RISK AND COMPLIANCE

Software Asset Management (SAM) Maturity landscape in India

KPMG IN INDIA

AUDIT ▪ TAX ▪ ADVISORY

Foreword

In recent months, the Indian industry has made considerable efforts to bring to light the importance of intangible assets and their effects on accounting and organizational processes.

The Accounting Standard (AS 26), 2006 defines intangible assets as "an identifiable non-monetary asset, without physical substance, held for use in the production or supply of goods or services, for rental to others, or for administrative purposes." This includes assets like software, which has figured predominantly in discussions among businesses.

Software has permeated every sphere of life today. Whether it is mobile phones used for communicating with friends and family or financial transactions made over an ATM, software complements hardware and substitutes mundane and tiresome processes through automation and nano-second computation. Increasingly, businesses are differentiating themselves by way of their capability to harness the functionalities of software and related technologies. However, this differentiation can soon pose a challenge of how to manage and monitor these software assets.

For instance, how can organizations understand which of its software asset versions would become obsolete or incompatible with upcoming technology advancements? Or which software assets need to be periodically upgraded to ensure business continuity? Or how to ensure optimum utilization of existing software?

Unless organizations have a means of tracking such information, they would be unable to make future estimates and plan their expenditure accordingly. Consequently, this could result in poor financial control leading to overspending and ineffective negotiations with vendors. Additionally, poor control on deployment of software might lead to usage of pirated software that can add risks to the integrity of confidential information or introduce bugs into the system.

This document attempts to demonstrate the current software asset management landscape in India and the maturity of companies in tackling related issues. It also underlines the need for organizations to set in place a process framework that can help them reap the benefits offered by software assets.

We hope that you will find this document useful.

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Executive Summary

Most software is licensed rather than sold; therefore, purchasers are never the actual owners of the software. The use of software licenses are often self-reported information from parties using the license.

Each year billions of dollars go unaccounted for in the software industry because businesses place too much faith in trust-based relationships with their partners, by accepting self reported information as true. Most self-reporting partners do not deliberately misrepresent their contractual obligations. It is mostly due to ignorance of contractual terms or lack of processes to follow up on the reporting cycle.

Software Asset Management (SAM) is a business practice that involves managing and optimizing the purchase, deployment, maintenance, utilization, and disposal of software applications within an organization. According to the Information Technology Infrastructure Library (ITIL), SAM is defined as "…all of the infrastructure and processes necessary for the effective management, control and protection of the software assets…throughout all stages of their lifecycle."[1]

This document attempts to understand the maturity of Indian companies with respect to their SAM practices.

Almost 86 percent[2] of companies reviewed have not seriously considered looking at managing their software assets. Though there are processes in place which track assets, especially hardware, there is a lack of policies or procedures to manage software assets.

Other salient findings emerging from our reviews are in the areas of software license tracking and use of tools complementing SAM, including office productivity tools.

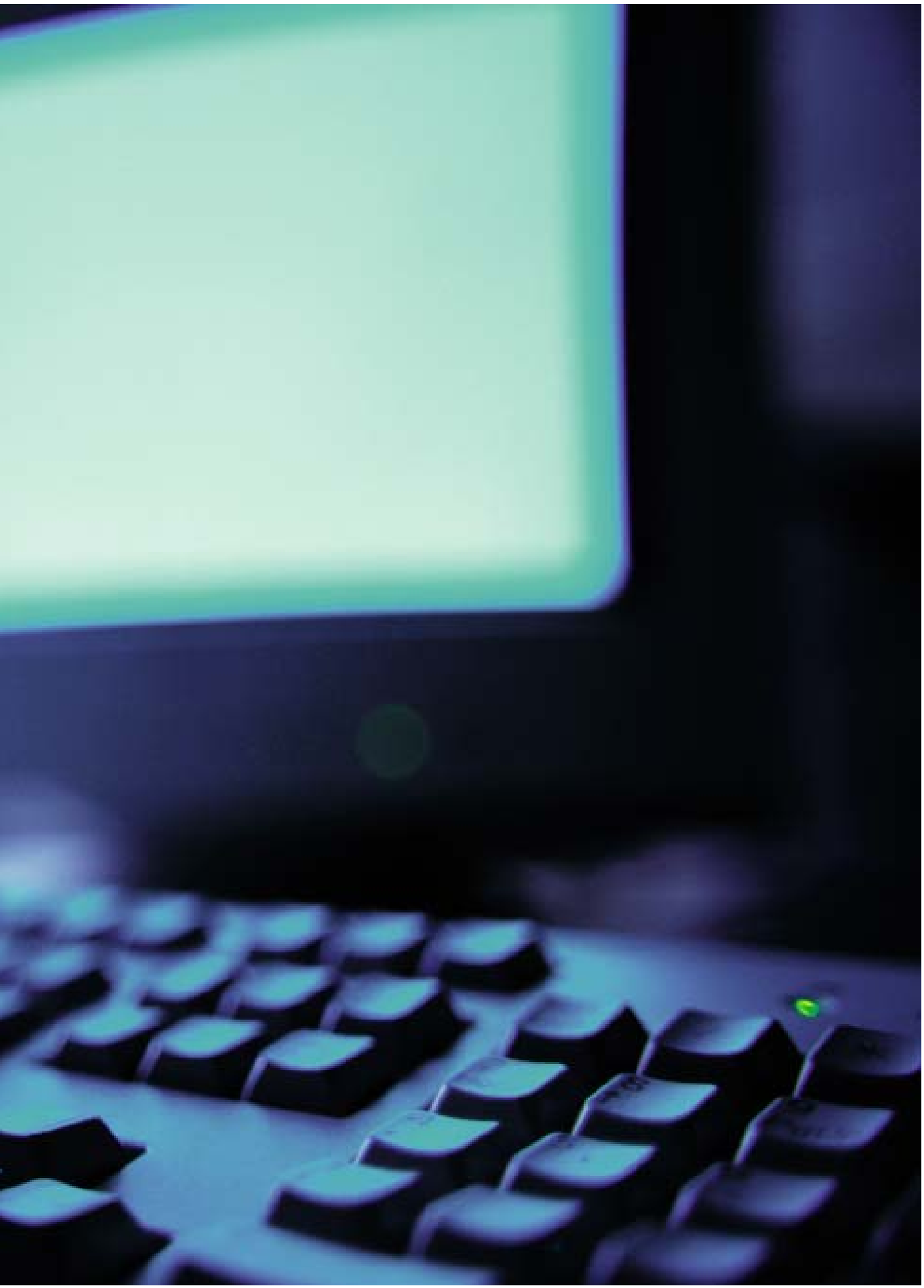
About 59 percent of the companies reviewed track software licenses manually either on paper or on a spread sheet application, however, they do not use this information to ensure optimum utility of these assets.

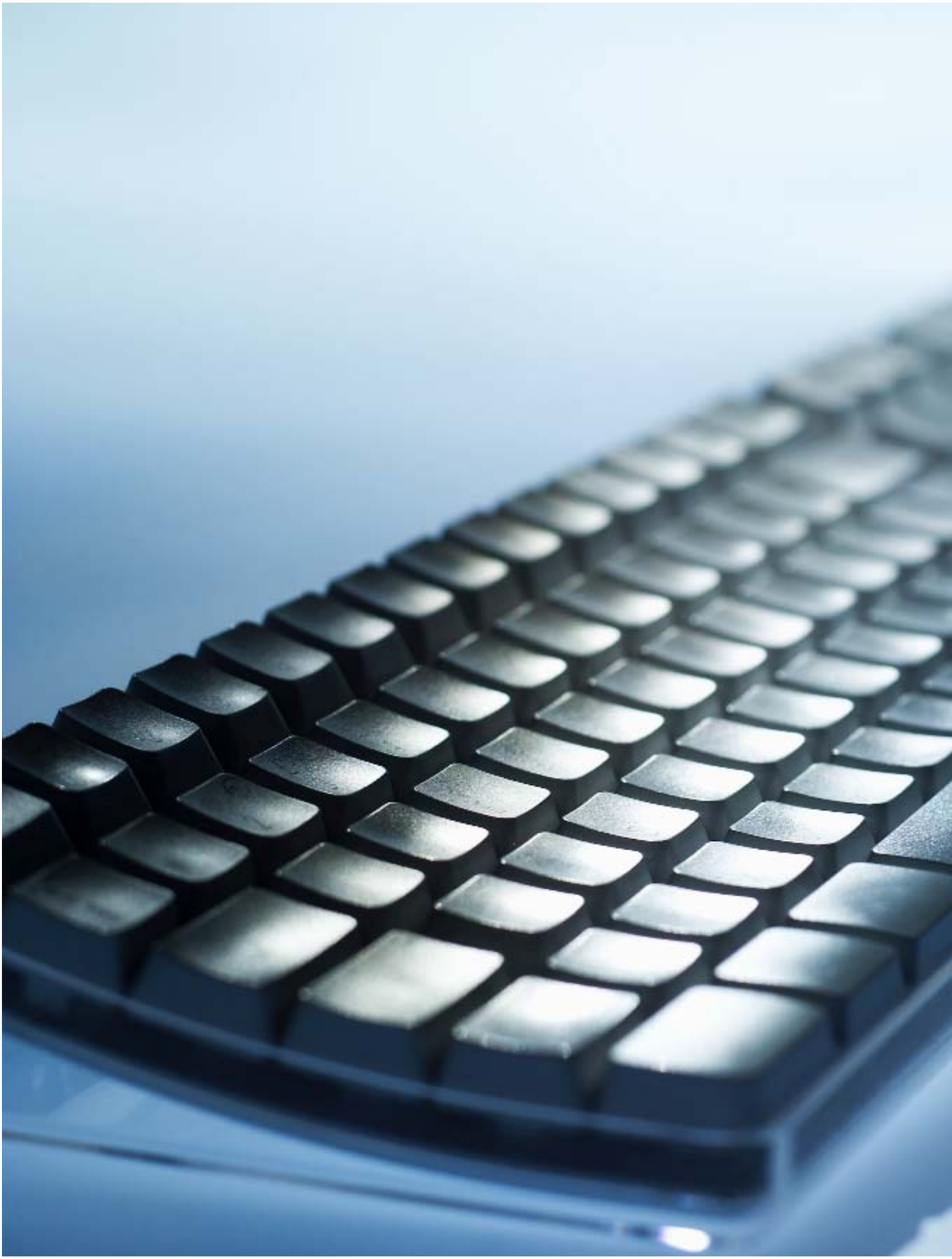
It was observed that only 57 percent of the companies reviewed ran directory services, such as 'Active Directory' or LDAP, to manage their infrastructure and aid SAM.

The use of office productivity tools across industries remains high; however, when it comes to development tools, the usage pattern is skewed with 71 percent of deployments happening in the IT/ITES industry. This may indicate that such organizations may be better equipped to monitor software assets through customized programs.

A well-run contract compliance program can recover revenue, improve relationships, reduce risk, and even lower liability exposures. Conversely, a program that is weakly structured can cause severe damage to a business relationship, waste money, and increase risks. It is therefore imperative that businesses become more proactive with their self-reporting partners and institute rigorous contract compliance programs.

1 http://en.wikipedia.org/wiki/Software_Asset_Management - cite_note-0#cite_note-0 ITIL's Guide to Software Asset Management.
2 KPMG in India's review of SAM maturity landscape in India





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Our approach

This document is the result of the various projects KPMG in India has undertaken between 2007 and 2010 to study aspects of regulatory and contract compliance as well as suspected frauds and risk framework assessments in the management of software assets. The information gathered revealed interesting patterns which helped in determining the overall SAM maturity of the organizations reviewed. Two aspects were evaluated:

a) design effectiveness of various processes across the software lifecycle

b) operating effectiveness (how organizations used its people, processes and technology in managing software assets).

As prescribed by ISO 19770, the following 10 key performance indicators were used to determine and conclude the maturity status of the organization reviewed:

- SAM throughout Organization
- SAM Improvement Plan
- Hardware and Software Inventory
- Accuracy of Inventory
- License Entitlement Records
- Periodic Self Evaluation
- Operations Management Interfaces
- Acquisition Process
- Deployment Process
- Retirement Process.

These findings were then translated into a model determining the overall maturity of the organization. KPMG in conjunction with a leading software publisher has developed this model, comprising of four categories:

- Basic (organizations lacking policies and procedures)
- Standardized (organizations having some processes including the use of asset discovery tools),
- Rationalized (organizations with vision, policies, procedure and tools which are integrated to manage the full IT asset lifecycle. Such organizations use reliable information to manage their assets)
- Dynamic (organizations having real time alignment with changing business needs. Competitive advantage is realized through the asset management processes).

The reviews were carried out primarily on this software publisher's product licenses, with the company's permission. However, in our experience, the results are fairly consistent and may be applied across other software publishers also.

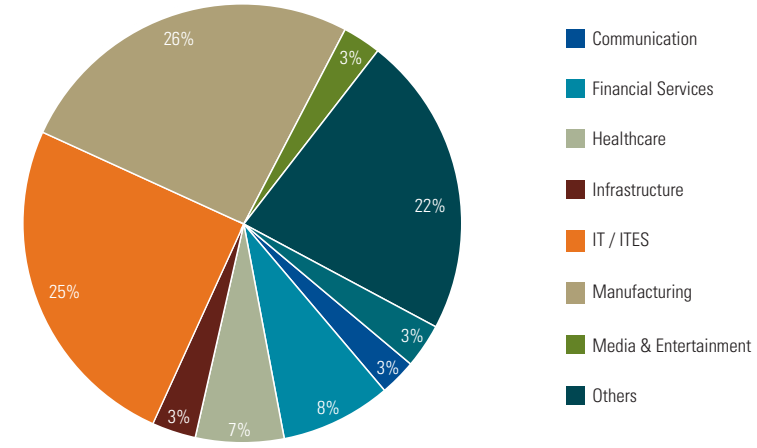
02

Profile of reviewed companies

Reviews were carried out across over 800 companies, with about 35 percent of the companies from Southern region of India, 33 percent from North and 32 percent from Western India.

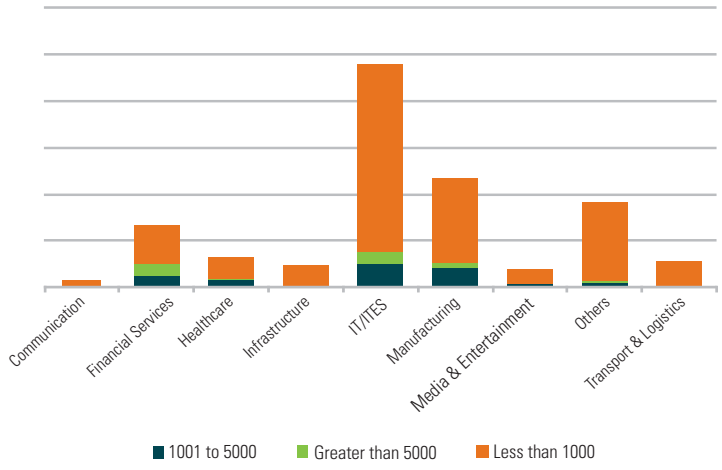
Companies were categorized as small (less than 1,000 employees), medium (between 1001 and 5,000 employees) and large (over 5,000 employees). The majority companies reviewed belonged to small industries and hence a generalization of the results would need to be considered with caution.

Industry-wise profile of companies reviewed



Source: KPMG in India's review of SAM maturity landscape in India

Employee count across the industry



Source: KPMG in India's review of SAM maturity landscape in India

03

Key observations from the reviews

86%

do not seriously consider managing their software assets.

Overall Maturity

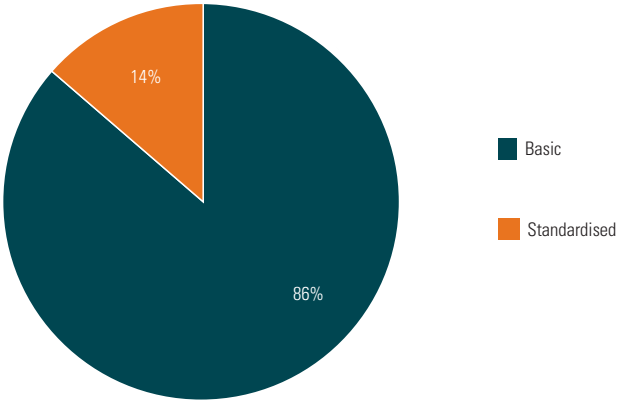
About 86 percent of the companies reviewed did not have adequate policies, procedures, resources and tools for using their software assets, implying that they had little control over their IT assets.

This also implies that the data managed by the organization may not be used for decision making and calculation such as for future estimation and planning.

Therefore, these companies were classified under the 'Basic' stage of SAM maturity.

Among regions, companies based in the Western region demonstrated a higher percentage of maturity compared to those in the North or South, with a few demonstrating 'standardized' processes.

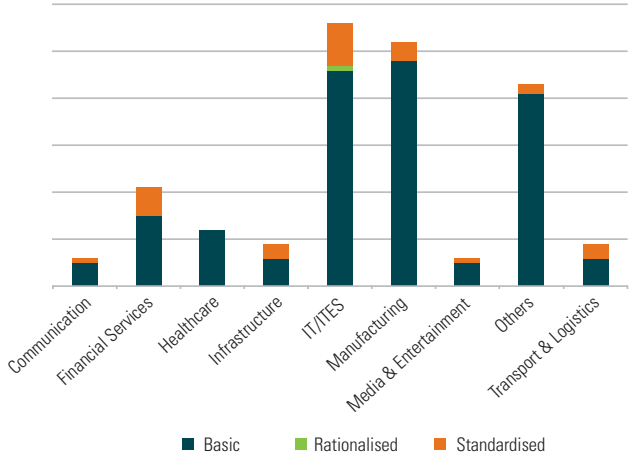
Maturity percentage calculation



Source: KPMG in India's review of SAM maturity landscape in India

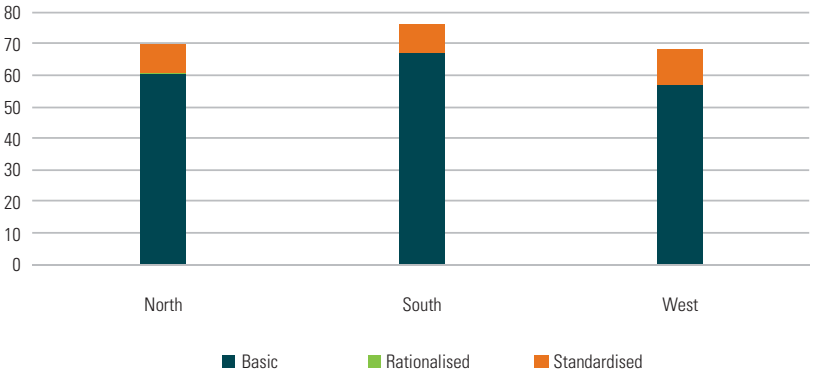
It was observed that none of the organizations reviewed had reached a level which was 'dynamic' in maturity. For asset tracking to be mature, a conscious decision needs to be taken by key stakeholders to ensure that SAM policies are given a priority and necessary follow up actions taken to ensure the correct implementation of procedures and processes.

Industry maturity trends



Source: KPMG in India's review of SAM maturity landscape in India

Maturity across regions



Source: KPMG in India's review of SAM maturity landscape in India

Key issues that an organization may face at basic maturity levels include:

- Unplanned deployments and un-installations of products:
  Such deployments including different flavours of a product's edition and version can determine patterns of usage. Often, complex licensing norms state the way a product can be deployed including the number of times and the machine in which the product is used. Unwarranted usage patterns can lead to software publishers levying penalty based on the location and components of usage

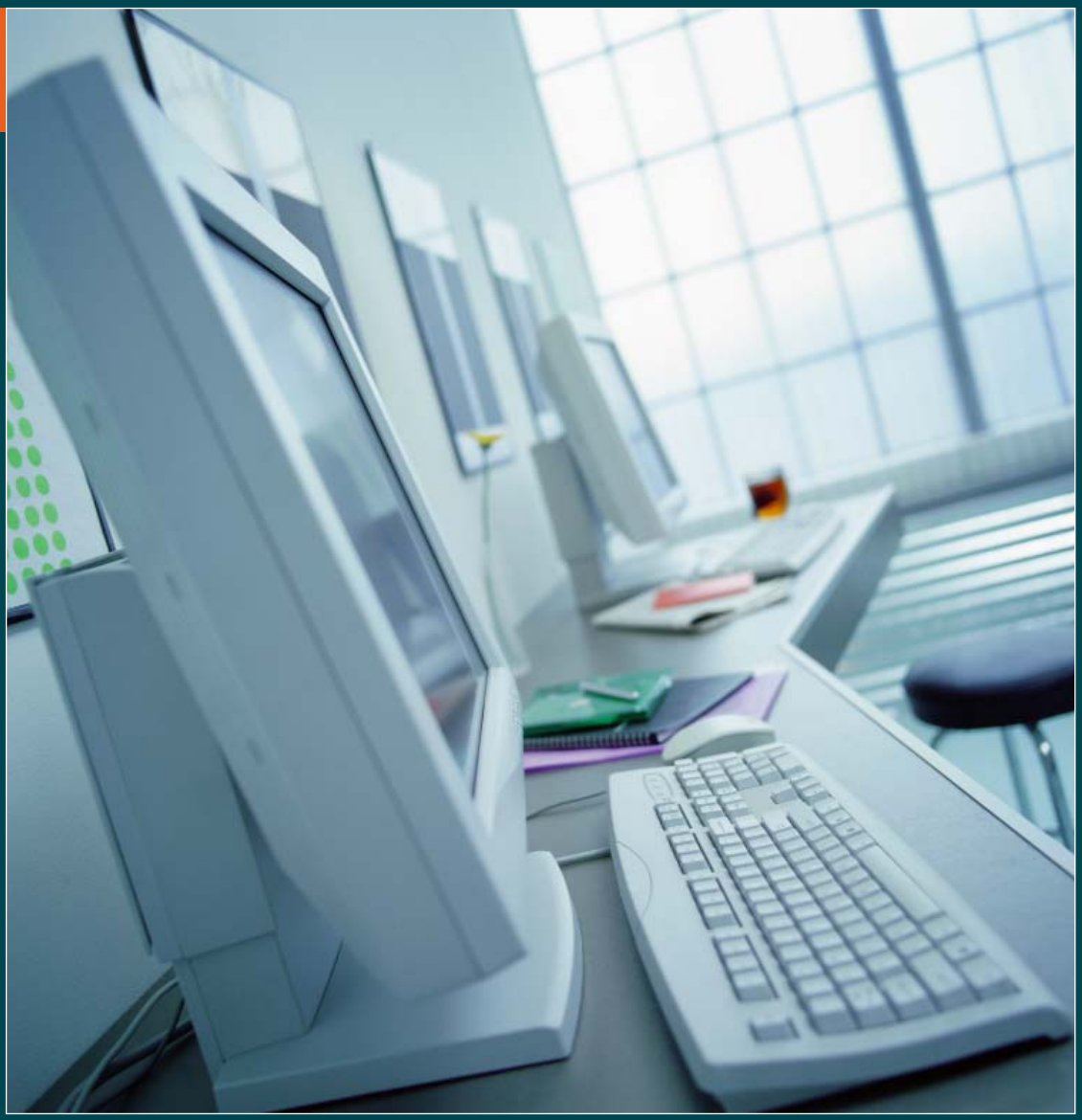
- Multiple operating systems:
  Multiple operating systems deployed on a single machine would require the maintenance of multiple licenses for each operating system. Lack of tracking mechanisms can lead to over deployment of an operating system including the inefficient usage and track back of a license during the machine's retirement stage. Infrastructures that run virtual environments are also susceptible to non compliance if necessary controls are not put in place

- Managing license keys and policies:
  Each original equipment manufacturer provides an operating system associated with it. Upgrading this hardware with software needs to be documented and tracked to ensure that the machine is using a license which has been duly accounted for

- Misconfiguration of client access licenses and desktops:
  It is common to see client access licenses and desktops being configured as servers. These can lead to difficulties in quantifying the value of a software asset (such as license keys with respect to users of assets), especially in business combinations/custom built software and impairment of software asset (depreciation) and consideration of obsolescence

- Complex licensing norms:
  Different licensing strategies followed by different publishers can lead to wrong deployments as well as wrong software implementation. Hence, this requires a certain level of licensing expertise and tracking mechanisms to help govern these norms.

  More than all this, Basic SAM maturity levels demonstrate the lack of vision in an organization to recognise and harness its software assets – intellectual property. If managed properly, these assets can be re-used profitably (as is becoming common practice among large software development firms) and over time pay for their management and maintenance.



34%

of companies reviewed have little or no control over their software asset life cycle.

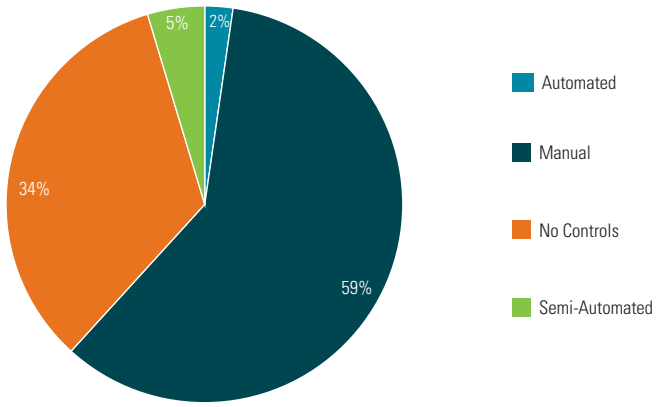
Licence tracking

One of the first steps to managing software assets is by incorporating a mechanism to track licenses. This is akin to measuring the software inventory and can be accomplished by a combination of manual and automated controls.

The data obtained can easily be analysed to reveal wastage (more licenses purchased than used), employee usage patterns (a handful of products being used more than all the software deployed on users' computers), possible use of pirated software (expired licenses) and for planning future requirements (opting for fewer products as opposed to the entire software suite or negotiating a better price for buying/renewing licenses).

Most firms ought to have some means of keeping track of their licenses, considering they periodically use and renew them. However, around 34 percent of the companies reviewed demonstrated little or no control over their assets across the software lifecycle. They had few processes or the resources to manage their software, thus, not passing the tests for design effectiveness as well as operating effectiveness.

License tracking percentage



Source: KPMG in India's review of SAM maturity landscape in India

About 59 percent of companies reviewed had some mechanism to track, monitor and manage their infrastructure, although they indicated discrepancies and a lack of clarity in terms of 'what an organization really owns' as opposed to 'what an organization perceives to own'.

For most companies, managing one's software licenses along with its intricate complexities and dealing with compliance requirements can pose a big challenge. Some key risks include:

1) Legal and compliance risk arising from failure to comply with statutory or regulatory obligations

2) Financial implications which can result in the risk that a company will not have adequate cash flow to meet financial obligations arising due to the exposure of unauthorised or over deployment of software licenses. This in turn may lead to contingent liability

3) Inadequate 'control' especially on employee related usage that can result in unauthorized use of software

4) Fraud and reputation risk from disputes that delay or prevent the resolution of payment settlement and

5) Pirated use of software that can cause credit, liquidity or reputation risks.

Companies that do not have adequate license tracking mechanisms often exhibit the following associated system and application trends:

- Low usage of directory services to manage their software infrastructure
- Average use of office productivity tools, but low usage of software development tools.

These aspects are discussed in detail in the following pages.

Usage of directory services

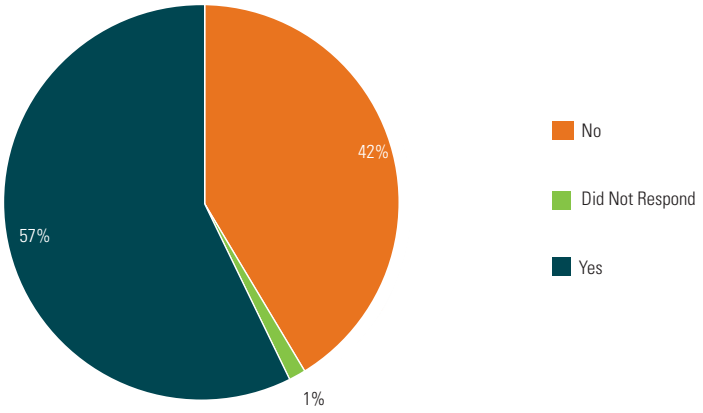
A directory service is a tool that aids network administration and delegation of authority, besides helping access the central storage location for application data. Using this tool, one can simultaneously scale up or scale down systems, renew/update/upgrade licenses through a single operation and track usage across users in the company.

Given its scope in contributing to SAM, it was disheartening to note that only 57 percent of the companies reviewed used a directory service to manage their infrastructure.

Within industries, IT/ITES leads the way with 43 percent of the companies reviewed installing a directory feature, followed by manufacturing and financial services with 13 percent and 9 percent respectively.

It was noted that the Southern region had a greater deployment of directory services compared to the other regions. However, It was difficult to correlate if such deployments had a direct impact on the maturity of an organization's asset tracking mechanism.

Use of directory services



Source: KPMG in India's review of SAM maturity landscape in India

Usage of productivity/development tools

Use of productivity tools such as spread sheet applications or word processors have become mandatory in all growth focused organizations. Therefore, assessing the number and nature of productivity tools deployed across an organization can indicate the future direction the organization intends to take, particularly in the area of software assets. For instance, preference to deploy the most recent version of a productivity tool could imply many things including:

- that the organization is heavily dependent on that software publisher
- that the organization is heavily focused on upgrading its technology and staying up to date
- that the organization may not have found an alternative product capable of generating the desired results.

Our review revealed that most organizations have deployed productivity tools proportionate to the number of desktops. Very few organizations, however, had more than one deployment of productivity tools, from different software publishers. It is understood that this was done to dedicate a productivity tool to the function/area where the benefits were the most, as opposed to using it across all functions. For instance, users could use the productivity tool from one software publisher for say number-intensive operations, while the productivity tool of another publisher could be used for video-intensive presentation purposes.

In the area of development tools (these are tools that help create/ customise applications specific to one's use.) Seventy one percent of the deployments were predominantly found in IT/ITES sector, followed by financial services (9 percent), where in-house development and software based projects are common.

The use of development tools indicates a sense of familiarization and comfort in using/operating software routinely. Such organizations are expected to have a framework in place for managing these assets as well as actively forecasting their needs.

04

SAM and KPMG

KPMG has developed a methodology which not only allows an organization to determine and estimate its deployments and licensing position but also understands its maturity level through a SAM optimisation model. This allows organizations to fine tune their infrastructure against industry standards and help them develop processes that rationalize its internal controls.

For a SAM initiative to be successful, the efforts involved will include:

- Managing all software license requirements for the organization
- Interface with business units for requirement gathering
- IT Team for usage analysis and monitoring of software assets
- Strategic IT planning
- Risk management and
- Imparting training to users.

The above approach should set in place an overall management process which establishes and maintains a management infrastructure. The following case study demonstrates the implications of having such processes in place and reflects some of the sentiments on which the reviews were carried out and insights obtained.

Case Study

A large nationalized Indian bank (hereafter referred to as the 'Bank') with over 1,400 branches wanted to streamline their efforts in handling various software issues such as updates, patches and virus threats.

The Bank has a three-tier organizational setup consisting of a Head Office, Regional Offices and Branches across India. Its core banking solution is implemented across 600 branches that run over 9,000 Windows-based systems. The remaining branches run legacy systems. Branches are categorized as Advanced Ledger Posting Machine (ALPM) and Total Branch Mechanization (TBM).

TBM runs in UNIX, host-based systems while ALPM runs on DOS with in-house developed application(s). The Bank had outsourced its network and infrastructure services in order to effectively integrate its systems to achieve core banking.

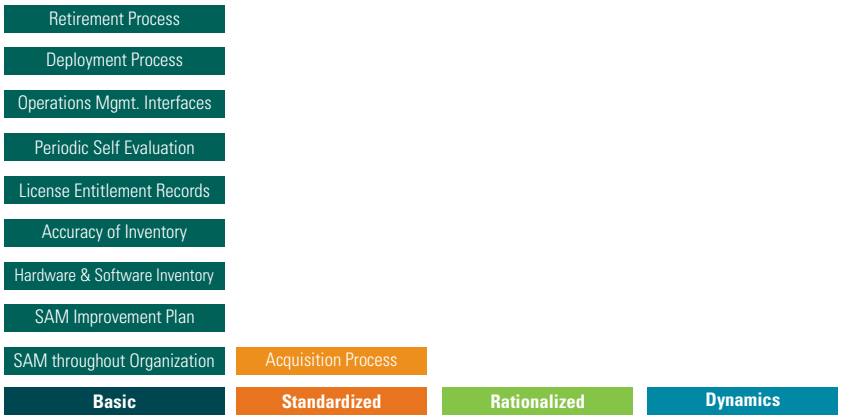
The Review

KPMG carried out a SAM review for the Bank by interviewing key stakeholders and performing analysis based on ISO 19770-1 and ITIL industry standards.

The tests were carried out across the software lifecycle. Tests for design effectiveness and operational effectiveness were also conducted.

Results showed that most of the Bank's current processes fell under the 'Basic' category of SAM maturity.

SAM maturity framework



Source: KPMG in India's review of SAM maturity landscape in India

Analysis

Carrying out the SAM review and the assessments of the various processes revealed the complexity of the Bank's network and the challenges of the diverse spread of coverage.

Some key issues identified were:

1) Lack of a Windows Domain Structure across the Bank's segments (Core Banking Solution/Internal/TBM and ALPM)

2) Disjointed software asset tracking and monitoring across locations

3) Presence of stale entries and multiple administrative user names and passwords.

These issues combined with the lack of certain process frameworks were posing challenges to the Bank's management. These challenges included the presence of malicious code and possibilities of using pirated software, the risk of licensing non compliance and inaccurate asset tracking leading to inefficiencies in incident management and business operations. There were also concerns regarding the retirement of assets as there seemed to be increased redundancy with the possibility of obsolete equipment and software.

Our Approach

KPMG recommended a SAM framework that helped the Bank not only fine tune its current processes but also set in place corrective measures to overcome operational inefficiencies. These measures included:

1) Defining and setting in place a SAM policy including identifying and defining SAM responsibilities

2) Considering a centralized SAM process for all branches which would allow tracking of software inventory and licensing information on a periodic basis

3) Taking corrective action for reducing and restricting the distribution of software media and license keys distributed over multiple locations

4) Setting in place a clearly defined process related to retirement of software assets.

These measures, over time, were expected to result in direct and indirect financial benefits, including reduction in time spent by employees in monitoring software assets and facilitating inventory tracking and management.

The Bank has started implementing some of these recommendations and is already experiencing significantly smoother operations, particularly reduction in time spent on handling patches/updates issues. The Bank has also been able to monitor and manage the purchase of its licenses and entitlements, which are resulting in financial reconciliation. The Bank may leverage this for volume discounts.

Other perceived positive outcomes for the bank include:

1) Elimination of waste and redundancy – The software reconciliation process will indicate software that is not being used but is still maintained. This will allow timely un-installations and transfer of licenses

2) Indirect SAM savings – Our recommendation envisages financial security from unexpected licensing costs as well as providing tax benefits associated with software depreciation

3) Risk mitigation – SAM can help identify risks such as non-compliance, lack of ownership etc, and have processes to control and mitigate these risks, thus aiding in corporate governance

4) Better insight to information – By tracking the software inventory using SAM, the Bank can forecast and estimate future license requirements in a more timely and effective manner. This can further help the Bank in deciding if new hardware is needed.

Conclusion

A well implemented software asset management program can translate into the company having peace of mind as policies and procedures are put in place that can help track and monitor license agreements and related compliance. Thus, risks associated with non compliance are reduced. It also helps in demonstrating a robust corporate governance framework and increases confidence across all levels of the organization and shareholders as well.

KPMG's Contract Compliance Services is currently working with software publishers and other industry bodies in the area of license compliance and its implications specific to the upcoming cloud computing model that is increasingly being adopted by companies.

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