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CLOUD COMPUTING

A Key Enabler in the Upstream Source-to-Pay Process

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Cloud is a new channel of technology enablement that organizations of all sizes can use to leverage business applications with an on-demand, platform, or software-as-a-service (SaaS) model. Cloud is designed to help organizations move from a capital-expenditure (CAPEX) model to an operating-expense (OPEX) model while providing different payment options, such as pay-as-you-go or pay-per-project. Because Cloud-based applications are delivered in a "one-to-many" model, users of these applications generally do not have the option of customizing the applications to their environments and instead must adopt a level of industry standardization.

The Cloud approach can be an attractive option for organizations challenged by upfront investment costs

The Cloud approach can be an attractive option for organizations challenged by upfront investment costs, as well as for companies in small-and medium-size segments that want to adopt best-in class practices but do not have the budget or resources for on-premise applications. Companies may also consider a Cloud approach as an attractive option when they are facing the costs of system upgrades or software licensing renewals for their existing applications.

Cloud-enabled business process outsourcing (BPO) combines managed services with Cloud-based applications as a hybrid offering. This approach allows companies to leverage on-demand resources from providers, utilizing the flexibility of Cloud resources to dynamically meet peak systems demand without investing in local IT resources, and to have the same provider manage the business services on that technology, thereby optimizing the business process and technology environments to each other. When deployed in a global delivery model, Cloud enables companies to outsource the technology (infrastructure, selection, ordering, deployment, and management) and associated business process activities (transaction processing, analytics, and reporting) to locations that offer combined advantages for labor costs and available skills. Cloud-enabled BPO may utilize any of these forms in conjunction with managed services.

Many BPO service providers believe that the evolution of Cloud offerings will be a game changer in next-generation application delivery, and they are investing heavily in this approach. However, the success of this approach will require a combined effort from software vendors, service providers, and customers.

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POTENTIAL CLOUD MODELS

Cloud can deliver SaaS applications under three primary deployment models:

1. Private Cloud is used by the organization alone, though it may be managed on site or off site, by the organization or by a third party.

2. Public Cloud includes services that are owned by one organization and sold to the public or a large industry group.

3. Hybrid Cloud infrastructure is made up of two or more clouds (private, community, or public) that, while separate, share a standardized technology that allows for data and application portability.

The following graphic illustrates the deployment of each of these models.
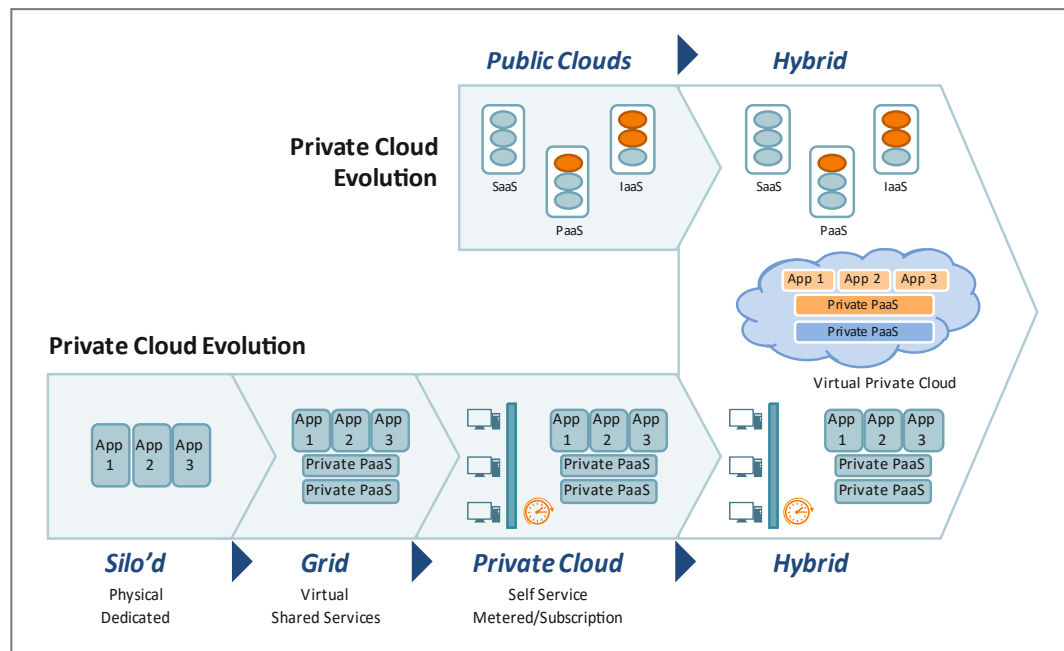
In the case of enterprise applications (such as Oracle or SAP) or specific strategic sourcing point solutions (such as Ariba, Emptoris, or Iasta), adoption is primarily through a Private Cloud model, which provides advantages in security and safety. In the Source-to-Pay environment, earlier "eMarketplace" offerings were also designed similarly to be public Cloud models, but they evolved to become more of a Private Cloud model because of security considerations.

A key trend in the marketplace is that many business processes are moving from an on-premise model to a BPaaS (Business Process as a Service) Cloud model. In the future, application delivery is likely to evolve from on-premise to a complete on-demand Cloud model, involving both application and infrastructure delivery through the Cloud. The following graphic depicts this evolution, which is a fundamental shift from on-premise to SaaS to BPaaS.

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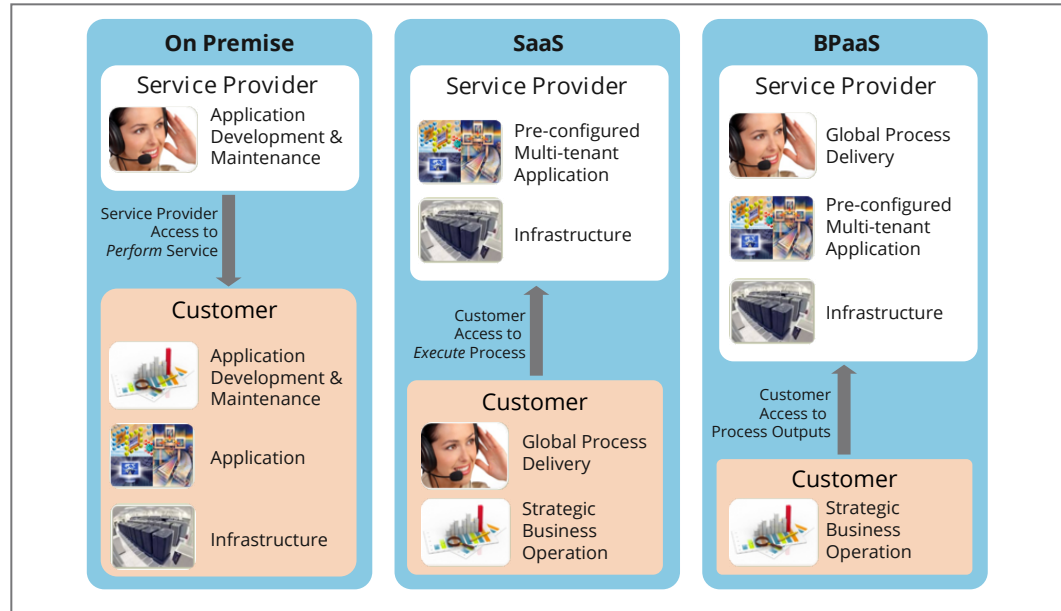
The future cloud model will include not only applications on Cloud but also platform, infrastructure, and business process services, as defined below.

1. Software as a Service in Cloud (SaaS): An organization uses a service provider's software applications on Cloud, while relying on the service provider to manage and maintain the underlying cloud infrastructure.

2. Platform as a Service (PaaS) in Cloud: An organization uses a service provider's software, tools, and programming languages to create, acquire, or customize applications on Cloud, while relying on the service provider to manage and maintain the underlying Cloud infrastructure.

3. Infrastructure as a Service (IaaS) in Cloud: An organization can create, acquire, or customize applications, networks, storage, operating systems, and other resources on Cloud, while relying on the service provider to manage and maintain the underlying cloud infrastructure.

4. Business Process as a Service (BPaaS) in Cloud: A service provider can bundle business process services with SaaS, PaaS, and IaaS.

SOURCE-TO-PAY: AN END-TO-END VIEW

Source-to-Pay is another area where Cloud-based solutions are being introduced into the market. As illustrated next, this group of business processes includes Strategic Sourcing, Procurement, and Accounts Payable and stretches from Spend Classification through Payment Audit and Reconciliation.

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Sourcing		Procurement		Pay	
Spend Classification	Commodity Management	Supplier Enablement	Supplier Collaboration	OCR + Imaging + Workflow	Supplier Collaboration
Spend Analysis	eSourcing	eCatalog	Contract Administration	EIPP	Payment Audit & Recon
Opportunity Identification	Contract Management	eProcurement	Invoice Exceptions	Vendor Portals	Payment Gateway
Strategic Sourcing	Dynamic Discount	Workflow Enablement			

Performance Management Tools

Visibility Tools

Compliance Tools

Within the Source-to-Pay process areas, procurement and payment both have a very high transactional component and are regular, ongoing activities in every organization. Sourcing is more strategic in nature, and organizations spend increased time and focus in this space to generate maximum savings through objective spend analysis and through focused strategic sourcing initiatives. Often this work can be episodic.

HISTORICAL CONTEXT: THE EVOLUTION OF SOURCE-TO-PAY

There have been several dramatic changes in Procurement over the past two decades, including those led by the development of "Procure-to-Pay" (P2P) applications, the emergence of strategic sourcing organizations, the introduction of sourcing applications, and the growth of Source-to-Pay BPO.

With the emergence of electronic commerce in the late 1990s, Procurement and sales organizations began the adoption of Web-enabled tools to automate ordering and sales processes. Most of the initial Procurement transformation occurred in the Procure-to-Pay (P2P) domain, primarily around "Indirect Spend." These were downstream activities where organizations saw an opportunity to reduce costs in transactional areas, which are viewed more as cost centers.

A typical organization spends approximately 30 to 35 percent of its total spending on indirect procurement.

Procurement spend broadly falls into direct and indirect procurement. Direct procurement includes those goods and services that are incorporated directly into a company's end products or services. Indirect procurement describes the balance of the company's spend, much of which contributes to overhead costs. A typical organization spends approximately 30 to 35 percent of its total spending on indirect procurement. Because indirect procurement is less integrated with other processes, it presented a strong opportunity to streamline with the new tools.

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Initial traction occurred in P2P automation areas with the emergence of companies like Ariba and Commerce One in a new segment known as eProcurement. These solutions were part of an on-premise model and were viewed as both complementary and challengers to ERP providers such as SAP and Oracle, who did not have the same level of P2P functionality as these new competitors. The focus of these eProcurement solutions was primarily on efficiency improvement and better compliance, with a belief that the resulting improvements in data and utilization of a single system would enable improved intelligence for sourcing activities as well.

The improved efficiency of transactional processes presented a stark contrast to the lack of automation in sourcing processes, and organizations that had created strategic sourcing organizations to tap into indirect procurement spending were eager to expand the savings potential through automation of sourcing processes as well. In the early 2000s, technology evolved to better address sourcing, which resulted in the emergence of platforms focusing on these areas:

1. Spend Analysis
2. eSourcing
3. Spend Classification
4. Reverse Auctions
5. Dynamic Discounting
6. Optimization-Based Sourcing
7. Contract Management

Until 2005 all of the leading technology or platform providers sold and delivered their solutions on a traditional license model hosted on-premise or by an Application Service Provider (ASP), but after 2005 software providers began to offer various "on- demand" models as well.

Lastly, the maturation of BPO has driven companies to explore ways of addressing cost, capability, and capacity objectives by leveraging service provider Source-to-Pay BPO solutions. The value proposition of Source-to-Pay BPO is that it can provide advantages in 1) reducing the operational costs of Procurement; 2) improving spend compliance; 3) achieving increased spend savings through a superior line of sight in certain spend categories; and 4) providing access to strong analytic, reporting, and service-level management capabilities.

IMPACT OF CLOUD ON SOURCE TO PAY

The Source-to-Pay process area is one of the key process streams where organizations are increasingly adopting Platform/SaaS/Cloud offerings to take advantage of the CAPEX to OPEX shift. This shift is facilitated by the fact that Strategic Sourcing can be a variable, episodic activity and is not a regular transactional activity that happens throughout the year.

Many sourcing activities related to broad categories of spend are "strategic" and occur only during certain times of the year or within a certain time each quarter. (For example, spend analysis is a process that organizations commonly perform on a monthly, quarterly, half-yearly, or annual basis).

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Strategic Sourcing can be a variable, episodic activity and is not a regular transactional activity that happens throughout the year.

Similarly, leveraging eSourcing/Reverse Auctions for major categories is something that organizations often perform at fixed intervals based on the duration of sourced contracts (typically one to three years), unless they are responding to changes in external market conditions or internal factors, such as a merger or supplier performance issue. At the same time, global organizations may also conduct regular dynamic bidding events using Reverse Auctions on a weekly, monthly, or quarterly basis fo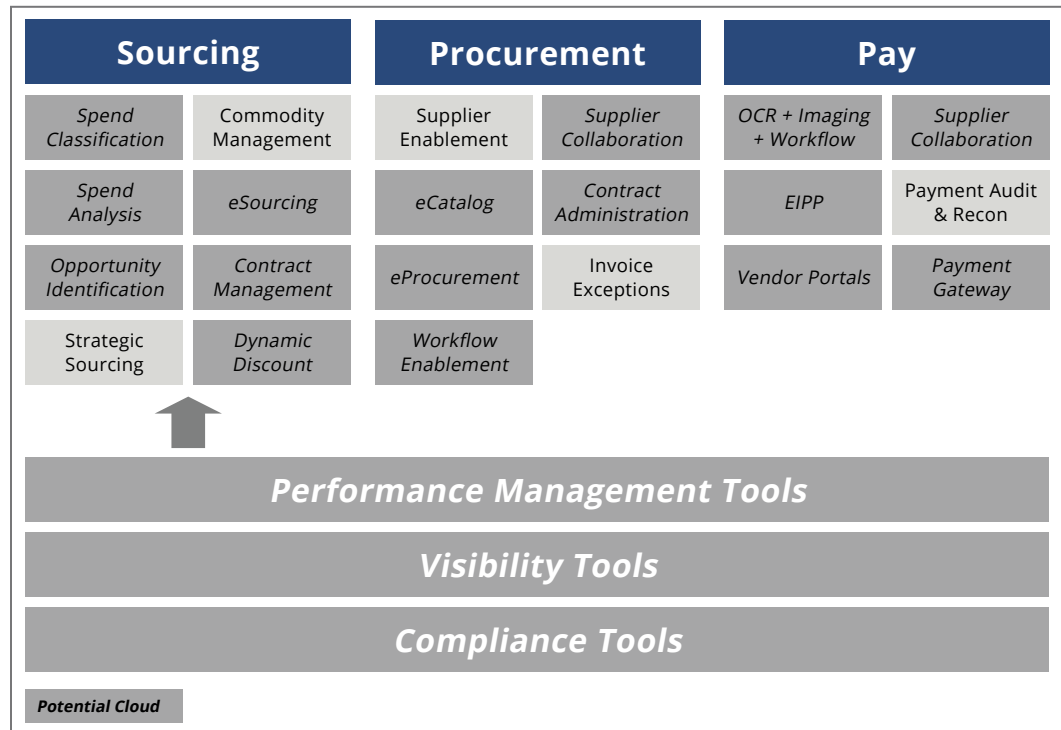r tactical or non-recurring buys. For those organizations whose needs are periodic, Cloud solutions potentially offer the benefit of paying on a "per usage" basis, which can be a more economical alternative for some companies.

For companies that will utilize the solutions more regularly, a Cloud approach can offer the benefits associated with the integration of processes and the service provider's greater ability to invest in best-in-class functionalities provided by the leading cutting-edge platform providers. Lastly, by bundling the technology with the service, customers of platform-based solutions can avoid being tied down to one technology solution and may be able to avoid many of the high costs of upgrades and maintenance associated with any on-premise models.

Software providers have pro-actively introduced new technologies, functionalities, and features into their Source-to-Pay solutions. These include Artificial Intelligence, Dynamic Bidding Models, Optimization-Based Analysis, Dynamic Allocation models, and increased functionality around various "what-if" analyses, along with category-focused solutions. While not all innovations will be deployable in a Cloud model, an increasing number of these will, thus enabling benefits of increased standardization and scale.

The shading in the following graphic depicts areas in which Cloud or platform offerings can have a significant impact in the upstream sourcing process.

Sourcing		Procurement		Pay	
Spend Classification	Commodity Management	Supplier Enablement	Supplier Collaboration	OCR + Imaging + Workflow	Supplier Collaboration
Spend Analysis	eSourcing	eCatalog	Contract Administration	EIPP	Payment Audit & Recon
Opportunity Identification	Contract Management	eProcurement	Invoice Exceptions	Vendor Portals	Payment Gateway
Strategic Sourcing	Dynamic Discount	Workflow Enablement			

Performance Management Tools

Visibility Tools

Compliance Tools

Potential Cloud

PLATFORM BPO

Outsourcing service providers have focused on extending the capabilities of the software through developing optimized business process services and additional bolt-on technology to the base platforms. This next generation of "Platform-based BPO" solutions is increasingly leveraging the Cloud model. Service providers have begun to implement Cloud-enabled BPO for several primary reasons: 1) to leverage in-house IT capability and experience with leading Procurement applications; 2) to optimize processes on a single platform and bring a more efficient BPO solution to the customer; 3) to ultimately reduce the labor component of activities through continued automation; and 4) to offer high-value solutions to mid-market and other companies that have not been able to invest in Procurement technology up to this point.

BUSINESS BENEFITS: CAPEX TO OPEX, COST

As suggested previously, the potential advantages of cloud-enabled BPO solutions comprise improved adoption of best-in-class technology and applications that are integrated with the service processes, as well as the ability to reduce the total cost of ownership in terms of license cost, infrastructure cost, and maintenance cost.

Key drivers of Cloud adoption are:

1. Best-in-class technology adoption.

2. Reduced cost of operation (less cost for in-house IT staff).

3. Increased challenges in application maintenance.

4. Cost of support and maintenance.

5. Ease of deployment.

6. Flexible payment options.

The table that follows outlines some of the areas of difference between an internal/on-premise and a Cloud/BPO model:

Area	Task/ Component	On Premise	Cloud/BPO enabled	Benefit of Cloud/ BPO model
	Server administration	Managed by client or system integrator	Managed by service provider	Reduced costs
	Backups	Managed by client or system integrator	Managed by service provider	Reduced costs

Technology	Upgrade Execution	Managed by client or system integrator	Managed by service provider	Reduced costs
	Configurability	High	Medium	Reduced costs
	Code and configuration management	Good but with restrictions dictated by application support availability	Highly limited: Controlled by software provider and service provider	Drives toward modularization and standardization
	Data Storage	Diminishing	Unit cost per MB	More customizable
	User Interface Technology	Limited ability to invest and reliant upon software provider	Focused area of investment and innovation	Ergonomics continuously considered in process design
	Functionality	Often highly customized	Limited customization by design: Focus on improved functionality through standardization	Reduces maintenance cost and improves ease of integration
Process	People Deployment	Uses a decentralized/ centralized hybrid model	Usually centralized with front office/ back office model	Reduced costs leveraging economies of scale
	Pricing Model/ Costing	Primarily fixed cost	Variable cost: Transaction based/ resource based/risk-reward based	Reduced costs
	Transformation	Internally driven	Project driven with clear benefits and penalties	Reduced costs
	Subject Matter Expertise	Internal: Single customer	Subject matter expertise from multiple customers	Improved access to best-in-class processes and methodologies

In the upstream sourcing space, leading organizations are leveraging a combination of in-house and SaaS solutions in a private Cloud model to take advantage of best-in-class technology and augment their spend management initiatives.

Platform-based sourcing adoption has resulted in the following benefits across upstream sourcing:

1. Increased spend visibility.

2. Strategic sourcing spend reduction opportunity of 8 to 10 percent.

3. Increased spend savings by an additional 3 to 5 percent through eSourcing.

4. Reduced sourcing cycle time by 30 to 35 percent.

5. Additional reduction in cost of operations of 40 percent.

POTENTIAL RISKS AND PERCEIVED RISKS

Companies considering a cloud-based approach to Source-to-Pay should also consider the associated risks. These include the following Cloud and service provider risks:
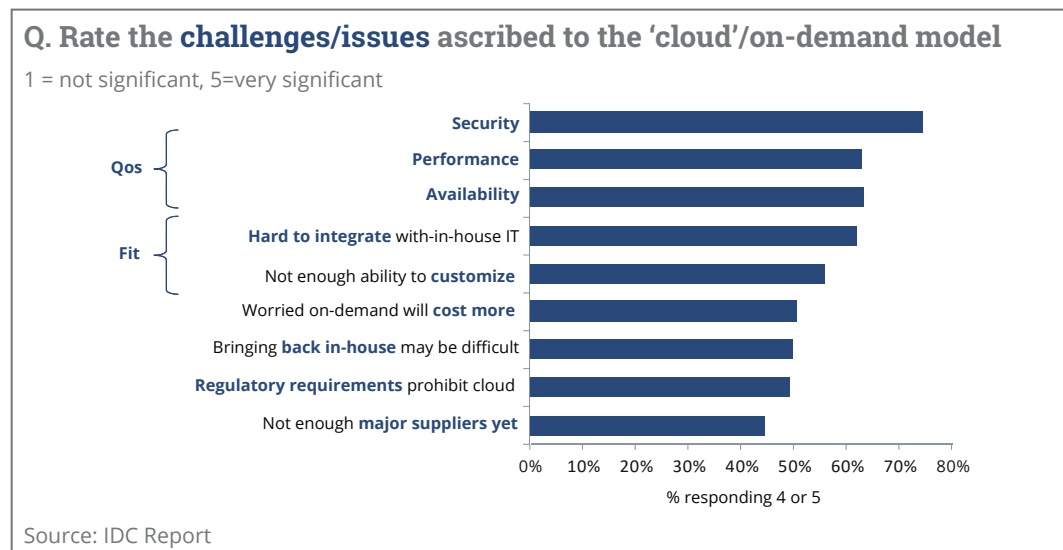
Cloud-Specific Risks:

1. Regulatory and data specific — it may not be possible to utilize the cloud model for certain data or certain customers.

2. Total cost of ownership may be higher than traditional versions over time with the equivalent of recurring license costs and other hidden costs.

3. Streamlined functionality may be more limited and less integrated, making some business benefits more difficult to achieve.

4. Loss of control — mandatory adoption of the latest version can result in lost or modified functionality and the need to change internal processes with each release.

Service-Provider-Specific Risks:

1. Viability of economics for service provider — these are new business models, and incorrect assumptions may affect the service provider's ability to continue to invest in execution and continuous improvement.

2. Customer's level of control and visibility may be lower than with an internal model (though not necessarily).

3. Negotiation complexity and ongoing management requirements are frequently underestimated.

4. Confidentiality issues and the need for compartmentalization of competitive data on other service providers.

Within the sourcing domain, some organizations continue to perceive additional risks of housing key spend data and supplier pricing information offsite, which reduces the usage of a SaaS application for sourcing and optimization of direct materials.

Q. Rate the challenges/issues ascribed to the 'cloud'/on-demand model

1 = not significant, 5=very significant

QoS	Security
	Performance
	Availability
Fit	**Hard to integrate** with-in-house IT
	Not enough ability to **customize**
	Worried on-demand will **cost more**
	Bringing **back in-house** may be difficult
	Regulatory requirements prohibit cloud
	Not enough **major suppliers yet**

% responding 4 or 5

Source: IDC Report

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CONCLUSION

Organizations are increasingly adopting Cloud offerings as a technology framework for the upstream sourcing process to leverage best-in-class tools and technologies, while reducing total cost of ownership from a CAPEX investment. Similarly, organizations are increasingly adopting Cloud in other areas of source-to-pay as they move from a CAPEX to OPEX model in e-invoicing, e-procurement, and catalog management.

Platform-enabled BPO services are another emerging avenue for leveraging Cloud offerings. The leading BPO service provider can package both the tools and services in a managed services model while apportioning the cost of technology over the contract life cycle.

This paper merely scratches the surface on the complexities that organizations should consider in evaluating multiple options as part of their long-term strategies. Companies should ensure that they obtain the appropriate subject matter expertise in developing a strategy that will maximize their ability to avoid the associated risks while efficiently achieving their objectives.

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