

The Role of Tools in IT Infrastructure Outsourcing

How Investments in Tools Can Create Competitive Advantage

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“We shape our tools and afterwards our tools shape us.”

– Marshall McLuhan (1911-1980)

Executive Summary

The infrastructure tools market has grown significantly over the last 20 years, expanding the tool capabilities into multiple areas of IT infrastructure operations.

We classify tools involved in Infrastructure Outsourcing (IO) service delivery either as infrastructure management (IM) or governance tools, as follows:

- IM tools are a set of applications helping manage the functioning of IT infrastructure including storage devices, servers, and networks. The focus is primarily on the operations in a typical infrastructure environment.
- Governance tools are applications governing the IT operations with service-level guidelines and providing business transparency of the IT effort.

The IM tools provide significant operational benefits for a supplier of IT infrastructure outsourcing. Yet, they are unlikely to provide competitive advantages in the marketplace, mainly because their capabilities do not include drivers of competitive advantages.

The governance tools landscape is scattered with many tools, but none cover the entire bandwidth of functionalities within IT outsourcing governance. Hence, strategic investment in governance tools can result in creation of crucial competitive edge. Two aspects reflect the current market acceptance of governance tools:

- The governance tools market is not well served in key functional capabilities
- The majority of buyers using governance tools to manage relationships are not satisfied with their tools

This paper discusses:

- Definition of IM and governance tools and the overview of the tools developed by the outsourcing suppliers
- Issues around tool usage in infrastructure outsourcing and reasons for outsourcing suppliers' investments in proprietary solutions
- Analysis of investments in tools as a source of competitive advantage

Overview of the Infrastructure Tools Landscape

The tools landscape is scattered with a host of tool platforms, which can be divided into two categories – governance and IT infrastructure management

The advent of remote infrastructure management (RIM) and monitoring mandated the development of software tools that reside between system software and end-user applications. These tools plug into the operating system, hardware controllers, and critical applications. Some of the key tasks accomplished through use of infrastructure tools include:

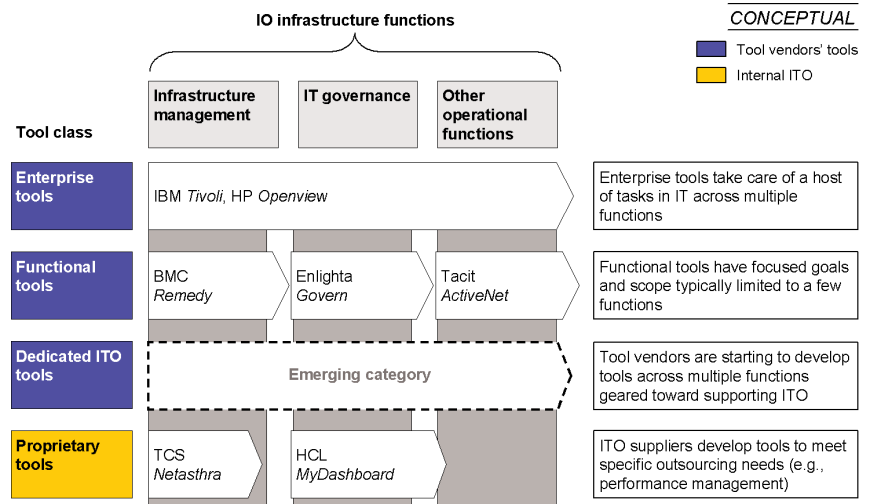
- Server management
- Contract compliance and problem management
- Service level monitoring

We can loosely divide these tools into two main categories: infrastructure management (IM) and governance. A variety of tools exists in each category with some of them cutting across categories to provide cross-functional capabilities (see Exhibit 1).

EXHIBIT 1

Matrix of tool functionalities and classes

Sources: Everest Research Institute; Vendor web sites



Historically, outsourcing suppliers and independent third-party tool vendors recognized the importance of tools in managing IT infrastructure and invested in developing a disparate set of functionalities into concrete tool platforms.

BMC Software, a leading provider of third-party applications started its operations as far back as 1980. Some of these platforms became industry-standard tool suites covering a broad range of functionalities strung together over time. IBM Tivoli, HP OpenView, and CA Unicenter merit mention as leading tool suites.

The suppliers of IT outsourcing developed proprietary technologies, allowing buyers to realize increased value from outsourcing their infrastructure towers and moving to a supplier’s platform. Perot Systems started developing its OPAS suite in 1997 around one of the leading platforms developed and marketed by BMC.

Following the examples of outsourcing suppliers, tool vendors started investing in a set of tools focused primarily on ensuring better sourcing experience for buyers of infrastructure outsourcing. The addition of outsourcing-specific scope like contract management and supplier assessment, along with integration with other functional modules, is receiving maximum priority for such tools. We witness investments in multiple US\$ billions across tool developers in developing more advanced platforms using the latest technological enhancements available. Several factors drive continued investment in the development of tools. The principal goal is to improve on two accounts:

- Efficiency of service delivery
- Management effectiveness

The maturity of remote management of infrastructure as a service delivery model in recent years led to the pure-play remote infrastructure management outsourcing (RIMO) suppliers investing in creating the emerging paradigm of tools more focused on remote management of a buyer's infrastructure.

Platform consolidation and labor efficiency are major reasons for investment in infrastructure tools, and control on service level agreement (SLA) and timelines is a major reason for investment in governance tools.

Integration is a Key Challenge in the Infrastructure Management Tools Space

Infrastructure management tools are more mature than governance tools.

Consolidating multiple buyer tool environments remains a challenge

Infrastructure management tools manage nearly all technology silos (e.g., network, servers, applications, security, storage), with many reaching across silos. Conservatively, almost 450 vendors offer solutions to manage one or more of these silos. The tool platforms enable remote management and automation of functions related to the operational aspects of infrastructure management.

Many challenges along the way made infrastructure management a complex task, especially as applied to sourcing situations. It is not limited to managing and monitoring the infrastructure. IM tools often face a mandate to provide business transparency into IT infrastructure expense. Recent developments on standardization and introduction of best-practice guidelines started to shape tool investments in IM.

The main objectives of IM tools are to increase operational efficiency, reduce cost, and support fluctuations in service levels to ensure service delivery.

Based on technology silos they cover, IM tools can be divided broadly into seven technology areas

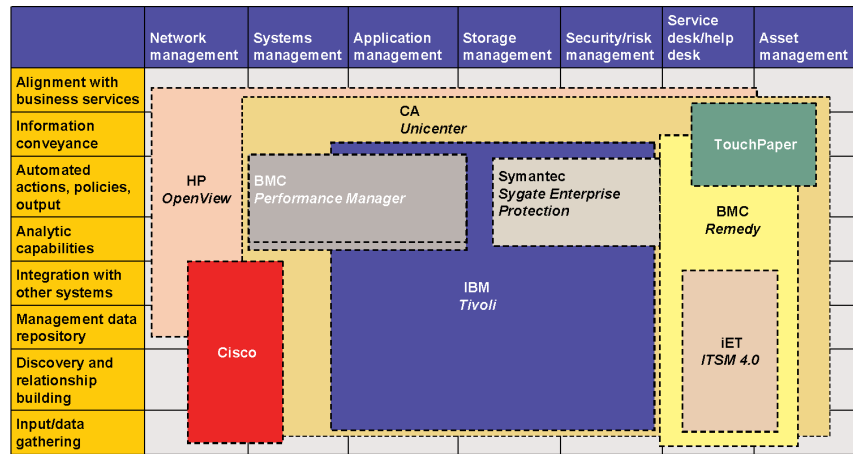
- Application management
- Network management
- Systems management
- Storage management
- Security and risk management
- Asset management
- Service desk

The IM tool space is scattered with a variety of tools that often have overlapping functionalities. The leading vendors have historically grown through investments and acquisitions to cover the breadth of the market (see **Exhibit 2**).

EXHIBIT 2

The infrastructure-tools space is scattered with tools that often have overlapping functionality

Sources: Enterprise Management Associates, Everest Research Institute



Note: The tools landscape is not exhaustive

Niche innovators chose to target typical industry pain points and offer solutions that cater to only a narrow scope of functions. BladeLogic is focused on developing and advancing a capability set in systems management solutions. We see Service-Now targeting the service/help desk solutions domain. Thus, the user of IM tools needs to decide between two options:

- Selecting a large tool suite covering a broad range of functions that may not completely address all functions
- Deploying a host of individual tools focused on individual silos of technology across the infrastructure environment

IM tools provide major operational benefits and are must-haves for managing enterprise IT infrastructures. The benefits they offer cut across the IT shop, as follows:

- On the **operational** side, they provide key functionalities like automation, analytics, reporting, and policies to cut down on staff and infrastructure costs. They also enable cross-silo solutions to minimize training expenses.
- On the **management** side, they provide a 50,000-foot view of the IT department to allow for prioritization of IT resources and enable business processes by facilitating service provisioning, asset tracking, service modeling, and visibility of service capabilities.

In spite of IM tools being a strong contributor to making IT an effective and efficient enabler for business processes, investment in such tools is unlikely to create sustainable competitive advantage for outsourcing suppliers for the following reasons:

- Only technical transparency can be achieved through IM tools use; business transparency remains “hidden” in the application layer
- Use of tools is likely to provide modest operational improvement not enough to be considered a strategic advantage

- IM tools can improve quality of problem recognition and reporting, but resolution depends on a variety of other factors beyond tools' control
- Innovation in infrastructure management is possible, but is unlikely to affect business innovation significantly
- Availability of IT services depends on a variety of factors beyond tools' control (i.e., quality of hardware and applications)

Most outsourcing suppliers elect best-of-breed strategy in building their tool suites, wherein they choose an optimal mix of tools to cater to critical functions within their internal infrastructure and that of their clients. In order to avoid disjointed silos of automation, this approach requires effective integration between the different tools they use. This is a challenge in itself, since integration is much more than just technology. The integration problem can be compared to an iceberg, where suppliers and buyers often see tools and technology as an immediate challenge, while the operational aspects of the integration lying beneath the waves is the key to a successful tool strategy. Alignment has to happen at three different levels:

- **Process:** involving definition, design, compliance, and continuous improvement
- **People:** managing roles and responsibilities, discipline and skills development
- **Culture:** values, norms "not on paper" and often difficult to quantize

Integration across toolsets is a labor-intensive process, as no likely standards are emerging. Standards like CMDB (Configuration Management Data Base) systems are re-igniting the integration discussion and becoming in some cases a requirement for suppliers.

Governance Tools and IT Infrastructure Outsourcing

Governance in IT outsourcing is a growing concern. Implementation of governance tools allows a buyer to have a business-impact view of IT and can drive competitive advantage for the supplier

Governance is a complex challenge in IT outsourcing. It enables effective management of IT operations and helps make them transparent to business through providing key business impact and service delivery guidelines. As a result, a category of tools emerged in order to automate governance functions and provide an informational backbone of governing an IT infrastructure environment.

These tools cut across three layers of governance responsibility – strategic, managerial, and operational, as follows:

- At the **strategic** level, they provide support to decision making and allow an enterprise view of outsourcing strategy and supplier relationships.
- For the **management** layer, they enable management oversight of external suppliers and retained internal organizations and provide operational decision making support through advance analytics, e.g., analysis of the improvement opportunities.
- At the **operational** layer, they drive key processes, such as issue escalation and resolution, governance reporting, and scope change processing. They also provide transparency through the service area view of performance and log of scope changes and escalation.

When applied to outsourcing situations, buyers and suppliers often perceive governance differently as a challenge, especially when it comes to sourcing strategy/planning. The buyer needs to keep a hand on the pulse of the sourcing strategy and plan for future sourcing decisions based on performance of the portfolio of multiple suppliers and supplier capability assessment. The supplier typically has no active interest in addressing this concern. Therefore, the buyer has to either make its own arrangements or depend on external vendors to provide tool capabilities to achieve that.

Governance tools available from external suppliers typically gravitate toward either performance management or contract management (see **Exhibit 3**). No single tool platform comprehensively covers the entire bandwidth of functions within IT outsourcing governance.

EXHIBIT 3

The functional landscape of governance consists of seven broad categories

Source: Everest Research Institute

■ Performance management
 □ Contract management

Contracts administration	Sourcing strategy/planning	Relationship management	Administration	Financial management	Risk management	Supplier performance management
<ul style="list-style-type: none"> Contract interpretation Contract compliance Contract maintenance 	<ul style="list-style-type: none"> Identify, prioritize, scope Promote continuous improvement Perform supplier capability assessment 	<ul style="list-style-type: none"> Internal stakeholder management Supplier relationship management 	<ul style="list-style-type: none"> Meeting logistics Ad-hoc activities 	<ul style="list-style-type: none"> Invoice payment Budgeting Business case analysis Ad-hoc analysis 	<ul style="list-style-type: none"> Audit Outsourcing policy compliance Risk assessment 	<ul style="list-style-type: none"> SLA monitoring Problem management Change management Project management

The full scope of outsourcing relationship governance consists of seven broad categories:

- Contract administration
- Sourcing strategy/planning
- Relationship management
- Administration
- Financial management
- Risk management
- Supplier performance management

Tools play various roles across the categories of governance, including dashboard-like functions, workflow engine, data repository, and analytics.

Tools that are geared towards contract management tend to have the following capabilities:

- Collaborative contract creation
- Supplier relationship management
- Risk management
- Amendment and renewal processing
- Commitment management
- Sourcing and procurement
- Invoice and billing management
- Compliance and performance monitoring
- Event management

Emptoris (diCarta), I-Many (ITG), and Nextance (Contract Insight) are examples of such tools.

Tools that target performance management are clustered around managing functions closely associated with performance of IT infrastructure, as follows:

- Demand management (i.e., procurement)
- Change management
- Portfolio management
- Project management
- Resource management
- Financial management
- Risk management
- Quality management
- Issue/problem management

CA (Clarity), Mercury (ITG), Planview (Enterprise), and Rational (Portfolio Manager) are typical representatives of this category.

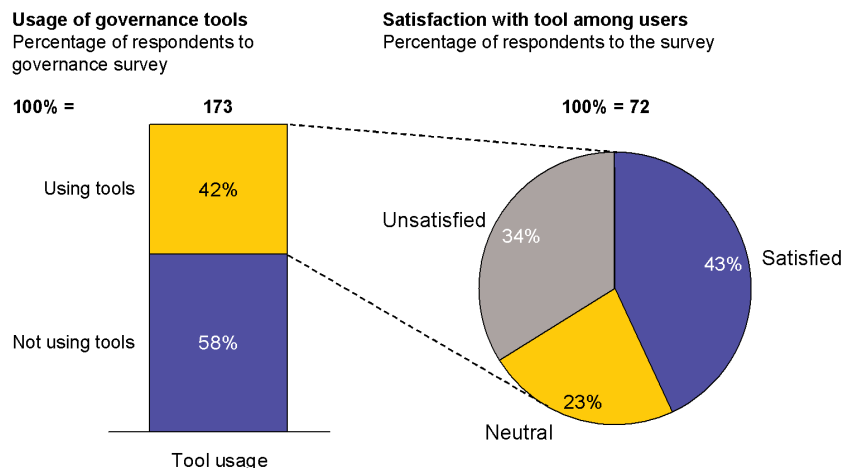
A new breed of tools is emerging, which is geared primarily towards the role of IT governance in outsourcing, e.g., Enlighta (Govern), Janeeva (Assurance). They attempt to bring together an optimum mix of functionalities including operational management, financial management, compliance, and relationship management. In spite of their limited scope, they help address a number of concerns around governance in an outsourcing relationship.

In spite of these developments, the governance tool market does not appear well served. A recent Everest Group outsourcing survey found few buyers are using tools to govern their sourcing relationships. This indicates there is considerable growth potential in the market. Of the buyers using tools, a minority were satisfied with the tools they were using (see **Exhibit 4**).

EXHIBIT 4

Buyers using tools show low degree of satisfaction

Source: Everest Group outsourcing survey



In addition to the need for better coverage of governance capabilities, governance tools can show improvement in the integration between IM and governance environments to allow seamless automation across the board.

Conclusion

The advent of remote management of infrastructure outsourcing fueled investments in the development of various tools that automate multiple functions and tasks in typical IT infrastructure operations. Within the scope of outsourcing, buyers and suppliers see such tools as playing important roles in managing the infrastructure of IT operations and enabling governance of the outsourcing relationship.

IM tools are important for the outsourcing suppliers from an **operational** perspective, as they deliver additional efficiency. Nonetheless, buyers are unlikely to view such tools as a competitive edge; hence, they are not likely to become a source of sustainable additional competitive advantage to the supplier beyond added operational efficiency.

Governance tools are well poised to allow investing suppliers to offer unmatched benefits to the buyer and realize **competitive advantages** in the market. These tools can fill the crucial gap of lack of visibility for the buyer into service delivery and management of the outsourcing relationship. Hence, we conclude that advanced governance functionality provided by suppliers can be a source of competitive advantage.

Efforts towards integration of infrastructure management and governance tools will give buyers a chance to develop end-to-end solutions capable of managing most aspects of an outsourcing relationship.

Acknowledgement

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