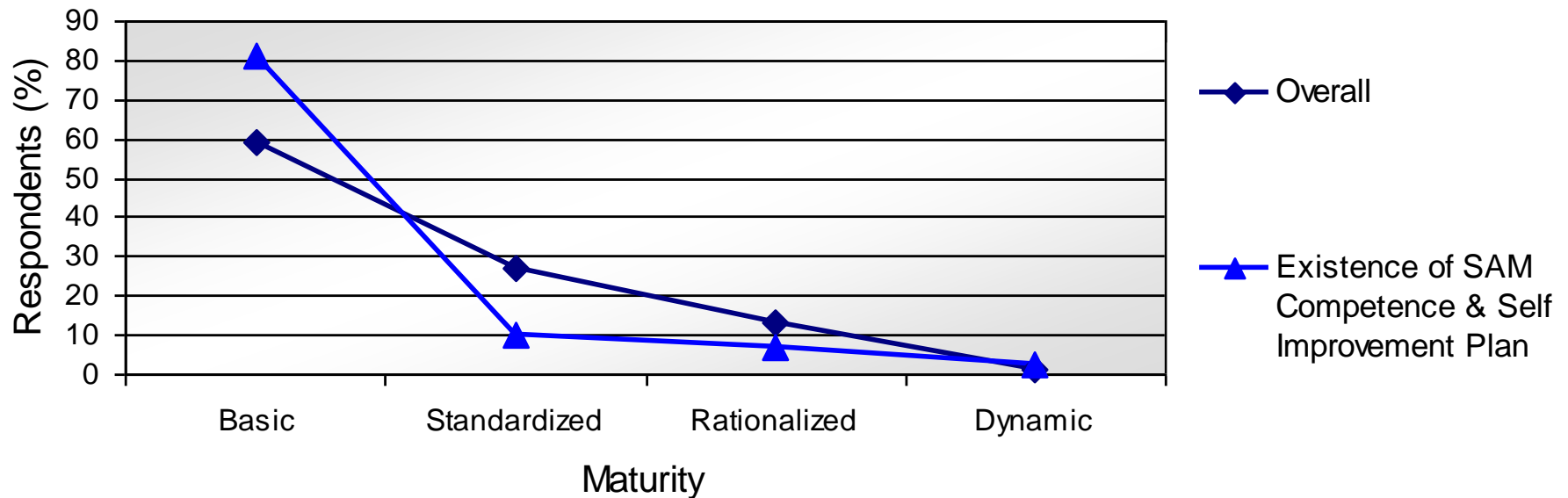
Key Observations
Overall more companies are more *Basic*; overall fewer companies have a documented executive vision for SAM or a SAM implementation plan than the overall trend of maturity.
Having a SAM improvement plan does not appear to be a priority for the organizations that are *Standardized* and *Rationalized*. Organizations that have enough cumulative maturity to be considered *Standardized* or *Rationalized* overall may benefit from developing a formalized strategy and SAM improvement plan.
There are 2.4% (24 companies) that responded as having a dynamic mature SAM improvement plan which is higher than the overall trend.

SAM Components: Hardware and Software Inventory
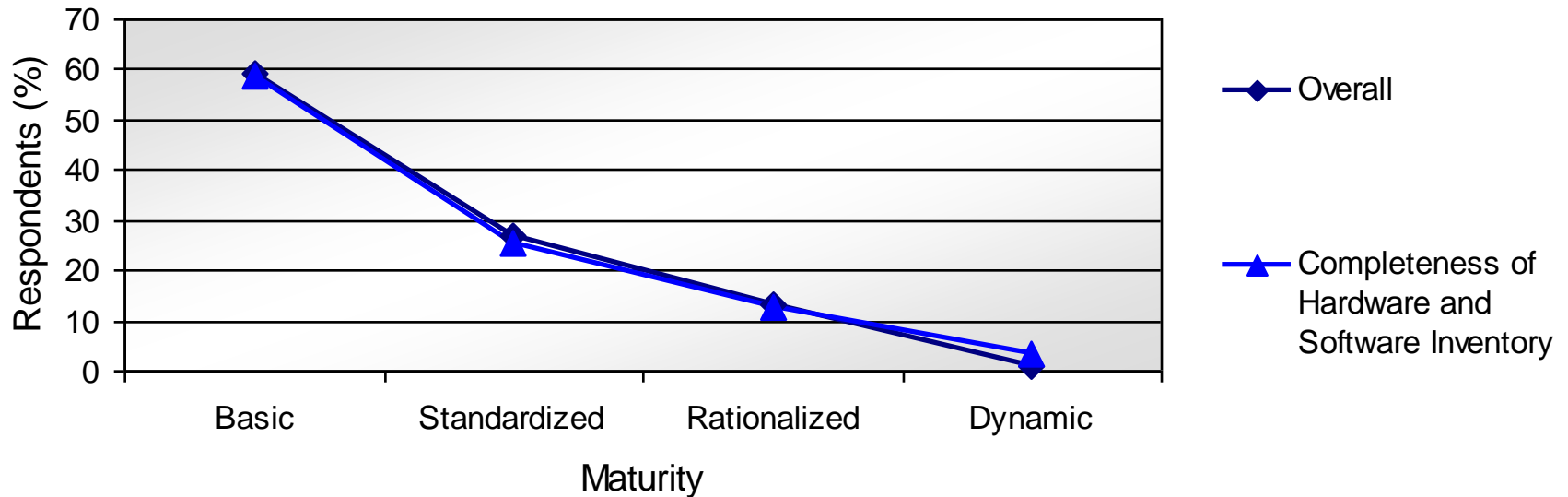
Key Observations

The trends for this component appear to map to the overall maturity trend very well. This component should therefore be considered a key indicator of overall maturity. Companies who want to understand their overall SAM maturity may benefit by first testing the completeness of their software and hardware inventories. Companies who want to increase the completeness of their software and hardware inventories, but struggle to know how to make a difference may benefit, by first focusing on increasing the maturity of their other SAM related components. For example: if the customer does not have a SAM improvement plan then, then developing one may directly effect future SAM HW completeness. You can't improve your completeness if you don't have a plan to do so.

SAM Components: Accuracy of Inventory
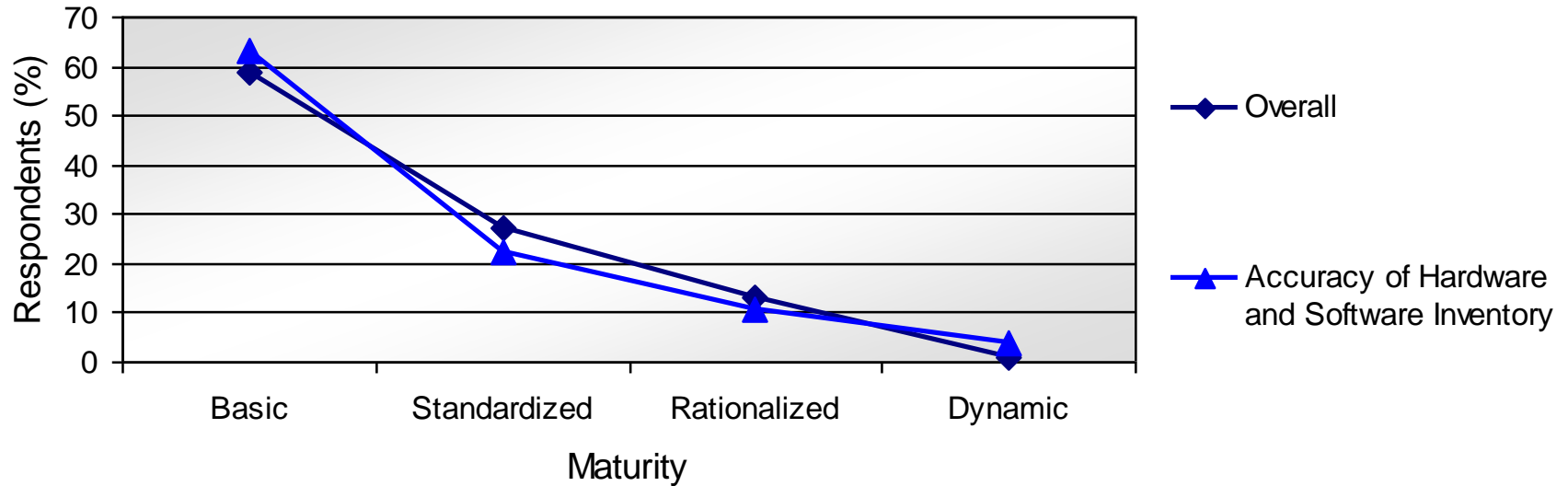
Key Observations

Accuracy of inventory is also a good predictor of overall maturity. This component appears to be slightly more difficult to achieve because 63 percent of the respondents were *Basic* when considering accuracy, compared to 58 percent when considering completeness. This indicates that more organizations believe they have complete inventories than accurate inventories. Organizations that have made sure their inventories are complete should also test to verify if they are accurate.

SAM Components: License Entitlement Records
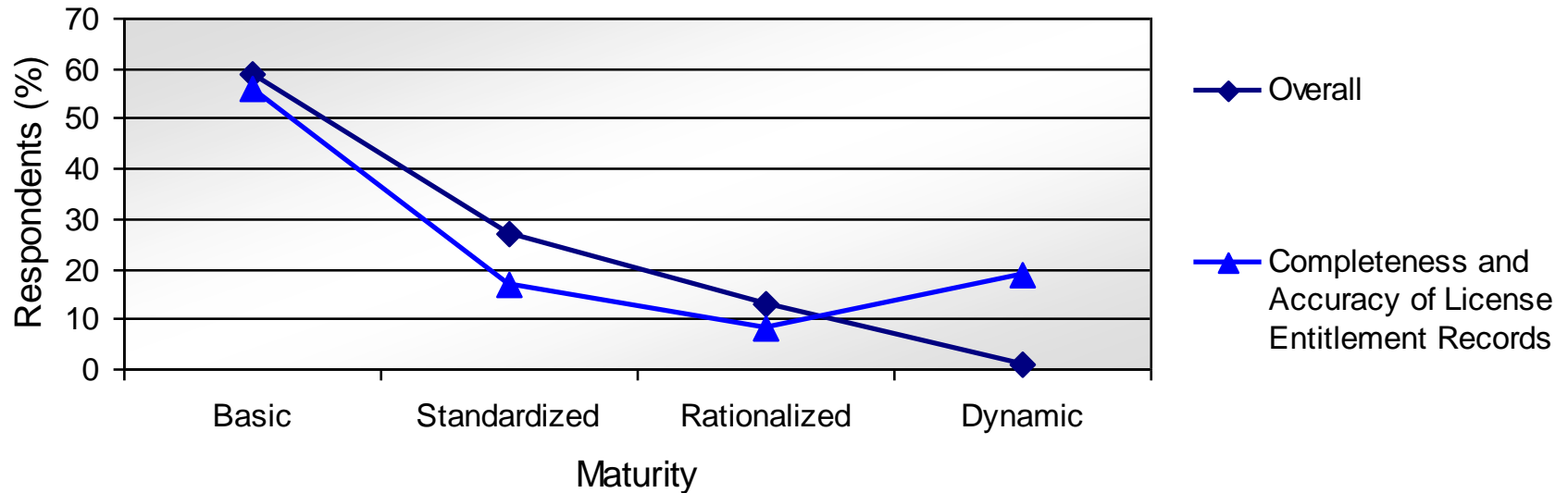
Key Observations

More organizations for this component are *Dynamic* than the overall trend for all components. Some organizations may have more complete entitlement records than anticipated because the license entitlement inventory is often managed as a separate process (for example, by procurement), even if IT operations processes are not implemented in a mature way.

60 percent of organizations are *Basic* which means they have a software license inventory that is substantially incomplete. Such companies would struggle to effectively reconcile entitlement with deployment to mitigate the risk of paying either too much or too little for the software they are using.

SAM Components: Periodic Self Evaluation
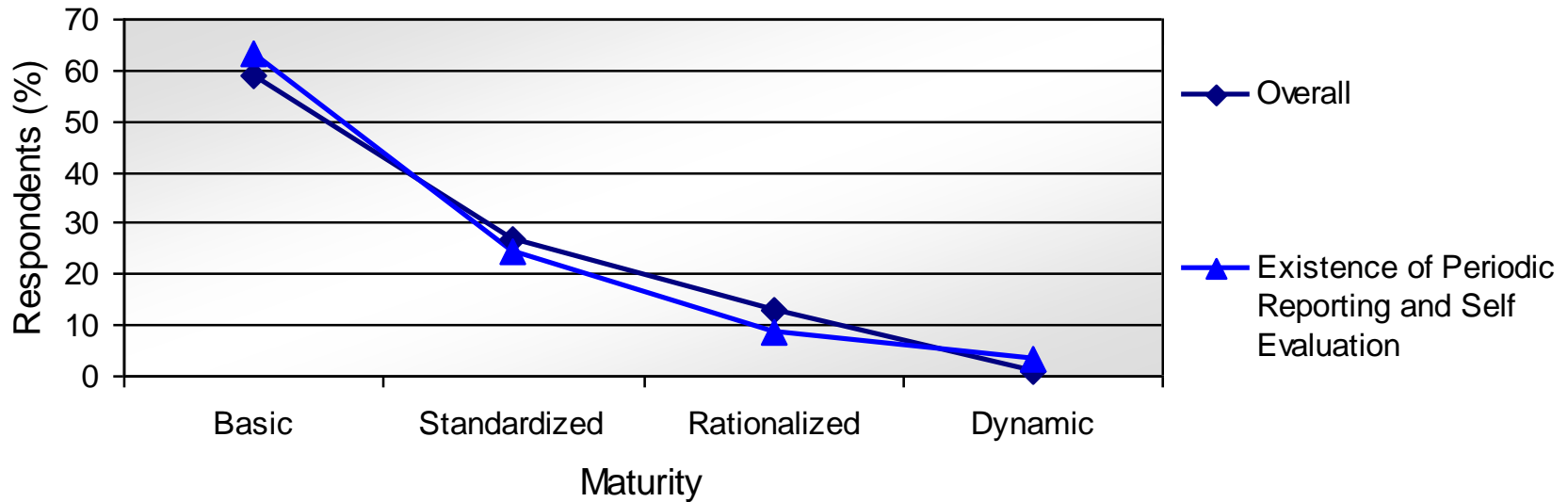
Key Observations

Overall this component maps well to the general trend and is consistent with the trends observed for hardware, software, and entitlement inventory completeness and accuracy. As expected, organizations that collect and maintain inventory records for deployment and entitlement are also likely to do periodic reconciliations of such records.

Q&A

Ron Brill
Partner, KPMG LLP
rbrill@kpmg.com
(650) 404-4667

kpmg.com