CLOUD ERP FOR **ASSET INTENSIVE** INDUSTRIES

Driving Strategic Decisions to Leverage the Cloud

Welcome **from Illumiti**

Our recent survey on ERP Cloud Adoption for Asset-Intensive Industries found that companies are facing significant challenges and fast-paced technological changes that affect their businesses as a whole and their needs around ERP solutions. With so many rapidly "moving parts", there is an escalation in the number of technology options organizations can choose from, coupled with a clear trend of increasing movement towards Cloud adoption. Our survey results clearly reflect this trend, affecting all manner of IT solutions used to run a business – most notably ERP – a type of solution that usually encompasses a wide set of business processes. With so many considerations, business leaders are understandably searching for the right solution for their company. As part of this search they need to consider, among other things, the choice of Cloud deployment model; potential mix of Cloud and on-premises solutions; and integration needs between the often diverse solutions being deployed.

All of this change has brought about very interesting times for companies looking to implement ERP. This is particularly true for those in asset intensive industries, as many companies in these industries operate globally, often in remote locations. Expanding geographically provides a number of challenges and risks including: increased risk of exposing business systems over the Internet; increased fraud and cyber risk; managing logistics; back office operations (especially Information Technology); and, affordability due to the very significant cost differences between options and approaches for Cloud ERP.

So, with all of this in mind, we decided to do a survey and garner feedback from business leaders about their perceptions, thoughts and challenges – overall and within their specific industries. We spoke to over 140 North American executives in asset-intensive industries about ERP and the Cloud and their overall perceptions of Cloud adoption related to ERP in particular. We also garnered their feedback regarding the perceived benefits, challenges and the future of ERP and the Cloud.

We identified some note-worthy findings from this survey. We found that a large majority of business leaders seek more clarity on Cloud adoption. In fact, many executives we spoke to felt they did not have enough of the right information, or needed help interpreting all the information provided to them. We also found that most business executives lean too heavily on their IT leaders or department as their source of knowledge on Cloud adoption for ERP. While it is clearly the role of IT to recommend, implement and support technology solutions, many Cloud solutions actually provide increased business agility by enabling key business users to directly manage many more aspects of the way these solutions support their particular needs than previously possible. Considerations affecting ERP and Cloud adoption strategies revolve closely around business decisions that should be made by business leaders together with their IT counterparts.

There are more options for businesses to consider than ever before. To help provide some clarity, we explore the following in this paper:

- ERP software and data on premises, versus a Cloud or Hybrid model;
- Single versus multi-tenant Cloud environments; and
- Public versus Private Cloud deployments.

We hope that you find this report insightful and that it will help you think about the different options you face with respect to Cloud adoption and your overall ERP strategy.

Yours truly,

Dror Orbach
Chief Operating Officer, Illumiti

Illumiti is a member of United VARs which is an SAP platinum partner.

EXECUTIVE **SUMMARY**

The business world is always evolving and so are the technologies supporting it.

C-suite and senior executives should be aware of the ways technology is changing so that they can make informed decisions to support the future growth and success of their businesses.

When it comes to back-office operations, the biggest game changer for companies operating globally is the cloud. As leading companies are learning, moving enterprise resource planning (ERP) functions – like human resources, finance and project management – to cloud-based solutions and platforms can give a company and its staff access to critical business data anywhere in the world. Such solutions also provide businesses with new levels of sophistication, security and back-up options should there be a business emergency or disaster.

But what we've learned from speaking to companies from around North America as part of our ERP and the Cloud for Asset Intensive Industries Survey is that many executives don't understand the cloud, how it works or the real benefits it can provide to business. That is why we have developed this report. We hope the information here will help educate you on what ERP in the cloud really is, opportunities and challenges associated with cloud-based ERP, and factors to consider when determining your company's path forward when it comes to enterprise resource planning.

Change can be a strong impetus for growth. All it takes is an awareness of the possibilities, a clear strategy and a willingness to step beyond the status quo.

ERP Trends
& the Cloud

50%

of respondent organizations have a hybrid ERP environment.[1]

63%

of respondents said they would be in a hybrid environment in 5 years' time.[1]

83%

of companies already use the cloud for either email, HR management or project management.

The reality is that companies are already using the cloud, even if they don't realize it. Surveys conducted at Gartner Symposia in late 2014 showed that almost 50% of respondent organizations had a hybrid ERP environment, where ERP functionality is delivered through a combination of on-premises and cloud solutions. This trend will likely grow, with 63% of respondents indicating that they will be in a hybrid environment in five years' time.[1]

Among asset intensive industries, we also found that companies are already using the cloud. 41% of such organizations already use the cloud for email, 21% for human resource management and 21% for project management. Complementary to current usage, 24% say that they are considering a move from their current ERP solution to more cloud-based services. Of these, 63% are planning to make a move within the next 2 years.

> "Our study found that corporate executives are interested in seeking out knowledge on both the challenges and benefits of cloud adoption and rely on IT thought leadership for information and advice. Enterprises have the information, but they need further assurance of the full strategy, the security and the savings associated with ERP in the cloud. We can help them.
>
> *Wade Alt, Senior Vice President, Channel & Market Strategy and Solutions, Sungard AS*

[1] *Gartner. Adopt a Strategic Approach to Application Integration for Postmodern ERP and Business Applications. July 28, 2015.*

Cloud-Based ERP for **Asset Intensive Industries**

When it comes to making decisions regarding ERP, organizations in asset intensive industries should be aware of the benefits and challenges associated with the different options – from on-premises systems to fully cloud-based ERP and hybrid solutions. **According to our survey of 140 executives from companies within asset intensive industries in North America, these benefits and challenges are as follows:**

KEY BENEFITS

- **BUSINESS CONTINUITY:** Over 84% of respondents indicated the ability to quickly access corporate information anywhere from a cloud-based ERP system can help ensure a business is sustainable even in the event of a disaster or other major emergency situations.

84%

- **UP-TO-DATE VERSIONS:** 60% of organizations see the ability to get faster and simpler upgrades as a significant driver of ERP in the cloud. This is a benefit to organizations that do not have to dedicate resources to conduct upgrades as upgrades are easily implemented behind the scenes by the cloud service provider. This means businesses are always up to date both in terms of their software and their security.

60%

- **PREDICTABLE COSTS:** 50% of companies say predictable costs and service is a major driver of ERP in the cloud, while a similar number believe lower Total Cost of Ownership is a key factor. Cloud-based models typically involve subscription fees that are predictable for the contract period, simplifying the technology budgeting process. As these fees usually include upgrades and maintenance, companies avoid the need to make large one-time technology investments which can be complicated to get approved.

50%

- **SCALABLE AND TESTABLE:** 53% of organizations believe the scalability of cloud-based solutions and the ability to adjust infrastructure capacity quickly is a key benefit in ERP for the cloud solutions. For companies intent on growth, cloud-based ERP provides solutions that can grow even as a company grows. This can help ensure technology resources are used most effectively at every stage of the corporate life cycle.

53%

- **FOCUS ON CORE BUSINESS:** 45% of companies feel that the ability to increase their focus on their core business is a high priority, while 43% appreciate that they would need less dependence on internal IT and ERP expertise and staff. By working with a cloud service provider, companies can focus on their core business and let a subject matter expert manage IT infrastructure, application management and security concerns. For companies that do not have mature IT departments, moving to cloud-based ERP can enhance their data quality and access without requiring additional IT resources.

45%

KEY CHALLENGES

46%

- **PRIVACY AND SECURITY:** 46% of companies are concerned about security or privacy issues related to having their critical business data in the cloud, while 43% are worried about service abuses – like service traffic hijacking and hacking. When it comes to privacy and security, working with a reputable cloud services or hosting provider often enhances the level of data security for a company, rather than the opposite. Reputable providers ensure they meet or exceed international security certification standards like ISO 27001, ISO 9001 and SSAE 16 (formerly SAS 70 – Type II).

47%

- **INTEGRATION:** 47% of companies are concerned about the integration of data between different systems when some are hosted in the cloud. Lack of integration can cause significant issues for companies and is a major reason ERP projects fail. This is one of the reasons having an ERP strategy is so critical. Executives need to understand early on in the decision making process what the ERP system requirements are, the data entities that will or will not be cloud-based and how integrated process flows will be performed across systems, in order to ensure the ERP solution is right for their organization.

51%

- **CONTROL:** Over 50% of companies are concerned about being locked-in to a vendor contract. While a company does need to give up some autonomy in order to work successfully with a cloud-based services provider, the amount and degree to which a company is involved in the solution is entirely dependent on the product selected and the hosting approach. Before entering an arrangement with a provider, executives should understand each party's role in the solution and ensure they have the control they want and need to ensure a positive outcome.

61%

- **AVAILABILITY AND PERFORMANCE:** Over 60% of companies are concerned about their dependence on an external vendor when it comes to the infrastructure and architecture underpinning a cloud-based solution, while 42% are concerned about possible system performance and availability issues should they use a multi-tenant service. Concerns about system availability and performance are significant as any outages can cause real harm to an organization. Companies can reduce this risk by working with a reputable and experienced cloud-based services provider, and making sure that this provider is fully capable of meeting specific needs even during peak usage periods.

32%

- **COMPLIANCE:** 32% of companies are concerned about the ability of cloud-based solutions to be compliant with PCI (Payment Card Industry) protocols. Concern about PCI compliance is almost double among those companies that are looking to implement cloud-based solutions within the next 2 years. When it comes to doing business, compliance with appropriate regulations and protocols is essential. Prior to working with a cloud-based services provider, companies should do their due diligence to make sure that the ERP approach being contemplated will be compliant with any requirements – whether conducted internally or by a third party. Lack of knowledge is not a defence for non-compliance.

Making the ERP Decision that is **Right for You**

To be successful in the long-term, executives need to consider how every aspect of their organizational structure and operations is aligned to achieve their business strategy.

That's why executives should understand how ERP solutions – whether on-premises, in the cloud, or hybrid – can help them achieve their business objectives and give their organization a competitive advantage. Rather than thinking about ERP simply as a technology to be implemented by IT, executives should consider ERP solutions as tools that can be used to enhance customer responsiveness, better manage projects and streamline back-office operations.

To determine how to make ERP in the cloud work for your organization, consider the following actions:

RECOGNIZE THAT THERE ISN'T ONE CLOUD

When you are considering cloud-based solutions, recognize that there are several different cloud services models that can work for your organization depending on your needs, the criticality and uniqueness of the business functions involved. Yes, public clouds and multi-tenant clouds exist – but you can also implement entirely private cloud-based solutions and hybrid models. The key for any organization is to evaluate the different ERP solutions and hosting options and select the one that works best for you.

BE OPEN TO EVOLUTION

The business environment is constantly changing - and so are the technologies supporting it. Solutions for ERP in the cloud have evolved exponentially in the past 5 years – providing more tailored, cost effective and accessible solutions that can work for a wide variety of organizations. Take the time to understand what solutions are available, and the real benefits and challenges of each, before making a decision. You may find that a cloud-based ERP solution or a hybrid approach could increase the security and reliability of your system while also letting you manage your costs.

FOCUS ON MAKING THE CLOUD WORK FOR YOU

At some organizations, individual functional areas have implemented subscription services in order to drive higher efficiencies and keep technology costs down without the knowledge of IT or operations. Executives need to focus on making the cloud work for their entire organization – not necessarily for one functional area. As part of your business strategy, consider the capabilities presented by different ERP solutions and hosting models, so that you can make an informed choice as to what solution or suite of solutions will work for you.

RECOGNIZE AND MANAGE SECURITY AND PRIVACY CONCERNS

In today's world, data security and privacy are essential when it comes to building the reputation of an organization. This is why reputable service and hosting providers typically meet, and even exceed, compliance requirements associated with one or more ERP security certification criteria (e.g. ISO 27001, ISO-20000-I, ISO9001, , and SSAE 16 (formerly SAS 70 Type II). If you have significant security and privacy concerns, working with reputable vendors is essential. You can also use third party audits and other actions to ensure all requirements are in place and effective.

BE AWARE OF VENDOR LOCK-IN

When it comes to cloud-based solutions, more than 50% of the organizations in asset intensive industries indicated that they are highly concerned about the possibility of being locked-in to vendor contracts or services agreements, in addition to giving over the keys to their data to a third party that can cut off the flow of information at any time. Before entering an agreement, you should be aware of all terms in the contract and ensure there are terms dealing with all high risks (e.g. service interruption, maintenance, and response times), penalties and exit clauses. In general, if you evaluate potential cloud services providers the same way you would a potential outsourced services provider, you should be well equipped to manage associated risks.

UNDERSTAND TOTAL COST OF OWNERSHIP

When it comes to making a decision on ERP solutions, understanding total cost of ownership is critical. Total cost of ownership refers to the amount a solution will cost over its entire life cycle – from implementation to maintenance and upgrading. For an ERP solution, these costs might include implementation, training, support, enhancements, maintenance and upgrading, integration, and data backup and recovery. While different ERP solution models (e.g. on-premises, cloud-based and hybrid) may have similar benefits, the actual costs related to different solutions long term may be radically different. You should examine these costs in detail in order to truly understand the benefits and costs associated with each model so that you can make an informed decision on the model best for your organization.

WORK WITH REPUTABLE PARTNERS

In reality, very few companies have the expertise to evaluate and implement cloud-based ERP solutions, whether in private, virtual private or public cloud deployments. Specialists and subject matter experts can work with you across all aspects of a cloud-based ERP solution, from defining your strategy to managing your day-to-day upgrades and maintenance. The key success factor for any company is to find a reputable partner who has the expertise you need to make sure that any solution will fit the needs of your organization.

When it comes to cloud-based solutions, **more than 50%** of the organizations in asset intensive industries indicated that they are highly concerned about the possibility of being locked-in to vendor contracts or services agreements...

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INTRODUCTION

When it comes to doing business, most companies are using the cloud in some way, shape or form – even if they don't realize it.

On the operations front, the cloud has the potential to re-invent the way companies think about enterprise resource planning by providing more flexible and adaptable technology options – from Software as a Service (SaaS) solutions to multi-tenancy cloud approaches.

In asset intensive industries, cloud-based ERP offers significant benefits to organizations of every size, including providing the flexibility and anywhere access needed by companies that operate or conduct projects in remote regions of the world. For companies looking to manage costs, cloud-based ERP also offers the opportunity to share innovation and upgrade costs across companies with similar back-office technology requirements.

Given the opportunities presented by the cloud, both across industry and within asset intensive industries specifically, it's not surprising that many of the major ERP service providers (e.g. SAP) are focusing their attention on developing and enhancing cloud-based solutions more than ever before.

Other industries have been quick to embrace cloud-based solutions – most notably the financial services industry. In asset intensive industries, leading companies are also beginning to embrace the potential of the cloud. But for many senior executives working in asset intensive industries, there appears to be some confusion around what the cloud is and what it is not, which is leading to decision paralysis or the proliferation of

function-specific cloud-based solutions without an overarching cloud strategy. This lack of knowledge only heightens concerns around potential issues associated with the cloud – from the loss of control over data to security and the protection of business critical information.

A number of senior executives believe ERP and cloud solutions are outside their span of control, leaving it up to others within their organization to make decisions on how it will be used – typically IT leaders and IT departments. As part of our ERP and the Cloud for Asset Intensive Industries Survey, we invited C-suite and other senior executives to discuss their organization's ERP activities. Many of the target respondents said IT would be better able to respond. In fact, only 14% of final respondents held C-suite (e.g. CEO, CFO, and COO) and other senior management positions (e.g. Vice President) in non-IT business functions.

However, senior executives ignore the potential of the cloud at their own risk. Over the next five years, we expect there will be a major shift toward organizations embracing the cloud. The real question will become whether companies should move to a full cloud environment or a hybrid environment; and which business functions they should procure as cloud services. Depending on the needs of a company, both full cloud and hybrid cloud environments can provide significant benefit over a traditional on-premises approach to ERP.

C-suite and other senior executives who want to be successful across all of their operations in the future should focus on understanding how the cloud and cloud-based ERP solutions could potentially contribute to their overarching business strategy – because if they don't use the cloud effectively, their competition will.

So what do senior executives need to know about the cloud? Our hope is that this paper will help you understand the different types of cloud ERP available and the real benefits and risks associated with cloud-based ERP, and help you determine which, if any, cloud-based ERP model is right for your organization.

ABOUT THE STUDY:

Our ERP and the Cloud for Asset Intensive Industries Survey was conducted in the spring of 2015 on behalf of Illumiti, Sungard Availability Services and Cisco. Respondents came from over 140 companies in North America, and represented three key industries (i.e. manufacturing, energy and mining).

SETTING **THE STAGE**

What is ERP **and How Has it Evolved?**

At its foundation, enterprise resource planning is about making it simpler to manage a company's critical data – whether the data is related to finance, procurement, human resources or any number of other functions.

Over the past two decades, ERP solutions have evolved with the rapidly changing technology. As Illustrated in Figure 1, business applications pre-1997 typically focused on one particular business function. This resulted in a functional siloes with inconsistencies in corporate data due to the lack of a coordinated process workflow based on consistent business rules. Over time, ERP solutions emerged to assist companies with managing all their core business functions in a fully integrated manner.

While such an approach works for many organizations, the integration level and rigor of all-in-one ERP solutions can result a in a strong need for centralized management of changes that negatively affect the pace at which the business is able to evolve. Today, companies have the opportunity to leverage Hybrid Cloud strategies and use one or more ERP solutions and hosting models to manage information across their business. This flexibility comes, in part, thanks to the ability to utilize a single, tightly-integrated core ERP solution, deployed in either a cloud-based SaaS or an on-premises (typically hosted IaaS) mode, while also deploying additional – more loosely-integrated – departmental / single function applications. These complementary applications may also be either SaaS or on-premises solutions.

Evolution from **Best-of-Breed to Postmodern ERP**

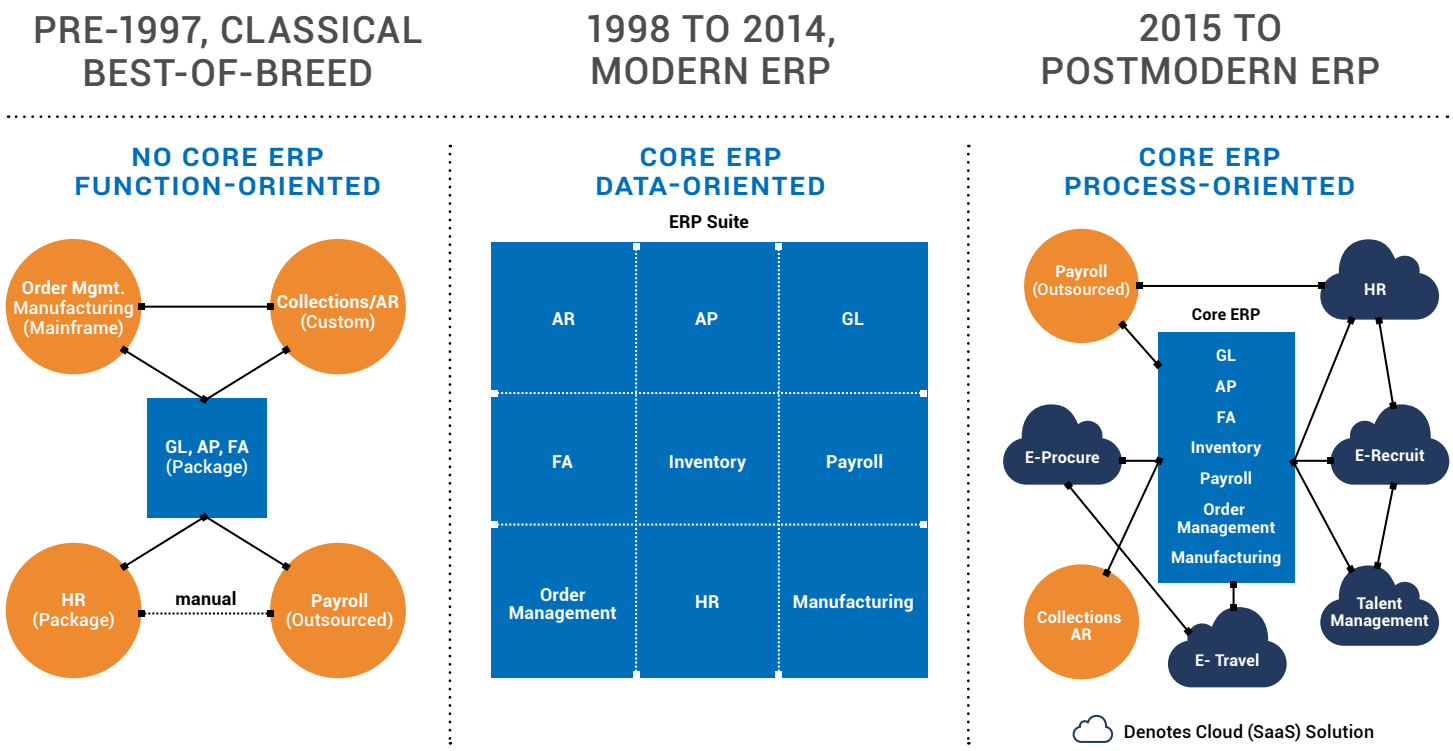


FIGURE 1 – *Source: Gartner (June 2014); provides a simple illustration of how the approach to ERP solutions has evolved over time.*

> "A Cloud-based or Hybrid Cloud ERP environment can maintain the tight integration, workflow discipline and data consistency required to support real-time operational decision-making and financial reporting based on accurate data, while also providing the flexibility for individual departments in the business to leverage the most advanced functional capabilities and evolve quickly to meet changing needs."

Nir Orbach, CEO, Illumiti

How are Companies **Approaching ERP?**

Historically, ERP system implementations were complex undertakings.

The time, effort and cost associated with such large-scale projects meant that a company would stick to a solution as long as possible – in some cases, for decades – regardless of whether it continued to be the best answer to the organization's data requirements.

Given the expectation that ERP solutions should last for many years, it comes as no surprise that 54% of respondents implemented their current ERP system more than 5 years ago. But the world has changed in that time. New innovations have lowered barriers to entry across many industries. Technologies have evolved to address new threats and create business opportunities. Communication mechanisms have become easy and instantaneous regardless of where a company operates.

THE REALITY:

Even companies that have a recently delivered solution provided by a cutting edge ERP provider may not be up to date. Regular upgrades are essential to maintain system integrity and reduce risks associated with an ERP solution – upgrades companies often will delay or fail to implement due to time or resource constraints.

What is **Cloud ERP?**

Cloud ERP uses cloud-based computing platforms to provide more flexible ERP solutions to organizations than traditional ERP solutions.

Rather than investing heavily in on-premises hardware, software and data storage, organizations can work with reputable service and hosting providers to obtain access to ERP solutions that host some or all of these system components in the cloud.

There are many reasons why cloud ERP can work for an organization. It allows for organizations to scale their ERP solution according to their business growth, allows for regular, transparent updating of multi-tenant ERP software and provides better data security than many individual organizations can maintain.

Different Forms **of Cloud ERP**

One common misconception is that there is only one 'cloud' – so when organizations move information into the cloud, it will be more easily accessible and less secure.

This isn't the case. There are a number of different cloud service models that organizations can choose from based on the needs and preferences of their business. The following are three common variables that organizations should consider when choosing a cloud ERP solution. There are many reasons why cloud ERP can work for an organization. It allows for organizations to scale their ERP solution according to their business growth, allows for regular, transparent updating of multi-tenant ERP software and provides better data security than many individual organizations can maintain.

ON-PREMISES VS. CLOUD OR HYBRID MODEL

One of the first determinations a company must make on the ERP front is whether to use an on-premises model for the ERP solution, or a cloud-based or hybrid model.

ON-PREMISE

Under this model, a company purchases a perpetual license for an ERP solution and hosts the related hardware, software and network components in-house. This approach typically comes with a high upfront implementation cost, representing a capital expense that is amortized over time. Benefits of this model include a company having complete control over all the system and over the security of its data.

Challenges with this model can include the skill sets, budgets and management attention required for internal staff to operate, maintain and support the system. In addition, companies – particularly in the mid-market – may find it quite costly to set up computing environments with high availability and disaster recovery capabilities, if required. Many of these challenges may be mitigated through utilizing private cloud offerings, as described below, while still using ERP solutions designed for on-premises environments.

CLOUD-BASED

The term "Cloud" loosely refers to any resource or service made accessible by a service provider through the Internet, as opposed to being located in-house. Many different cloud service flavors exist, including some providing managed computing platforms; others providing information services for use by third-party applications; and yet others providing complete application systems (like ERP) as a service.

Under this model, in its most complete flavor, an organization can subscribe to a cloud ERP service that enables it to manage most aspects of its day-to-day operation at a fixed monthly fee. This type of cloud application service would typically include a high degree of standardization across customers, while allowing for some customer-specific tailoring, but it would not support the same level of customization afforded by on-premises software solutions. It would usually entail a shorter, less costly implementation, and solution enhancements and upgrades would be prioritized and timed by the service provider.

One challenge of this model is the need for organizations to put their trust in the service provider, who is responsible for maintaining the accessibility, performance and security of the system, as well as the privacy of each of its customers who share the application software and operational infrastructure.

HYBRID

A hybrid model brings together benefits of both the on-premises and cloud-based models according to the needs of a specific company. For example, an organization might choose to support some of its business functions through cloud-based application services, while keeping others in-house.

Figure 1 shows an example in which Human Resources Management, Procurement and Travel are performed through cloud application services, while core ERP functions such as Financial Management, Inventory Management and Manufacturing are supported through an on-premises ERP system.

This approach has the benefit of allowing an organization to continue using a tailored solution in areas where full control and customization abilities are key, while reaping the benefits of cloud applications in areas where it can operate in an industry-standard fashion.

SINGLE VS. MULTI-TENANT ENVIRONMENT

When selecting cloud ERP or other Software as a Service (SaaS) solutions it is important to understand whether the proposed solutions use single-tenant or a multi-tenant environment.

SINGLE-TENANT ENVIRONMENT

Under this model, each business using the cloud application has an independent environment in which the application is run. This means that the business is allocated a computing environment in the cloud, which is sized to support the level of performance required by the business without any dependency on the needs of other businesses. It also means that access to the computing environment can be limited to the business itself and that software customizations, upgrades and system maintenance needs are determined solely based on the needs of the single business in question.

MULTI-TENANT ENVIRONMENT

Under this model, a number of different businesses share one cloud-based computing environment and access the same copy of the cloud application software, while each business has access only to its own private data. This can be useful for companies that want a cost-effective solution that can be implemented quickly and requires fewer customizations.

PUBLIC VS. PRIVATE CLOUD PLATFORMS

When it comes to the type of cloud platform in which the ERP solution is hosted, it is important to differentiate between public and private cloud.

Benefits of a public cloud platform include the ability to easily bring entire application environments up or down and to pay only for actual usage...

PUBLIC CLOUD PLATFORM

Public cloud platforms provide a common architecture that can be used to support an ERP system, in addition to other software and services. This includes computing hardware, storage devices, operating system and other software, comprising shared infrastructure that is used by multiple customers of the cloud service provider. For example, Microsoft, Google and Amazon have each developed a public cloud platform that can be used to deploy any type of software, including ERP solutions.

Benefits of a public cloud platform include the ability to easily bring entire application environments up or down and to pay only for actual usage, as well as the ability to change the amount of resources allocated as demand levels change, so that adequate performance can be provided at the minimum cost. Public cloud platforms may also provide built-in integration with various commonly used cloud services and applications.

A disadvantage of a public cloud platform is the fact that it is shared among many different companies, so a business usually has no control over the management of the platform and may have no control over the physical location of its private data. Multi-tenant cloud solutions such as SAP's Business ByDesign ERP solution and SuccessFactors Human Resources Management solution utilize a public cloud platform provided by SAP.

PRIVATE CLOUD PLATFORM

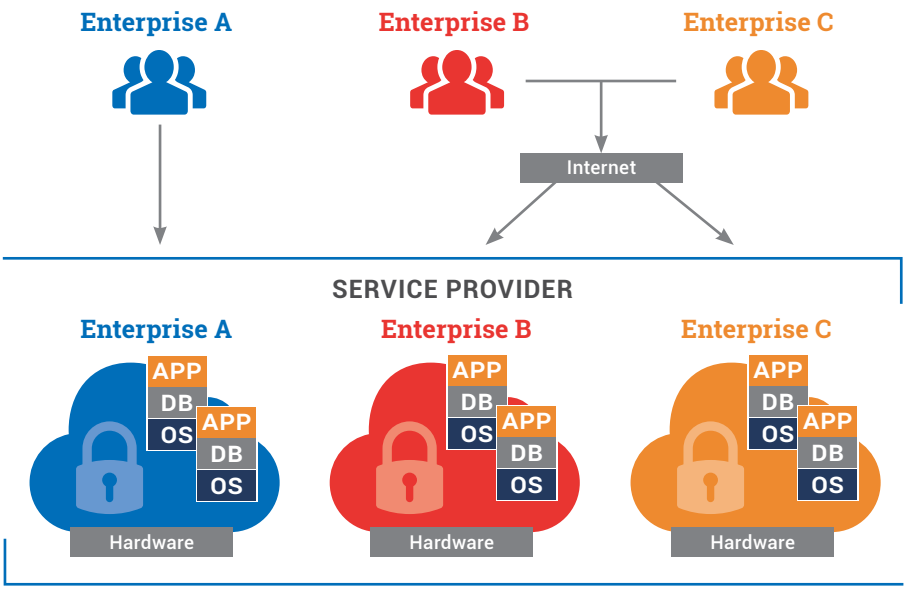
Under this model, cloud service providers offer a computing environment, including hardware, storage devices, operating systems and other software, that is dedicated exclusively to the use of one customer. An advantage of private cloud platforms is that they enable businesses to benefit from computing services managed to strict security and availability standards, at predictable cost levels and without relinquishing control over their IT environment or having to share it with others.

Private cloud platforms can be used to enable businesses to run software designed for on-premises use in the cloud. They are also typically used with single-tenant cloud applications. Prices may, however, be somewhat higher, as each environment is dedicated to a single customer so that the economies of scale possible with public cloud platforms are not achievable here. For example, private cloud implementations include many of Illumiti's customers who run SAP Business All-in-One as their ERP platform, hosted in private cloud environments provided by Sungard Availability Services.

Different
Cloud Models

FIGURE 2

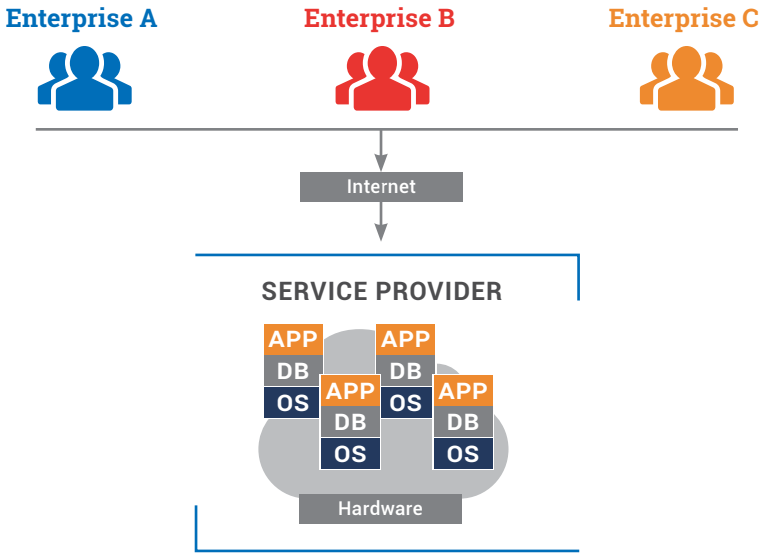
PRIVATE CLOUD



CHARACTERISTICS

- Professionally hosted and managed by a service provider according to best practices (look for certifications)
- Provider may provide application management services to alleviate day-to-day administrative tasks
- Fully dedicated infrastructure – application deployment flexibility
- Provider could offer SaaS license model providing OPEX model for licenses

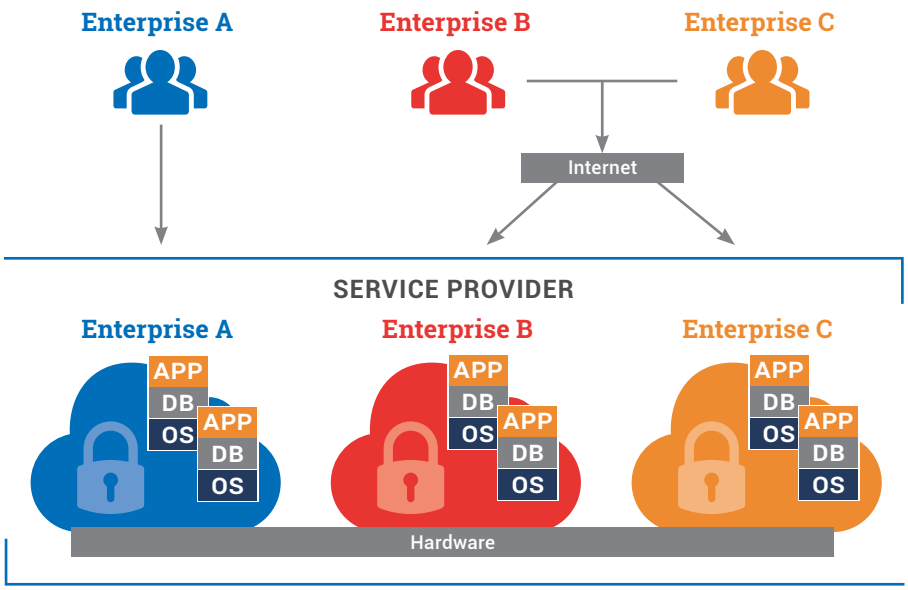
PUBLIC CLOUD



CHARACTERISTICS

- Cost benefits from shared infrastructure
- Management of the virtual machines and security rests on the tenant
- Provider could offer SaaS license model providing OPEX model for licenses

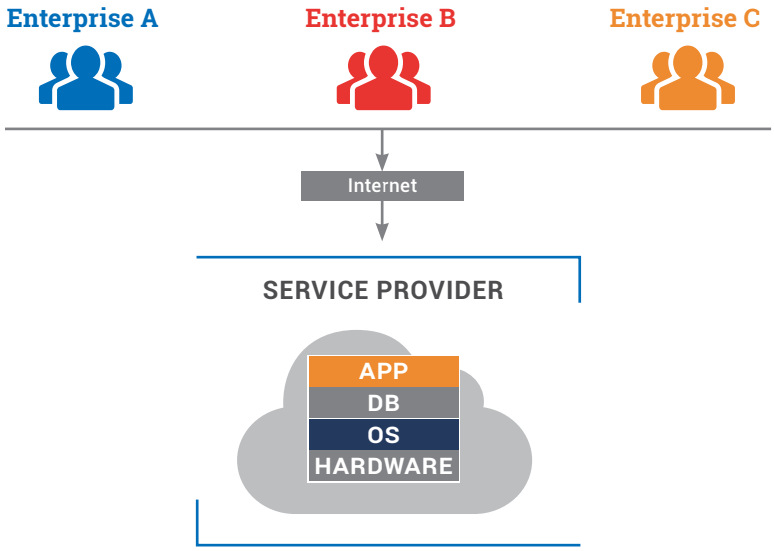
VIRTUAL PRIVATE CLOUD



CHARACTERISTICS

- Professionally hosted and managed by a service provider according to best practices (look for certifications)
- Provider may provide application management services to alleviate day-to-day administrative tasks
- Cost benefits from shared infrastructure
- Logically segregated from other tenants with shared Infrastructure – application deployment flexibility
- Provider could offer SaaS license model providing OPEX model for licenses

SAAS (MULTI-TENANT, PUBLIC CLOUD)



CHARACTERISTICS

- Cost benefits from shared infrastructure and shared application environment
- Consumption provided on a per-user license basis
- Application environment and upgrade frequency fully controlled by Provider

But: What is **the Cloud?**

The Internet forms a cloud; it provides a way for applications to communicate globally without requiring individual point-to-point communications lines between communicating sites.

This enables companies to serve many different customers through the cloud – which can be either private or public, and use either single tenant or multi-tenant service types.

Using a cloud-based or hybrid approach to ERP doesn't mean that everyone can access your data, even if you become one tenant in a multi-tenant cloud environment. It simply means that you are sharing infrastructure. Detailed security protocols and permissions guard your data at every step of the process.

PROVIDERS MAY DRIVE COMPANIES TO THE CLOUD:

More and more, providers are recognizing the value of offering cloud-based and subscription services for their ERP products and services, so much so that some are moving entirely to cloud-based solutions. Such offerings allow providers to engage a wider customer base, offer lower cost or managed-cost services arrangements, and conduct more regular updates to meet the shifting customer demands. Over time, companies may no longer be able to obtain a complete on-premises solution for their specific ERP programs or program suites – or find that their existing on-premises systems are not being updated with the same frequency as hybrid or cloud-based alternatives.

Understanding how the cloud works can help executives understand what the risks are and how they can manage and mitigate them so as to ensure the integrity and privacy of their corporate and customer information.

Why Should Companies in Asset Intensive Industries **Consider Cloud ERP?**

When it comes to doing business, many organizations working in asset intensive industries operate globally, with operations or individual projects located in very remote regions of the world.

At the same time, organizations may have robust operational resources but have relatively small or immature IT or back-office support functions. As a result, the costs associated with developing an on-premises ERP solution that fit the needs of a specific company can be very high.

That's why companies in mining, energy and manufacturing should consider a cloud-based or hybrid approach to ERP. A cloud or hybrid approach can provide organizations with the IT support they need to grow their business without growing their overhead. Such solutions provide the flexibility and scalability to shift as project locations shift, while giving companies confidence that their systems will always be up to date and their information sustainable and accessible in the event of an emergency.

> "You don't need to move to a multi-tenant SaaS cloud environment to gain most of the benefits of ERP in the cloud. A SaaS or IaaS agreement using a private cloud or hybrid hosting approach can offer similar benefits while providing more flexibility to meet your organization's specific needs."

Afshin Shams, Senior Director, Application Management Services, Sungard Availability Services

WHAT DO C-SUITE EXECUTIVES KNOW **ABOUT ERP IN THE CLOUD?**

In a rapidly changing business environment, senior executives understand the importance of having access to critical information and analysis anytime and anywhere, especially in asset intensive industries that may have operations in highly remote areas of the world.

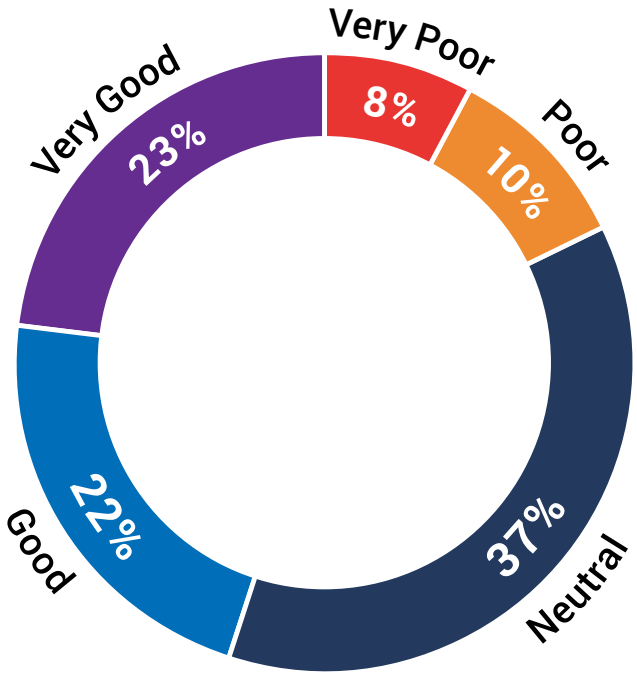
CEOs, boards of directors and executive teams are demanding more and better information so they can make the right strategic decisions for their companies.

Yet, when it comes to understanding the potential value of enterprise resource planning and specific on-premises, hybrid and full cloud solutions from a strategic business perspective, senior executives may be falling short. When contacted, many senior executives deferred our ERP and the Cloud for Asset Intensive Industries Survey to their IT leader. When asked, many of the executives said they didn't know enough about the subject to answer the questions effectively. In fact, only 14% of final survey respondents were C-suite or senior executives; 64% represented IT and 21% represented other functions.

This lack of executive knowledge around ERP solutions and the cloud is concerning. Data is fast becoming the currency of success, both within and outside of organizations. There are a wide range of options when it comes to functional and enterprise systems and software that can help manage, store, analyze and report on data. The challenge is that often such systems are implemented at the functional or IT level without thought to a bigger IT or ERP strategy. As a result, a company can end up with a myriad of systems that are not well aligned or cost-effective.

Even among the final group of participants in the ERP and the Cloud for Asset Intensive Industries Survey, only 45% of respondents rated their overall understanding of the benefits and challenges of ERP in the cloud as either good or very good (see Figure 3). This suggests that even among IT leaders, there is a knowledge gap when it comes to ERP in the cloud.

UNDERSTANDING OF THE BENEFITS AND CHALLENGES OF ERP IN THE CLOUD



If executives want their organizations to be successful, they need to ensure every aspect of their operations – including their approach to ERP – is aligned to their business strategy. To do this, executives need to inform themselves about ERP solutions and what it means to host information in the cloud, on-premises, or using a hybrid approach.

FIGURE 3 – *How would you rate the overall understanding of the benefits and challenges around ERP solutions in the cloud in your organization?*

> "There are many options available today for executives to realize the value of moving Enterprise Resource Planning functions to the cloud. Business leaders need to understand the benefits, costs and risks associated with cloud adoption to determine what solution will work for their ERP strategy and best support their business priorities."
>
> *Dror Orbach, Chief Operating Officer, Illumiti*

CURRENT **CLOUD ADOPTION**

Are Companies **Using the Cloud?**

The reality is that companies are already using the cloud, even if they don't realize it.

Surveys conducted at Gartner Symposia in late 2014 showed that almost 50% of respondent organizations had a hybrid ERP environment, where ERP functionality is delivered through a combination of on-premises and cloud solutions. This trend will likely grow, with 63% of respondents indicating that they will be in a hybrid environment in five years' time.[2]

Over time, it is expected that the use of cloud-based ERP solutions will only grow as offerings become more accessible, industry specific and flexible.

50%

of respondent organizations have a hybrid ERP environment.[2]

63%

of respondents said they would be in a hybrid environment in 5 years' time.[2]

[2] *Gartner. Adopt a Strategic Approach to Application Integration for Postmodern ERP and Business Applications. July 28, 2015.*

Asset Intensive Industries:
Key Functions in the Cloud

When looking specifically at asset intensive industries, our survey shows that cloud-based solutions are already a part of the ERP solution for many companies.

Email was identified as the function most commonly hosted in the cloud, followed by human resource management and project management. Figure 4 highlights key ERP functions currently in the cloud.

Complementary to current usage, 24% of the companies surveyed say that they are considering a move from their current ERP solution to more cloud-based services. Of these, 63% are planning to make a move within the next 2 years.

CURRENT ERP FUNCTIONS IN THE CLOUD: ASSET INTENSIVE INDUSTRIES

"Other" responses include: File backups, Payroll, Office 365, File sharing, Budgeting and Google apps

FIGURE 4 – *Which of the following core business functions do you have in the cloud? % of who replied "YES".*

Asset Intensive Industries
Behind on Cloud Adoption

While asset intensive industries have and are adopting the cloud for specific functions, a large percentage of respondents from each of the three sub-industries characterized their industry as being behind other industries with respect to cloud adoption.

56% of energy sector respondents said their industry was behind other industries, compared to 49% of manufacturing sector respondents and 46% of mining sector respondents. See Figure 5 for a full breakdown of results by industry.

When asked to compare their own organization to that of others within their industry, survey respondents were somewhat more optimistic. Approximately one quarter of the respondents from each industry said they were ahead of their competitors with respect to cloud adoption for managing business functions and applications, while 31% or less said they were behind their competitors.

These results suggest that organizations in manufacturing, energy or mining still have a strong opportunity to create a competitive advantage out of cloud adoption for managing business functions as many in all three industries are in a similar starting position.

One benefit of asset intensive industries being behind other industries in terms of cloud adoption is they have a unique ability to leverage lessons learned and key success factors already experienced within other sectors. The companies that can quickly evaluate and leverage this experience for their own operations could be well situated to leap ahead of their competitors in terms of driving efficiencies and operational productivity.

These results suggest that organizations in manufacturing, energy or mining still have a strong opportunity to create a competitive advantage out of cloud adoption for managing business functions as many in all three industries are in a similar starting position.

ASSET INTENSIVE INDUSTRIES COMPARED TO OTHER INDUSTRIES: CLOUD ADOPTION

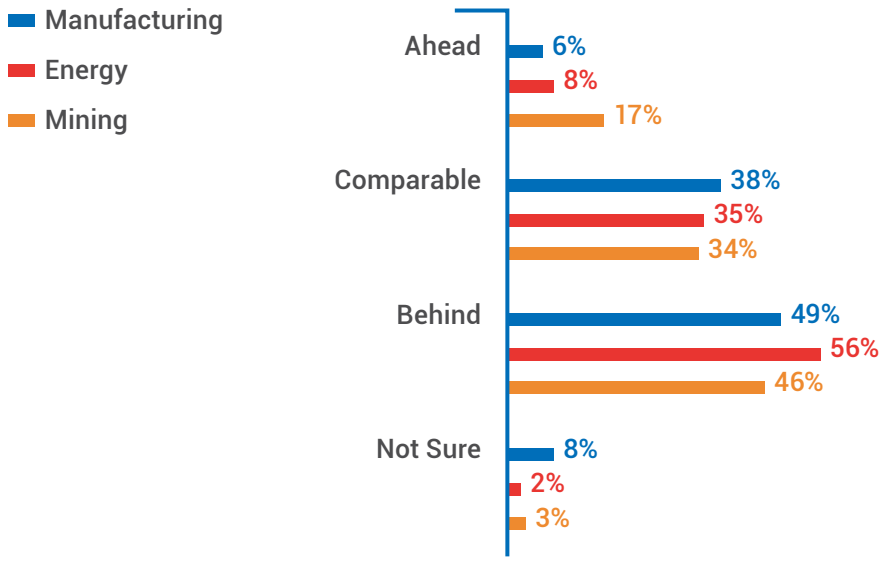


FIGURE 5 – *Do you think that your industry as a whole is ahead, behind, or comparable to other industries as it relates to cloud adoption for managing business functions/applications?*

ORGANIZATIONAL COMPARISON WITHIN ASSET INTENSIVE INDUSTRIES: CLOUD ADOPTION

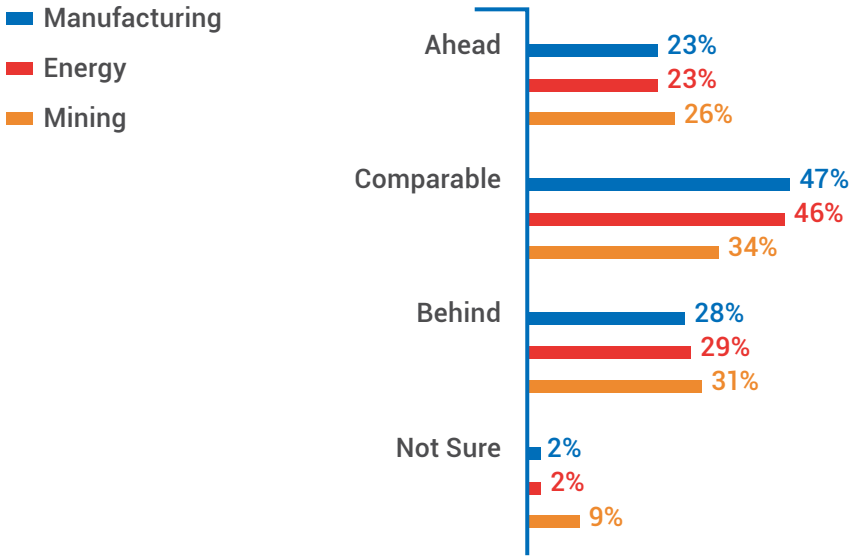


FIGURE 6 – *Do you think that your organization is ahead, behind, or comparable to other industries as it relates to cloud adoption for managing business functions/applications?*

BENEFITS OF ERP IN THE CLOUD

From access to information at any time to enhanced business continuity capabilities and lower or more manageable IT costs – there are a number of benefits driving organizations in asset intensive industries to consider cloud solutions.

A wide range of these perceived benefits are outlined in Figure 7.

> “Many executives don’t understand the cloud, how it works, or the real benefits it can provide to business.”
>
> *Dror Orbach, Chief Operating Officer, Illumiti*

BENEFITS DRIVING COMPANIES TO THE CLOUD

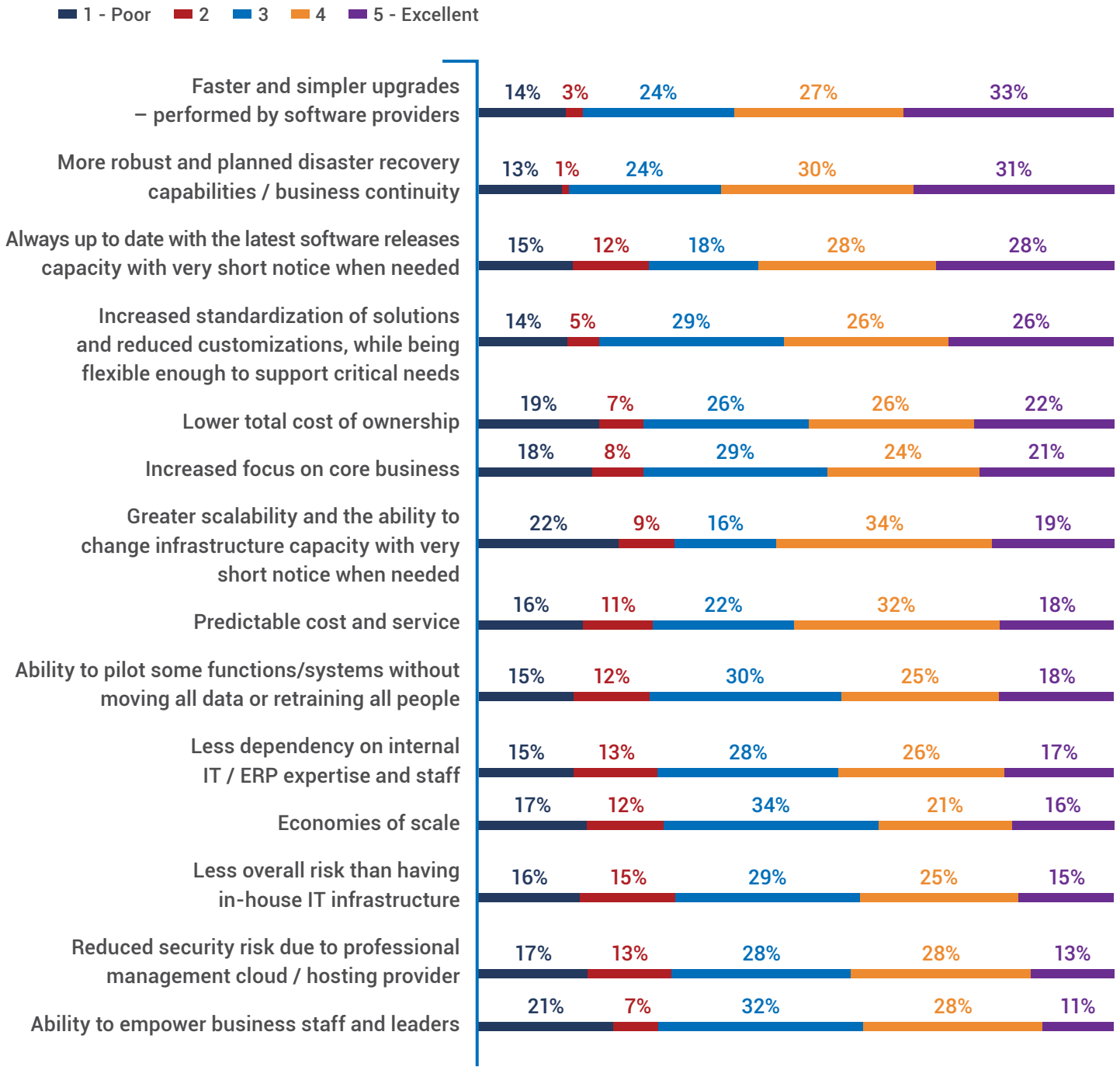


FIGURE 7 – *On a scale of 1 to 5 where a 5 means 'excellent' and a 1 means 'poor' how would you rank the following benefits that would drive you to move your functions to the cloud?*

WHAT BENEFITS ARE MOST IMPORTANT FOR ASSET INTENSIVE COMPANIES?

When all of the benefits prompting companies to shift functions to the cloud are considered, a number of overarching business drivers become apparent.

We've highlighted five of these key drivers below, in addition to key considerations that C-suite and other executives should consider as they evaluate whether ERP in the cloud will work for their organization.

BUSINESS CONTINUITY

84%

of companies see business continuity as a driver of ERP in the cloud

- **IMPORTANCE:** 84% of companies see business continuity as a driver of ERP in the cloud. The ability to operate seamlessly in an emergency or disaster situation can enhance an organization's reputation and increase potential long-term sustainability.
- **CONSIDERATIONS:** Hosting critical business information in a cloud or hybrid ERP model through a professional cloud / hosting provider can significantly reduce risks associated with business continuity and disaster recovery compared to hosting all data on premise. Should a flood, fire or another unexpected event take place, ERP in the cloud solutions allow companies to continue to operate, regardless of the state of their operational or management facilities. When considering ERP solutions, companies should understand how they will access their systems and data if they cannot access their facilities.

UP-TO-DATE VERSIONS

60%

of organizations see the ability to get faster and simpler upgrades as a significant driver of ERP in the cloud

- **IMPORTANCE:** 60% of organizations see the ability to get faster and simpler upgrades as a significant driver of ERP in the cloud, while 56% believe keeping current on latest software releases is a key driver.
- **CONSIDERATIONS:** As technology evolves, so do the cyber-threats faced by organizations. Staying current is instrumental to being protected. Traditional on-premises solutions often require planned maintenance and upgrading which can take significant time and resources to implement. As a result, companies often delay upgrades, sometimes for years, in order to save time or manage costs. With multi-tenant SaaS based cloud-based solutions, companies are always up to date on the latest software – giving them peace of mind that they are in the best position possible to manage evolving security issues and cyber-threats.

PREDICTABLE COSTS

- **IMPORTANCE:** 50% of companies say predictable costs and service is a major driver for ERP in the cloud, while a similar number believe lower Total Cost of Ownership is a key factor.
- **CONSIDERATIONS:** New technology implementation can be expensive, but so can significant upgrades and maintenance. For many companies, the ability to manage technology costs and make them more predictable is a significant reason for moving to subscription based software or hosting services. With many SaaS offerings, such agreements incorporate the cost of maintenance and upgrades into their standard subscription prices, allowing companies to budget more effectively while being sure they have the most up-to-date software available.

50%

of organizations say predictable costs and service is a major driver for ERP in the cloud

SCALABLE AND TESTABLE

- **IMPORTANCE:** 53% of organizations believe the scalability of cloud-based solutions and the ability to adjust infrastructure capacity quickly is a key benefit in ERP for the cloud solutions. Related to this, 42% see the ability to pilot some functions/systems without moving all their data and training of all staff as a key benefit.
- **CONSIDERATIONS:** For most companies, growth is a critical imperative – whether local, regional or global. ERP for the cloud solutions provide a level of flexibility that on-premises solutions may not by providing infrastructure that can scale up or down depending on the needs of the organization. Such flexibility can significantly enhance the confidence that a company will be able to meet current and future client demand, regardless of the region in which the growth occurs.

53%

of organizations believe the scalability of cloud-based solutions is a key benefit of ERP in the cloud

FOCUS ON CORE BUSINESS

- **IMPORTANCE:** 45% of companies feel the ability to increase their focus on their core business is a key driver of ERP in the cloud, while 43% appreciate there would be less dependence on internal IT /ERP expertise and staff.
- **CONSIDERATIONS:** Implementing and managing the day-to-day activities associated with ERP technologies, whether cloud-based, hybrid or on-premises can require significant time and resources, especially for companies operating in complex multi-jurisdictional environments. Professional cloud service and hosting providers can often provide higher quality and more secure solutions for ERP to companies so that they can focus on what they do best: meeting the needs of their customers.

45%

of companies feel the ability to increase their focus on their core business is a key driver of ERP in the cloud

CHALLENGES OF ERP IN THE CLOUD

Moving ERP functions and systems to the cloud does not come without challenges

– challenges many executives in asset intensive industries are quite concerned about. Figure 8 highlights a wide range of issues and the degree to which representatives of asset intensive companies found them to be a challenge as it pertains to moving functions to the cloud.

CRITICAL CHALLENGES FOR ASSET INTENSIVE COMPANIES – AND HOW THEY SHOULD BE MANAGED

Like any operational activity, different cloud-based ERP solutions will come with their own challenges.

What executives need to understand is that risks associated with the cloud can be managed and mitigated just like any other risk to an organization. Ultimately we would advise each company to assess the balance between the level of risk mitigation provided with a cloud solution; the degree to which the risk can be mitigated internally; and the consequences to the business should the risk materialize. On the next spread, we highlight key challenges highlighted through the survey, for companies within asset intensive industries associated with moving functions to the cloud, in addition to considerations for managing and mitigating each.

CHALLENGES ASSOCIATED WITH ERP IN THE CLOUD

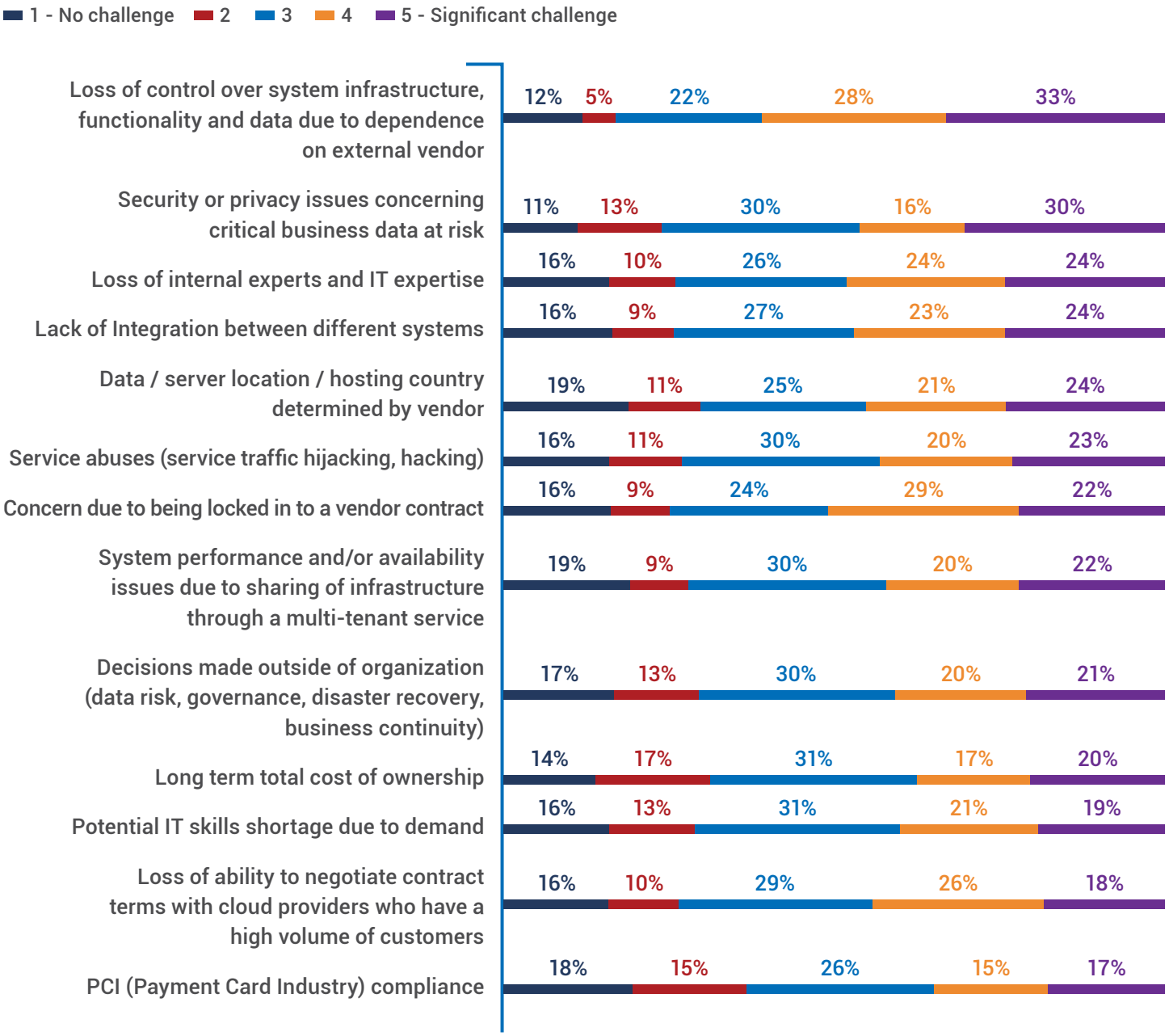


FIGURE 8 – *On a scale of 1 to 5 where a 5 means a 'significant challenge' and a 1 means 'no challenge at all' how would you rank the following of moving your functions or systems to the cloud?*

PRIVACY AND SECURITY

46%

of companies are concerned about security or privacy issues

- **ISSUE:** 46% of companies are concerned about security or privacy issues related to having their critical business data in the cloud, while 43% are worried about service abuses - like service traffic hijacking and hacking.
- **MANAGEMENT:** When it comes to doing business, companies that provide services or host services in the cloud have a vested interest in making sure their security is irreproachable. Often, companies that house ERP systems internally will be less secure than the equivalent system hosted in the data centre of a major cloud or hosting provider because investing in security is not quite as critical to the sustainability of their business as it is to a cloud provider. Cloud and other hosting providers make significant investments to ensure they are constantly aware of evolving risks and have the appropriate structures in place to avoid breaches.

INTEGRATION

47%

of companies are concerned about the integration of data between different systems

- **ISSUE:** When it comes to data management and analysis, integration is often essential. 47% of companies are concerned about the integration of data between different systems when some are hosted in the cloud.
- **MANAGEMENT:** Lack of integration, or the high cost of integration, associated with critical business data is a major reason why ERP implementation projects often fail to deliver expected benefits. This is why having an ERP strategy is essential to an organization: so that key decisions associated with the future system can be discussed and agreed to during the design phase, rather than during the implementation process where changes are difficult and costly. Executives need to understand early on what data objects will or will not be hosted in the cloud, and whether information will be integrated across different platforms. Understanding the options early in the ERP selection process can help a company make the right decision about what ERP solution to use and whether to use a fully cloud-based or hybrid platform.

CONTROL

51%

of companies are concerned about being locked-in to a vendor contract

- **ISSUE:** Over 50% of companies are concerned about being locked-in to a vendor contract, while 44% are concerned about possibly losing the ability to negotiate contract terms with cloud providers who have a high volume of customers.
- **MANAGEMENT:** Typically, a company does need to give up some autonomy in order that a cloud-based service or hosting provider can do their job effectively. However, the amount of autonomy and the degree to which a company is involved in the solution is often based on the type of product selected and the hosting approach. Companies that enter into a multi-tenant public cloud environment will have less control over their

solution than companies that use a single-tenant private cloud solution, but they will also typically have lower costs. Prior to entering a contract, executives should work with each provider to understand the contract arrangement and terms, what they would or would not have control over under each possible ERP solution and their level of involvement in any updates or upgrades. By considering the entire life-cycle of the solution early on, companies can ensure they retain the right level of control based on the criticality of the business function.

INFRASTRUCTURE

- **ISSUE:** Over 60% of companies are concerned about their dependence on an external vendor when it comes to the infrastructure and architecture underpinning a cloud-based solution, while 42% are concerned about possible system performance and availability issues should they use a multi-tenant service.
- **MANAGEMENT:** In the case of multi-tenant cloud-based services, companies need to recognize and understand any restrictions associated with the service upfront and work with the provider to identify service requirements and problem resolution mechanisms. Companies can reduce risks associated with possible service issues by recognizing their own usage patterns and making sure the vendor is capable of meeting specific needs even during peak usage periods. Executives should request and require a fulsome understanding of how the provider will respond to any service interruptions and any prioritization associated with their response. One of the benefits of a Virtual Private Cloud environment is that it can enable changes to hardware capacity to occur quickly and relatively frequently, based on a company's demand patterns. This increases flexibility while reducing costs by avoiding the need to pay for peak capacity when demand is lower.

61%

of companies are concerned about their dependence on an external vendor when it comes to infrastructure and architecture

COMPLIANCE

- **ISSUE:** 32% of companies are concerned about the ability of cloud-based solutions to be compliant with PCI (Payment Card Industry) protocols. Concern about PCI compliance is almost double among those companies that are looking to implement cloud-based solutions within the next 2 years.
- **MANAGEMENT:** When it comes to doing business, compliance with appropriate regulations and protocols is essential. Lack of compliance can result in serious financial penalties to an organization, in addition to degradation of the reputation of their brand. Prior to working with a vendor or service provider, companies should do the appropriate level of due diligence to make sure that any operational changes will be compliant with any reporting or operating protocols – whether conducted internally or by a third-party provider.

32%

of companies are concerned about the ability of cloud-based solutions to be compliant with PCI protocols

FUTURE OF ERP **IN THE CLOUD**

One only needs to look at how ERP solution and hosting providers are investing more and more in developing SaaS and cloud-based ERP solutions to understand that the cloud is expected to become a major factor in ERP in the future. Organizations globally are also starting to focus more on determining how the cloud can help them become more effective – whether from a cost or operations perspective.

The Importance **of Strategy**

Within asset intensive industries, almost 30% of companies already have a strategy focused on moving business functions and applications to a cloud-based service.

Given the recognition that asset intensive industries are generally behind others with respect to cloud uptake, this number is only expected to grow over time. Over time, it is expected that the use of cloud-based ERP solutions will only grow as offerings become more accessible, industry specific and flexible.

> "The challenges to cloud adoption are risk and security, but the key benefits are lower TCO, more robust application resilience and faster and simpler upgrades. When you look at the big picture, with the right guidance and support, it just makes sense to move your business functions and enterprise resource planning to the cloud."
>
> *Afshin Shams, Senior Director, Application Management Services, Sungard Availability Services*

DOES YOUR COMPANY HAVE A STRATEGY?

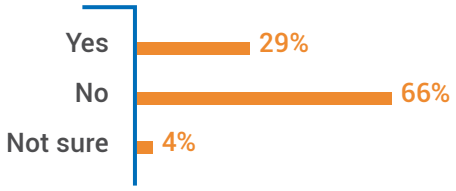


FIGURE 9 – *Does your company have a strategy to move business functions/ applications to a cloud-based service?*

WHICH OF THE FOLLOWING BEST DESCRIBES YOUR FUTURE CLOUD ERP STRATEGY?

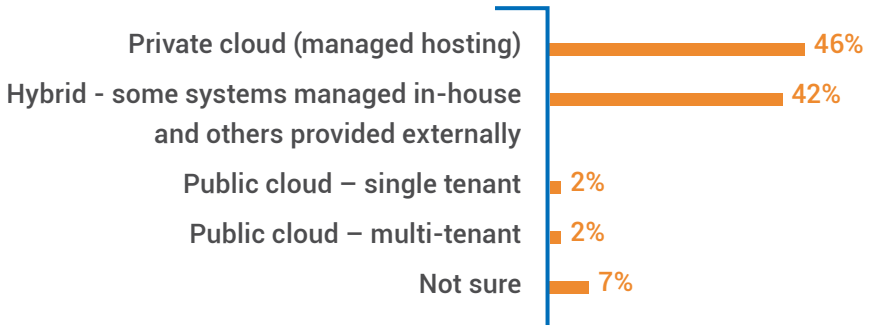


FIGURE 10

Of the organizations that have a strategy focused on moving functions to the cloud, 46% say that their strategy involves moving to a private cloud platform (i.e. managed hosting), while 42% expect to use a hybrid approach that includes some systems managed in-house and others through cloud-based services. Most companies did not expect to move to a public cloud environment, whether single-tenant or multi-tenant.

Functions Most Likely to Move **to a Cloud-Based Service**

When it comes to asset intensive industries, the functions most likely to be moved to a cloud-based service included corporate email, human resource management, project management and marketing and sales related activities.

While the first two are not surprising, the high focus on project management may be unique to asset intensive industries which often develop large scale projects in remote areas of the world. The ability to use cloud-based ERP for managing these and related activities could enhance the effectiveness of these projects by reducing operating costs and creating better access to information regardless of the project location.

GREATEST BENEFITS FROM FUTURE USE OF CLOUD-BASED SERVICES

When it comes to moving ERP business functions to the cloud in the future, the greatest benefits survey respondents expect to see are accessibility and availability. In a world where information is readily available at the fingertips of customers, this comes as no surprise. To be successful, businesses need to make sure they can access their data anywhere and at any time. Cost savings and a lower reliance on internal IT staff are also seen as significant benefits.

When thinking about cloud-based ERP in the future, two other significant benefits that companies can't under estimate are the support for disaster recovery and the security and data protection benefits. While many executives are concerned about privacy of data in cloud-based systems, the reality is that cloud-based ERP often offers enhanced security and data protection compared to what a company can manage on its own, especially in the mid-market. That's because cloud-based ERP providers and environment hosts are dependent on their reputation and ability to meet the needs of their clients. They invest significantly to ensure their products are up to date and their security evolves to meet new and emerging threats.

> "As the pace of business increases and global competition continues to disrupt the market, complexity is a key obstacle for SMEs. At SAP, we feel integrated cloud ERP offers organizations the ability to simplify their business processes, respond with agility and maintain their competitive advantage."

Rainer Zinow, Senior Vice-President, SAP Business ByDesign

FUNCTIONS MOST LIKELY TO MOVE TO THE CLOUD

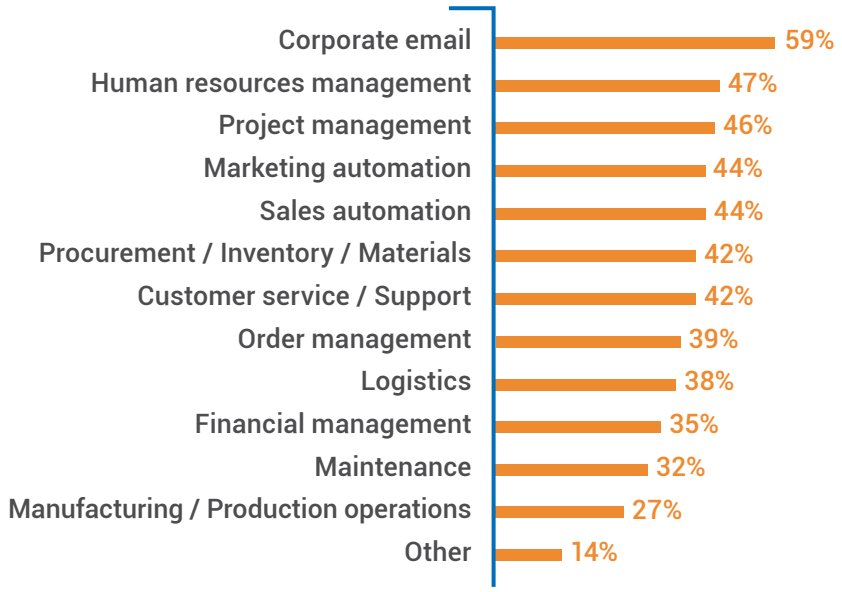


FIGURE 11 – *Which of the following would you consider moving to a cloud-based service (whether public or private cloud)?*

– % of who replied "Yes"

GREATEST BENEFITS ASSOCIATED WITH MOVING TO CLOUD-BASED SERVICES

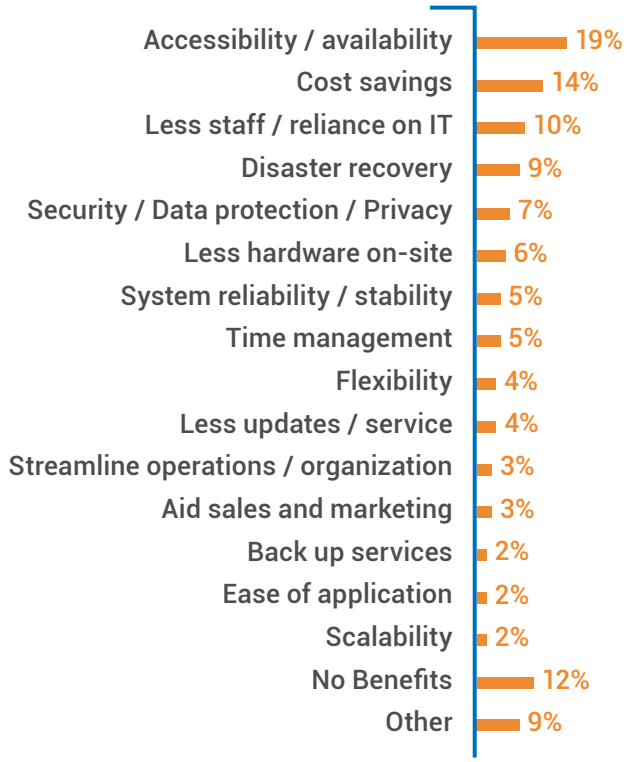


FIGURE 12 – *What do you think would be the greatest benefit for your company if you moved to more cloud-based services?*

RECOMMENDATIONS

To be successful in the long-term, executives need to consider how every aspect of their organizational structure and operations is aligned to achieve their business strategy, including how they manage their data.

Leaving data management solutions entirely in the hands of IT or specific functional areas (e.g. HR, Finance) may result in reasonable point solutions, but not necessarily cost effective solutions or solutions that can be integrated in order to support smooth, efficient process flows, stronger data analytics and better decision making.

Executives need to understand how enterprise resource planning solutions – whether on-premises, in the cloud, or hybrid – can help them achieve their business objectives and give their organization a competitive advantage. Rather than thinking about ERP simply as a technology to be implemented by IT, executives should consider ERP solutions as tools that can be used to enhance customer responsiveness, better manage projects and streamline back-office operations.

To determine how to make ERP in the cloud work for your organization, consider the following actions:

RECOGNIZE THAT THERE ISN'T ONE CLOUD

When companies think of the cloud, they typically think of the internet. This isn't accurate. When you are considering cloud-based solutions, recognize that there are several different hosting models that can work for your organization depending on your needs and the criticality of the business functions involved. Yes, public clouds and multi-tenant clouds exist – but you can also implement entirely private cloud-based solutions and hybrid models. The key for any organization is to evaluate the different ERP solutions and hosting options and select the one that is best positioned to enable you to achieve your business objectives and that works best for you.

BE OPEN TO EVOLUTION

The business environment is constantly changing - and so are the technologies supporting it. Executives should revisit their mission and business objectives on a regular basis and evaluate how well their current ERP solution is helping to achieve those objectives. Outdated ERP systems and software can heighten business risks and negatively affect the ability of an organization to grow.

ERP for the cloud solutions have evolved exponentially in the past 5 years – providing more tailored, cost effective and accessible solutions that can work for a wide variety of organizations. Take the time to understand what solutions are available, and the real benefits and challenges of each, before making a decision. You may find that a cloud-based ERP solution or a hybrid approach could increase the security and reliability of your data while also letting you manage your costs and focus more of your time on core business.

FOCUS ON MAKING THE CLOUD WORK FOR YOU

The reality is that most organizations are already using the cloud, even if they don't realize it. At some organizations, individual functional areas have implemented subscription services in order to drive higher efficiencies and keep technology costs down without the knowledge of IT or operations. The challenge with these siloed activities is that they are rarely integrated with other technology solutions, and may not be cost effective when considered at an enterprise level.

Executives need to make the cloud work well for their entire organization – not necessarily for just one functional area. As part of your business strategy, consider the capabilities presented by different ERP solutions and hosting models, so that you can make an informed choice as to what solution or suite of solutions will work for you.

RECOGNIZE AND MANAGE SECURITY AND PRIVACY CONCERNS

In today's world, data security and privacy are essential when it comes to building the reputation of an organization. Cloud services and hosting providers recognize this importance as it is critically important to their entire business to ensure that the data they maintain for clients is unassailable. Anything less could ruin a company overnight. It's why reputable service and hosting providers typically meet, and even exceed, compliance requirements associated with one or more ERP security certification criteria (e.g. ISO 27001, ISAE 3402, SAS 70 Type II). They also, typically, invest more to ensure their platforms and solutions are up to date than most individual companies can.

While privacy and security risks should not be understated, you need to evaluate them the same way you do other organizational risks. Working with reputable vendors, third party audits and other actions can be used to ensure all requirements are in place prior to moving forward with a specific cloud-based solution.

BE AWARE OF VENDOR LOCK-IN

When it comes to cloud-based solutions, companies in asset intensive industries are highly concerned about the possibility of being locked-in to vendor contracts or services agreements, in addition to giving over the keys to their data to a third party that can cut off the flow of information at any time. The reality, however, is that cloud-based and hybrid services models emulate an outsourcing agreement whereby a third party conducts specific activities on behalf of an organization (e.g. payroll, accounts payable). Over time, we expect this model to become even more similar, in that cloud platforms are evolving in a manner that should make it easier in many cases, to change services provides quickly and with little hassle to an organization – unlike transitioning from one on-premises system to another.

Prior to making a decision on a cloud-based ERP solution, you should be aware of all terms in the contract and ensure there are terms dealing with all high risks (e.g. service interruption, maintenance, and response times), penalties and exit clauses. In general, if you evaluate potential cloud services providers the same way you would a potential outsource services provider, you should be well equipped to manage associated risks.

UNDERSTAND TOTAL COST OF OWNERSHIP

When it comes to making a decision on ERP solutions, understanding total cost of ownership is critical. Total cost of ownership refers to the amount a solution will cost over its entire life cycle – from implementation to maintenance and upgrading. For an ERP solution, these costs might include implementation, training, support, maintenance and upgrading, integration, and data backup and recovery. Even in a cloud-based ERP model, a range of costs must be included in TCO, such as the monthly subscription fees and integration costs.

While different ERP solution models (e.g. on-premises, cloud-based and hybrid) may have similar benefits, the actual costs related to different solutions long term may be radically different. You should examine these costs in detail in order to truly understand the benefits and costs associated with each model so that you can make an informed decision on the model best for your organization.

WORK WITH REPUTABLE PARTNERS

In reality, very few companies have the expertise to evaluate and implement ERP solutions, whether on-premises, in the cloud, or using a hybrid approach. This lack of expertise can freeze a company for years because executives aren't certain as to what approach will work best and realize that even as they consider their options, the options are likely changing.

And subject matter experts can work with you across all aspects of a cloud-based ERP solution, from defining your strategy to managing your day-to-day upgrades and maintenance. The key success factor for any company is to find a reputable partner who has the expertise you need to make sure that any solution will fit the needs of your organization.

ERP for the cloud solutions have evolved exponentially in the **past 5 years** – providing more tailored, cost effective and accessible solutions that can work for a wide variety of organizations.

APPENDIX A: METHODOLOGY

Our ERP and the Cloud for Asset Intensive Industries Survey was conducted by telephone in the spring of 2015 on behalf of Illumiti, SunGard AS and Cisco.

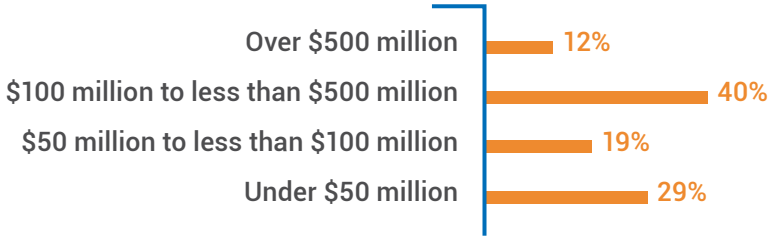
Respondents came from 141 companies in North America, and represented three key industries (i.e. manufacturing, energy and mining).

> "This report clearly shows that Cisco's cloud strategy is on track. Secure and reliable access to applications across any device, enhanced with rich data analytics, is providing better business outcomes for our partners and customers."
>
> *Roy Purtill, Vice President of Cloud Computing for Cisco Canada*

Respondent **Profile**

The following figures provide a brief overview of the respondent organizational profile related to the ERP and the Cloud for Asset Intensive Industries Survey.

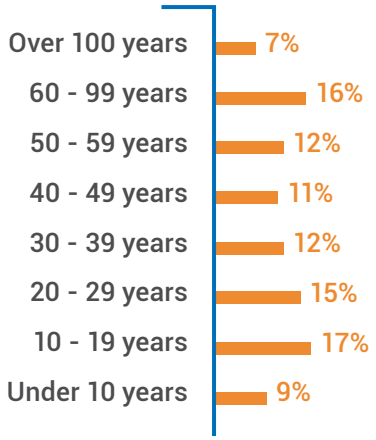
REVENUE



Companies participating in the survey reflected a wide range of sizes, with the highest number of respondents reporting corporate revenues between $100 million and $500 million.

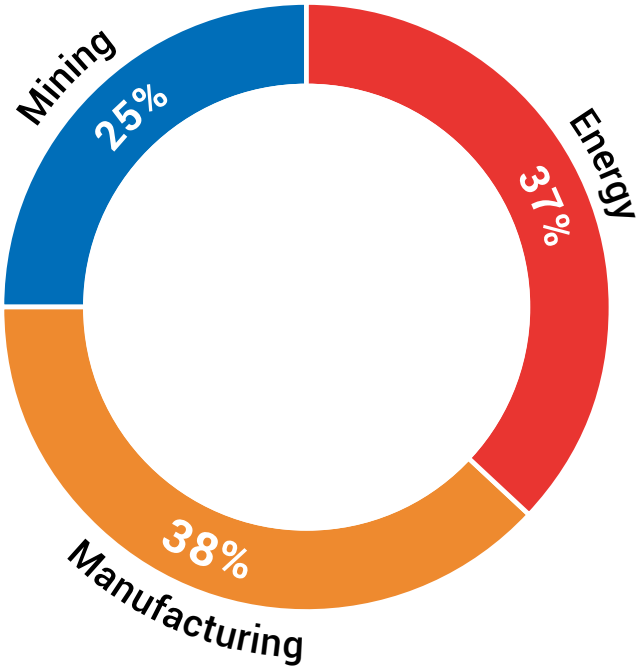
COMPANY AGE

Approximate Mean = 40 years



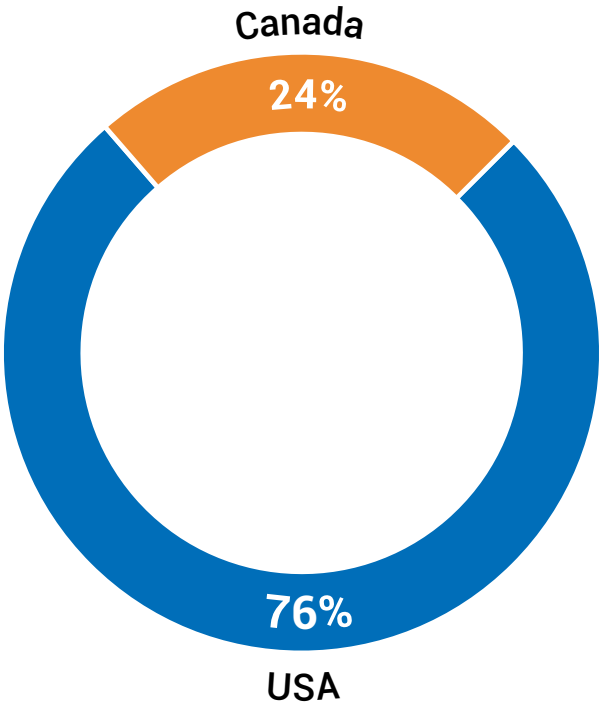
Respondents to the survey reflected the views of a wide range of companies, ranging from relatively new organizations to those with a long and storied history. The mean age of the respondent companies was 40 years in business.

INDUSTRY



Respondents to the survey represented companies from three key asset intensive industries: manufacturing, mining and energy. Manufacturing companies represented 38% of total respondents, while energy sector companies represented 37% and mining companies represented 25%.

LOCATION



Companies included in the survey represented all areas of the United States and Canada, with 76% of respondents located in the US and 24% located in Canada.

ABOUT **US**

Illumiti is a member of United VARs which is an SAP platinum partner.

Illumiti is a leading systems integration and management consulting company with offices in Canada, the U.S. and Switzerland, serving customers globally.

Its team enables customers to realize their vision by leveraging the world's leading on-premise and cloud-based business applications. Illumiti helps its clients achieve optimized operations in the key areas at the core of their business, by implementing custom-fit solutions from SAP and other vendors faster, at a lower cost, and at a lower risk than other alternatives. Illumiti is a member of United VARS, which is an SAP Platinum partner. Illumiti has been recognized as the top SAP reseller for Canada for five consecutive years and is one of the fastest-growing SAP channel partner in the U.S. For more information please visit www.illumiti.com.

SUNGARD® AVAILABILITY SERVICES™

Sungard Availability Services® ("Sungard AS") leverages more than 35 years of experience to provide tailored production and recovery services to help customers achieve business outcomes.

The company uses its experience in recovery to design, build and run production environments that are more resilient and available, enabling customers to respond faster to opportunities. Sungard AS works alongside customers to deliver the right environments to meet their customized needs quickly, flexibly and cost-effectively.

Sungard AS possesses the following certifications and services:

- **HOSTING SERVICES:** Partners operate and maintain SAP applications and offer complete hosting packages tailored to the customer's SAP product portfolio. Extensive technical SAP administration skills and experience are mandatory.
- **CLOUD SERVICES:** Cloud service offerings from providers certified by SAP encompass on-demand infrastructure and on-demand services for SAP products. (This allows for virtualization of a client's SAP landscape & significant savings compared to in house, traditional hosting).
- **SAP HANA OPERATIONS SERVICES:** Partners have received certification from SAP for their ability to deliver operations services for solutions powered by the SAP HANA in-memory computing platform with high quality operational standards

CISCO™

Cisco is the worldwide leader in helping companies seize the opportunities of tomorrow by delivering the amazing results that come from connecting the previously unconnected.

Cisco is empowering countries, cities, industries and businesses around the globe to move faster in order to keep pace with digital transformation and the move to the Internet of Everything (IoE). With approximately 70,000 partners, Cisco is very well positioned to provide our customers with next generation of networking, security, data center, and collaboration products and solutions that help them achieve their desired business outcomes.

How We Work **Together**

ERP solutions require many different skills and capabilities to combine in creating what is akin to an effective, smoothly running production line. Together, we build upon Cisco's computing hardware and networking expertise; Sungard Availability Services' prowess in running data centres and delivering cloud-based IaaS and PaaS solutions; and Illumiti's focus on implementing, supporting and evolving SAP® business solutions to help clients realize their vision.

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