

TBM MARKET INSIGHTS

# Looking Ahead with Data Analytics and Cloud Strategy

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## INTRODUCTION

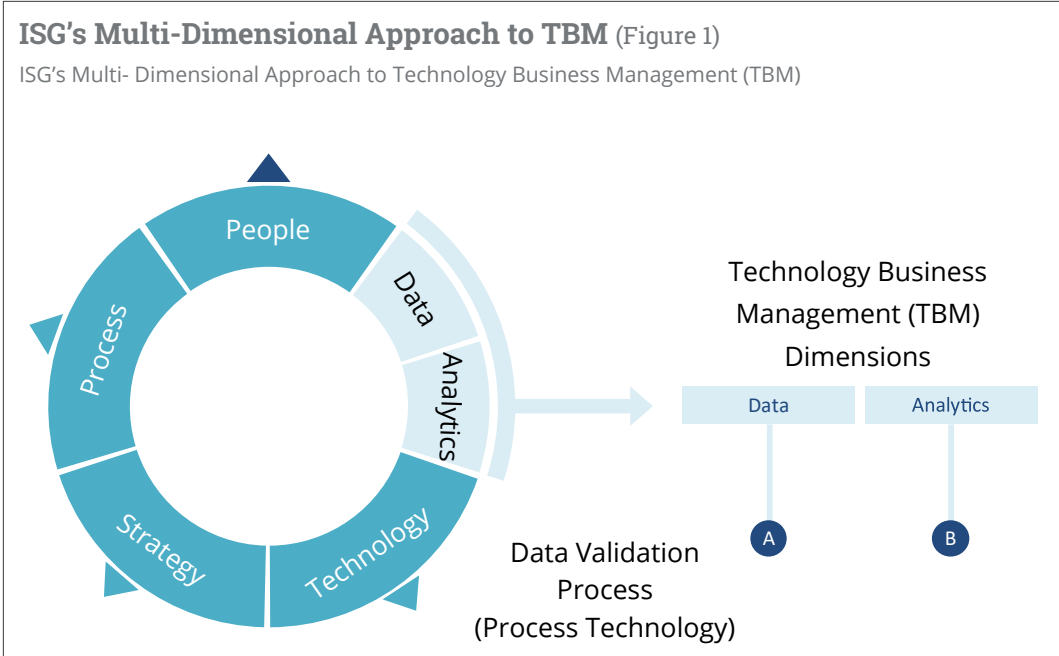
Today, more and more enterprises are assessing the cloud as a viable option for increasing agility and reducing costs. To make sound decisions about whether to shift workloads or applications to the cloud, information technology (IT) leaders need to have 100 percent confidence in their IT data. Basing investments of this size and importance on “dirty data” – simply because an organization lacks the processes for proper validation and analysis – is far too risky.

Like all major investments, the significant dollars that today’s enterprises spend on IT, whether in the cloud or elsewhere, must be managed carefully, especially as IT serves a more direct and fundamental role in the business. The long tentacles of IT spend reach into the business in countless ways, making it difficult to trace; measuring the return on IT investment has always been muddied by questionable data and a lack of visibility. This is the breach into which Technology Business Management (TBM) has been designed to step.

When effectively carried out, the discipline of TBM helps enterprises understand and control the business of IT by managing the dollars spent by both IT and individual lines of business on the IT necessary to run, grow and transform business operating models. By identifying ownership, validity and completeness of data, TBM helps to establish a new level of confidence in the decision-making related to IT spend across an enterprise.



A holistic approach to implementing a TBM strategy includes six dimensions: people, process, technology, strategy, data and analytics. This white paper explores two of these six dimensions—data and analytics—in creating a strong data validation system that can leverage both process and automation in support of an enterprise TBM program. Having thorough understanding and clear visibility into the current and comprehensive costs of individual applications is critical to the success of any IT strategy. Because TBM is a fact-based way to fully assess an enterprise in the context of the market, it builds a necessary foundation for making decisions that enable business growth well into the future.



## DATA VALIDATION

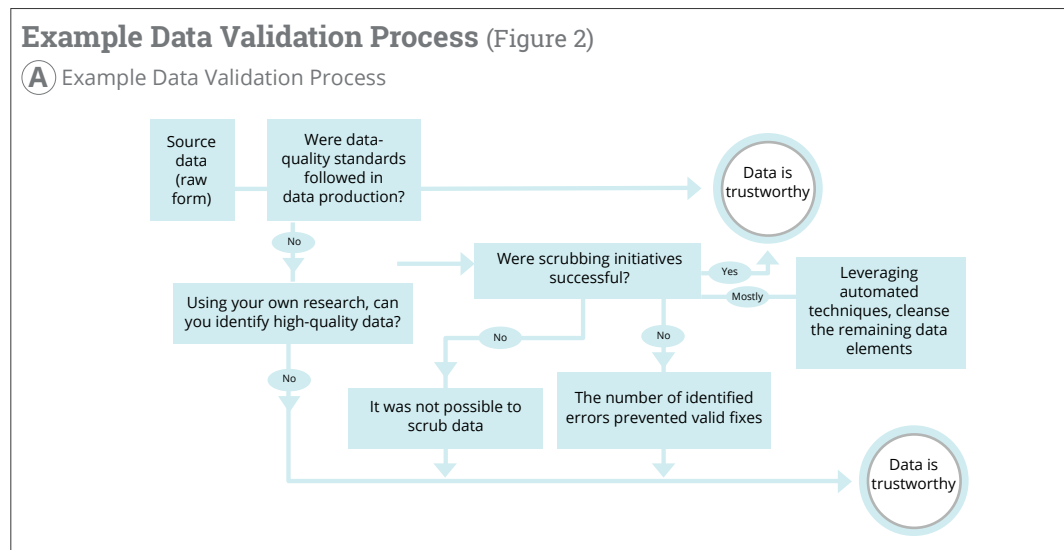
To design an optimal IT strategy—whether hybrid, cloud or on-premises—an enterprise needs clear visibility into its current IT costs. And to have clear visibility into its current IT costs, an enterprise needs data – complete and validated data. Research indicates the volume of data is growing 40 percent year-over-year. Advances in big data processing are not only driving the surge in the volume of data available for analysis, they are exponentially compounding the “dirty data” problem experienced by those businesses lacking a way to validate it.

Most people agree: If your data is bad today, it will only continue to get worse. The shift to mobile strategies, the deluge of mobile applications and the impact of the Internet of Things have created great challenges for enterprises concerned about the quality of their data. They want to know:

1. Who owns the data?
2. How do we know the data is valid?
3. How do we know if we are missing data?
4. How can we confidently base business decisions on data as part of our TBM journey?
5. How do we align business strategies to data requirements?

Without a clear understanding of how data flows through its systems, an enterprise lacks an auditable trail and the processes needed for effective IT governance. A solid data validation process depends on involving the right people and deploying software that automates key parts of the validation cycle.

The processes that make up TBM help to resolve data quality issues by developing a formalized data validation strategy to create confidence around cost transparency. The graphic below depicts the ISG data validation process, adapted from the *Harvard Business Review* article, “**Can Your Data be Trusted?**,” to help IT leaders decide if they can trust their data.





Certain process points across an organization can be particularly vulnerable to error. Pinpointing these vulnerabilities will help an enterprise see where key business decisions most likely are impacted by faulty data. Some of these vulnerabilities include:

1. Data migrations.
2. Undocumented changes to source systems.
3. Human error.
4. Integration of external data
5. Siloed data that has not been captured (due to a lack of process owner involvement).

Moving from a legacy platform to a new platform or integrating systems to create a “single version of truth” are complex processes. A company that wants to take advantage of vacant servers, for example, but does not have the processes in place to manage the cost impacts of these underutilized assets, may face challenges in reconciling data.

By leveraging a data validation strategy that uses automation software, organizations can connect the dots between their existing infrastructure, their IT assets and their cloud data. Then they can continuously monitor the execution of their IT strategy and its financial and operational impacts. This way, they can also prepare a data quality strategy to handle increased volume, velocity and increasing variety in types of data.

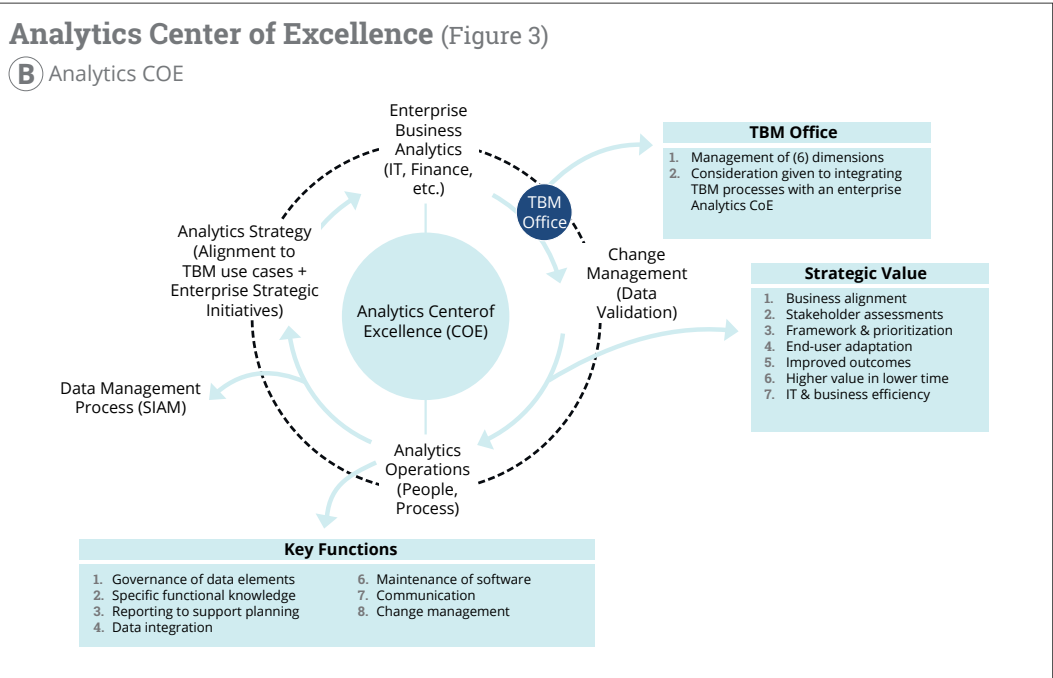
## THE CASE FOR ANALYTICS

Transparency in IT spending is especially important for organizations deciding how and to what degree to invest in the capabilities of cloud computing and mobility. As we move toward a future defined largely by mobile devices and cloud-hosted business applications, an analytics strategy is essential to helping organizations negotiate new vendor arrangements. To better integrate analytics into these functions, organizations are increasingly incorporating Analytics Centers of Excellence (COE) into their IT transformation plans. External research indicates that 67 percent of organizations will have an Analytics COE by 2017.

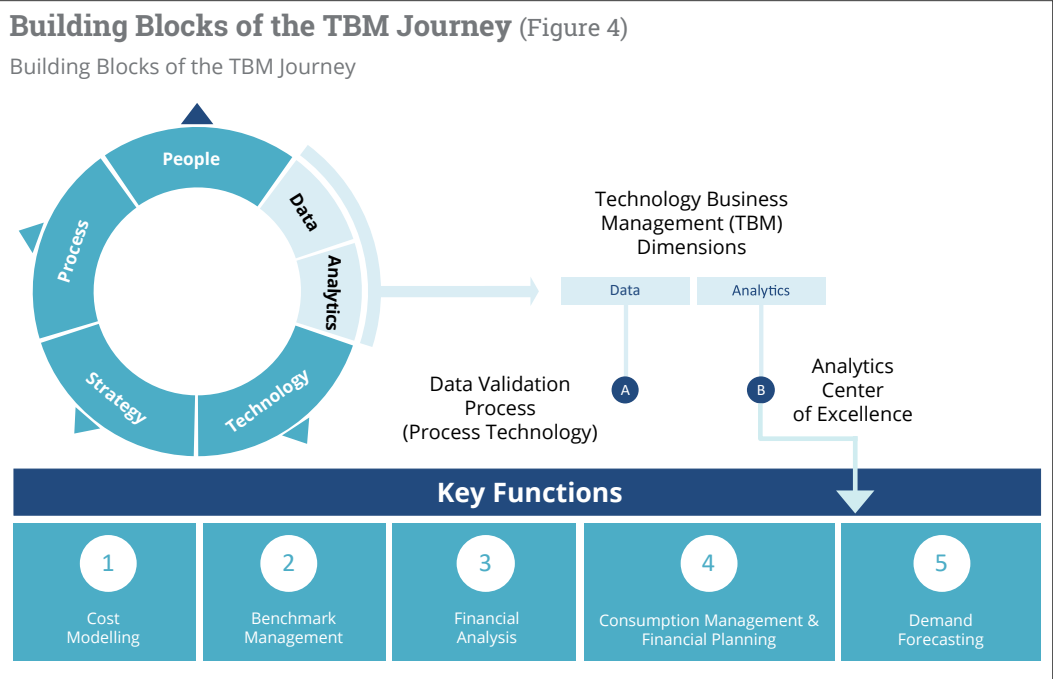
The graphic below shows the similarities between an Analytics COE and an enterprise TBM program office, including:

1. Change Management (and Data Validation).
2. Analytics Operations (including people and process).
3. Analytics Strategy (which aligns TBM use cases and enterprise strategic initiatives).
4. Enterprise Business Analytics (including IT finance).

## TBM MARKET INSIGHTS



Many organizations that use data and analytics to develop their IT strategy are implementing data validation and organizational design structures to help make benchmarking and data-based decision-making a part of everyday life. The graphic below shows the key functions of an Analytics COE, which also serve as the building blocks for creating a healthy TBM function.





## PUTTING TBM MARKET INSIGHTS TO WORK

Leveraging automated analytical insights or conducting a benchmarking study to better understand how an enterprise compares to its peers can help identify opportunities to support changes and improve performance in IT operations. An organization's ability to leverage TBM analytics is impacted by its ability to collect insights around different areas of IT performance. Cost is often the primary focus, and automated IT Financial Management (ITFM) solutions allow an enterprise to build a total cost of ownership (TCO) model for each application/service in scope. But insights should also be gathered for others areas, such as productivity, quality, configuration, activity volumes, process maturity and end-user satisfaction.

It's important to use a standardized framework for data collection, such as Apptio's TBM Unified Model (ATUM).

### TBM Market Insights – A Sample Use Case

Many companies have multiple enterprise resourcing planning (ERP) instances that operate in different countries. This renders a complex system that is difficult to measure. By looking at the cost of multiple ERP platforms through a standardized benchmark framework, a company can slice and dice its TCO and study the cost distribution by both tower (Application Maintenance and Support, Servers, Storage or Datacenter Hosting) and cost pool (hardware, software, labor or vendor). By comparing different types of insights, companies will be able to identify gaps in three main ways:

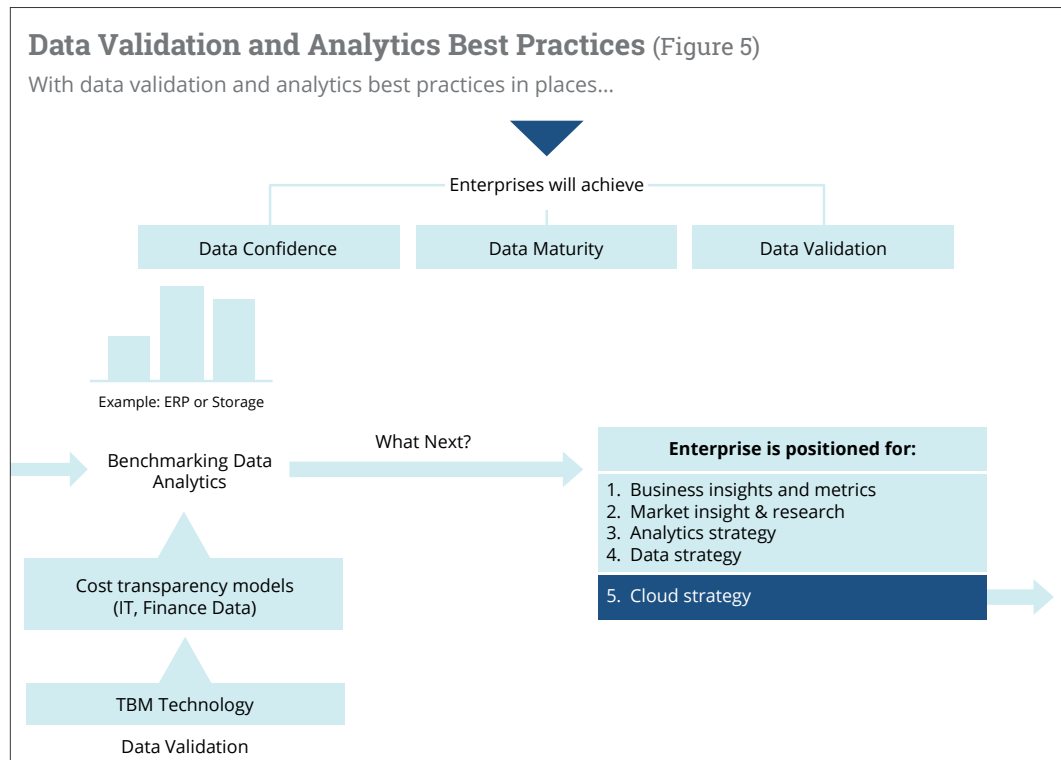
1. Between different internal platforms.
2. A selection of internal IT organizations that host similar platforms.
3. Against similar services provided by outsourcing or cloud service providers.

Companies can assess the cost of ERP application support based on characteristics recorded in the application portfolio, taking into account a whole range of specifics, including the number of incidents, number of corrective maintenance requests, number of adaptive maintenance requests and total number of jobs. This kind of comparison takes into account the cost, productivity and quality of application maintenance support against market insights from peers or service providers.

A company also can look at the cost per server hosting those applications, as well as key characteristics collected in the Configuration Management Database, including operating systems, central processing unit and memory size. By looking at cost per terabyte for different tiers of storage used for ERP-related data, a company can decide whether it needs to adjust the mix of storage tiers it uses for its ERP data or compare the cost of different tiers against services provided by outsourcing and public cloud markets.

## TBM MARKET INSIGHTS

The graphic below illustrates how a data validation process allows an organization to confidently create and use analytics and benchmark studies as critical steps in building an IT strategy that optimizes its use of the cloud.



## TBM AND CLOUD

Today, many enterprises are executing on cloud strategies they have spent the past several years developing. What was once a “build-it-and-they-will-come” approach to cloud has changed dramatically over the past 24 months: Companies are now embracing a multi-cloud, hybrid IT approach whereby they increase business value by moving individual applications or workloads to the most appropriate and efficient delivery model, be it infrastructure, platform or software-as-a-service.

One of the biggest challenges enterprises face in moving their strategy forward is a lack of information, including how much an application costs to run and how much it is used during peak periods of the year. This information is critical to making increasingly complicated decisions about how to run a specific application or workload and where to run it. Many enterprises stall in their cloud journey for this reason: they can’t create a business case for change because they don’t have a baseline against which they can measure a strategic cloud initiative.





Though decisions about how to configure an optimal IT environment are increasingly being made based on how quickly an application can get into the hands of the people that need it (be it external or internal customers), organizations still depend on a TCO model to build the organizational support and funding needed to make these cloud-related decisions.

Large-scale technology initiatives are particularly dependent on the fact-based market insights TBM can deliver. To execute these initiatives successfully, leaders are gaining insight and transparency into internal and market costs by engaging in the following activities:

- 1. Comparing existing internal costs to a cloud delivery model.** Often, enterprises want to compare an entire data center to a public cloud provider like Amazon Web Services or Microsoft Azure, but a more successful approach is to compare a single application or a portfolio of applications. The outputs of working with TBM take into account the fully loaded TCO of a platform or an application, which goes beyond the basics of software licensing fees and includes support and maintenance, storage and backup, and other costs required to host the app on a server. This can help to facilitate a discussion about hardware, software, and internal and external support costs that will enable a more refined cost impact analysis and business case for change. The [ISG Cloud Comparison Index](#) is an example of this kind of analysis.
- 2. Renegotiating legacy ITO contracts.** Over the next 18 months, the outsourcing industry will see the largest number of restructurings in the history of the market. A significant number of these will be made in an effort to change an ITO model to include cloud computing or to divest a workload from an ITO provider and move it to the cloud. To effectively execute on these contract restructurings, an organization must understand its current environment. The ability to leverage outputs from TBM around TCO, productivity and quality indicators from an individual application or service within the current environment can be instrumental in facilitating these decisions.
- 3. Deploying cloud service catalogs to let business users provision infrastructure services themselves.** While most effort today is focused on self-service provisioning of a private cloud, some enterprises are adding external clouds to the mix of public and private clouds. This “commercializing” infrastructure exercise provides infrastructure-as-a-service (IaaS) with different service tiers, features and granular usage-based pricing. Exposing external cloud services this way is relatively straightforward as these services have already been commercialized, but doing so with an internal private cloud is much more challenging. An enterprise would need to understand the cost from the ground up to be able to determine the true cost of an app or service before it can be sold on a consumption-based model. Without that fully loaded cost model, the IT organization risks charging the business an inaccurate rate. Some companies are facilitating IaaS by using TBM analytics to design their tiering and pricing strategy.



Detailed insights into the cost structure and performance of different applications in the current environment facilitate three critical steps in the cloud journey:

1. Defining service tier requirements.
2. Defining prices and resource units to ensure an effective chargeback policy.
3. Comparing service delivery performance to similar market services.

### **Benefits of TBM-Informed Cloud Strategy**

Organizations that embrace cost transparency through the data validation processes and analytics strategies of TBM will find they are able to better serve as service integrators for an efficient and cost-effective hybrid IT environment. Building these disciplines into the fabric of an organization helps achieve the following benefits:

1. **Improved management of multiple cloud providers.** Today, this is often done in a haphazard, siloed way with prices, service levels and contracts sourced and managed separately. Moving to a service-oriented operating model enabled by a cloud brokerage platform enables procurement, finance, legal and operations to work from a single pane of glass.
2. **Democratized access to emerging cloud design and sourcing processes.** Increasingly, architects, developers and infrastructure administrators need to work collaboratively to build apps for the cloud. This can be aggregated into a design studio approach, with real-time insights into the various services and components that can be sourced. The sourcing process can be automated as well, allowing developers and administrators to source directly from a central solution.
3. **Accelerated sourcing approval process.** Approvals from sourcing, finance and legal take weeks or months. Moving to a service-oriented operating model helps automate many parts of the sourcing process, making an organization more agile and competitive. By pre-approving sourcing to a specific set of providers, buyers can source in real time and approvals and thresholds can be set to allow developers to buy what they need when they need it, assuming it is within their budget.



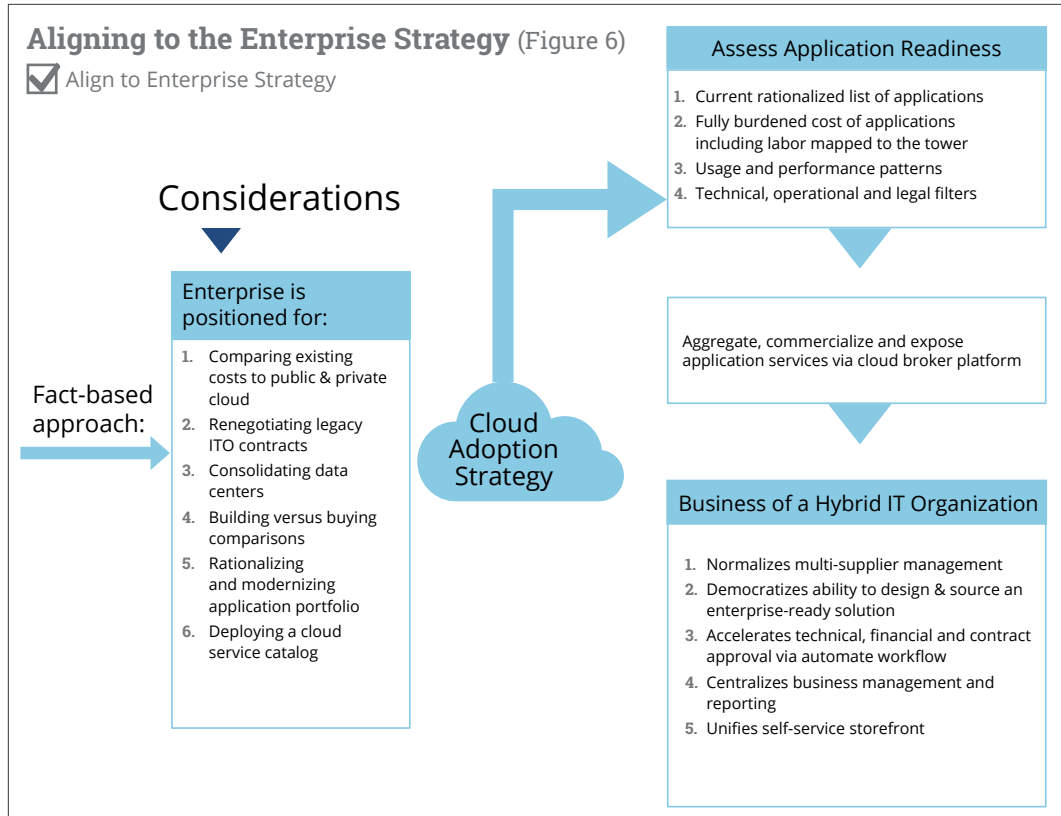
4. **The dissipation of shadow IT.** One of the most significant challenges organizations operating in the cloud face today is governance. A hybrid IT approach encourages users to deploy the pre-approved technology of their choice but enables managers and executives to track what is happening in the cloud across the organization.
5. **The appearance of ease of use.** Every IT organization wants to look as though it operates as smoothly as Amazon or eBay. A single, unified storefront—essentially, a cloud service catalog—creates a consumer-friendly approach to sourcing cloud services and encourages users to look inside the organization, even for external services, rather than immediately going outside.

## CONCLUSION

Organizations interested in evaluating the impacts of IT cost structures on various IT delivery strategies and models are able to do so through a combination of analytics and strategic planning. By leveraging TBM technology encompassed by a broader approach to managing IT finance and IT services, organizations will be able to more efficiently measure IT costs and monitor the impact of IT investments on the growth goals of the business.

The work of supporting any IT initiative starts with validating market insight data, curating an updated application list and determining the burdened costs of these applications. By coupling this information with application usage and performance data, technical architecture requirements and legal and contracting requirements, an enterprise can begin screening applications. The following graphic illustrates how a fact-based approach in application rationalization helps to build a solid business case for a healthy IT organization.

Once organizations are on a repeatable path of screening and rationalizing applications supported by their TBM data and market insights, they can begin the real work: transforming the IT organization from a builder of technology to a supplier of technology services. By finding the right delivery model for applications and exposing them as commercialized services to its users, an enterprise is well on its way to providing users with the technology services they want at the speed they need in a controlled and governed environment.



## ABOUT THE AUTHOR

### **TBM MARKET INSIGHTS**

#### **Looking Ahead with Data Analytics and Cloud Strategy**

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Alex-Paul works closely with enterprise leaders, IT finance managers and IT business unit leaders to help implement the discipline of Technology Business Management (TBM) into their organizations and optimize their enterprise IT. He advises both commercial and public sector organizations on the adoption of TBM programs, designs fact-based analytical strategies and supports broader IT transformation initiatives. His development of a strategic TBM multi-dimensional framework addressing people, process, data, analytics, technology and strategy is part of ISG's industry-leading set of market best practices and methodologies. His thought leadership has been featured in CIO Review, MiddleMarket Executive and the TBM Council's book *The Four Value Conversations CIOs Must Have with Their Businesses*.



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