The Most Common Mistakes Made by Cloud Infrastructure Adopters and Recommendations to Avoid Them

Published 16 December 2020 - ID G00741331 - 12 min read

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Initiatives: Cloud and Edge Infrastructure

Many organizations starting their cloud journeys struggle to avoid cloud adoption pitfalls. Executive leaders should adopt these four recommendations by previous cloud adopters to mitigate risks, speed adoption and optimize costs of cloud infrastructure.

Overview

Key Challenges

- In some organizations, cloud adoption decisions are made by line of business (LOB) leaders without central IT governance, resulting in inefficiencies and multiple cloud vendors for organizations to manage.

- Failing in the communication of the cloud adoption benefits limits stakeholder buy-in and undermines executive leaders’ efforts to implement the cloud strategy.

- Efforts to implement cloud strategies often overlook relevant technical and business factors, requiring organizations to address these challenges later in the implementation process and increasing the time and cost of cloud adoption.

- Many organizations wrongly believe that their existing on-premises management and governance procedures are valid for cloud infrastructure resources, challenging the ability of executive leaders to scale governance and management efficiently with the growing complexity of the cloud infrastructure environments.

Recommendations

Executive leaders responsible for facilitating cloud deployment in their organizations should:

- Drive sponsorship for a cloud strategy that defines a cloud adoption roadmap adapted for the entire organization.

- Communicate the cloud adoption roadmap by establishing a cloud center of excellence (Ccoe) and a cloud architect role to evangelize the cloud strategy to stakeholders.
Introduction

This research is adapted from Lessons Learned From the Most Common Mistakes Made by Cloud Infrastructure Adopters, which guides I&O leaders responsible for cloud infrastructure to mitigate risks, speed adoption and maximize cost savings by applying lessons learned by previous cloud adopters.

A 2020 Gartner CIO Survey identified cloud computing as one of the three top game-changing technologies. Many organizations will embrace cloud for the first time and current cloud adopters will increase their usage. However, despite the maturity of cloud, many executive leaders still have questions about how to embrace cloud, adoption roadmaps or what other organizations are doing with cloud.

Based on the experience of cloud adopters, this research reveals the common mistakes and areas in which cloud implementations can improve (see Figure 1).

Figure 1. Areas of Improvement From Cloud Adopters

Areas of Improvement From Cloud Adopters

1. Implement a Cloud Strategy Across the Organization

- Work with direct reports to optimize cloud adoption efforts and define a cloud adoption plan that includes an application assessment, identifies workloads with best migration to cloud approaches and accounts for future technical and business needs.

- Ensure operational risks in cloud are reduced by aligning cloud governance and management with the organizations’ cloud maturity level.
A cloud strategy document defines a common guideline for the entire organization, aligning objectives, benefits, risks and key adoption criteria, which often differ among various departments within the organization. By defining consensus, the cloud strategy document prevents delays in cloud adoption caused by misaligned priorities.

Cloud adoption affects many internal departments and might produce changes in the way of working. Each department can have different interests, benefits, risks and challenges.

In many organizations, multiple cloud initiatives live together, led by different internal departments. When the benefits from these cloud initiatives are not aligned with the business goals, the cloud approach does not scale and prevents cloud computing from positively impacting the overall business strategy.

Such misalignment of business goals with internal department interests and the lack of coordinated governance can put cloud adoption at risk, questioning or delaying committed decisions. Executive leaders should support and collaborate in the creation of a cloud strategy document to provide a clear, concise point of view on cloud and its role in the organization.

**Elements Often Overlooked**

Authors of cloud strategy documents frequently overlook a critical element: organizational change. Including this element prepares the organization for cloud’s disruptive impact and identifies any gaps that exist in cloud skills and maturity.

Organizations frequently forget to empower an executive sponsor that evangelizes cloud computing to the entire organization. This C-level support is key to helping improve the success of cloud initiatives by maximizing buy-in throughout the organization. Organizations should support this role in the development of cloud initiatives to accomplish cloud adoption by the organization.

Many organizations complete cloud strategy documents but fail to review their strategy on a periodic basis. Business factors, vendor markets and organizational goals evolve, requiring periodic reviews of and changes to the cloud strategy. Executive leaders should ensure cloud strategy documents are treated as living documents that require continuous care.

2. Establish a CCOE and a Cloud Architect Role

A CCOE manages and governs the different stages of the cloud adoption roadmap. The CCOE must include a cloud champion or cloud architect, who will become the main actor when defining the cloud strategy and interact with all the cloud stakeholders within the organization.

Delaying the formation of the CCOE is a common mistake among organizations embracing cloud. Consulting the CCOE improves cloud strategy decisions. Implementations deployed without the assessment of the CCOE could result in unsecure or unreliable architectures that require redeployment.
Because the CCOE defines, implements and communicates governance policies across the organization, delays in establishing a CCOE can result in inefficient governance models.

The way the whole organization (business users, developers, architects, engineers or operators, among others) interacts with cloud resources requires three areas of management:

- **Governance**: The CCOE creates cloud computing policies and selects governance tools. In collaboration with a cross-functional team, it creates policy enforced by the organization's mix of tools and approved organizational processes. This approach provides appropriate risk and financial management.

- **Brokerage**: The CCOE helps users select cloud providers, architects cloud solutions and collaborates with the sourcing team for contract negotiation and vendor management.

- **Community**: The CCOE raises the level of cloud knowledge in the organization by capturing and disseminating best practices. It does this through a knowledge base, source-code repository, cloud community of practice councils and training events, as well as outreach and collaboration throughout the organization.

Although establishing the CCOE is a good decision at any time, there are notable benefits of doing it as soon as the organization realizes it requires a cloud strategy. The CCOE must increase team resources as the organization proceeds further with cloud adoption.

Having a cloud architect as part of the CCOE involved in the cloud strategy definition from the beginning will reduce the time and effort required to complete this initial step. Executive leaders should ensure candidates are identified for this crucial role. The ideal candidate would come from within the organization and:

- Know the organization, have authority and respect within it, have access to cross-functional leaders, have initiative and be a “cloud believer” to evangelize the organization

- Have technical cloud skills and experience in cloud adoption projects

Finding a candidate with all of these skills can be difficult. Therefore, executive leaders should guide their direct reports to prioritize status within the organization over technical skills. Candidates who have authority, respect and initiative can learn the technical skills more easily than a candidate with strong cloud skills and experience.

As the organization's cloud implementation plan advances, some roles in the CCOE, such as cloud and automation engineers, become more important. Automation engineers become relevant as automation guides process orchestration and helps limit future cloud management problems.

3. Execute a Strategy Through a Cloud Implementation Plan
We receive many inquiries about how to implement cloud services. Most of these interactions focus on two areas: identifying which workloads are the best candidates to migrate to the cloud and how to select the right cloud service provider (CSP) based on these workloads. Executive leaders should ensure the cloud implementation stage is started after developing and communicating the organization’s cloud strategy to the entire organization.

**Identify the Right Cloud Candidate Workloads**

Many organizations started to migrate applications and workloads to the cloud based exclusively on a short set of technical criteria following a lift-and-shift approach, avoiding both a business analysis and a more complete technical analysis.

Executive leaders should ask their direct reports to work with the IT function to perform a complete application assessment beyond the technical aspects, including the business value of each application to identify which workloads are ready for the cloud. An impact matrix combines the business value and the technical viability of each workload, providing organizations with an overview of how a migration plan should be established. Focus on those applications that are worthy to be migrated. This saves deployment time and effort.

The impact matrix is divided into four quadrants (see Figure 2).

**Figure 2. Cloud Impact Matrix**

- **“Quick Win” Quadrant:** Applications in this area are the main focus during the implementation plan. They are valuable from a business and technical perspective as viable candidates to be migrated.
Identify the Right Cloud Provider

Many organizations select public cloud providers based only on their critical technical capabilities. But they should also consider location and business factors. For example, a high installed software base can impact public cloud providers’ licensing costs.

Early adopter countries have the advantage of being close to cloud regions and could avoid issues related to data residency, latencies, availability features and cost. Executive leaders should ask their direct reports to consider location factors and the possibility of relying on local CSPs when public cloud regions don’t deliver the appropriate level of cloud service, performance or cost.

Implementation plans are often frozen until networking and security issues are solved. These pitfalls should be avoided by involving specialized networking and security teams from the organization or from external professional services at this phase.

Cloud adoption is a continuous process that requires multiple revisions. The cloud adoption roadmap moves organizations through different stages of cloud maturity. As organizations progress on their cloud adoption roadmap, complexity increases. Executive leaders should be realistic about the organization’s cloud maturity to avoid unnecessary efforts to implement complex cloud architectures properly from advanced multicloud maturity states.


A common pitfall among organizations beginning their cloud journey is believing that their current on-premises governance and management procedures are valid for cloud resources. Changing governance and management practices after trying to integrate new resources into existing tools and policies requires more time, effort and spending than if these practices had been changed earlier. Even starting
by enabling governance policies and building rules that apply to all scenarios can become too complex as the organization's cloud maturity advances.

Successful cloud management requires a balance between self-service enablement and governance through implementing policies. Allowing these elements to fall out of balance invites problems.

**Excessive Self-Service**

Too much self-service can complicate cloud management by creating a chaotic environment that is difficult to wrangle. A Gartner survey on cloud adoption shows that more than 80% of organizations using the public cloud interact with two or more CSPs.  

Spending time and effort analyzing multicloud management tools or providers is a common mistake among organizations that are starting to adopt cloud. Organizations at early stages in their cloud journey should ensure the cloud management tools provided by their CSPs are used rather than multicloud management tools from third parties.

**Excessive Governance**

Governance that results in excessive rigidity could impede productivity and innovation. Executive leaders should adopt a governance approach based on policies that:

- Define and implement guardrails as proactive and reactive controls
- Define and enforce the automation of policy checks and outcomes through monitoring to verify policies are being followed

A governance and management approach suited to increasing cloud maturity requires monitoring and automation. Monitoring the use of cloud resources and networking activities provides insights into how to optimize workload availability, performance and cost. Executive leaders should ensure cloud management is optimized and automated to increase business agility, limit human errors interacting with cloud resources and manage an ever-growing set of cloud resources.

Many organizations realize the need for automation only after their cloud resources become nearly impossible to manage. Embrace automation in early stages by integrating tools and specialized automation roles as part of the CCOE.

**Expense Management**

Mistakes in the area of financial management lead to expenses growing out of control and cloud budgets being misaligned with real bills. Mistakes in this area also make it difficult for organizations to split expenses among different lines of business and determine how the organization consumes cloud. Executive leaders should use the CSP's tools and functionalities to split costs among different LOBs in a manner that matches the organization's current or planned model.
Evidence

1 The 2020 Gartner CIO Survey was conducted online from 4 June 2019 through 5 August 2019 among Gartner Executive Programs members and other CIOs. The total sample is 1,070, with representation from all geographies and industry sectors (public and private). The survey was developed collaboratively by a team of Gartner analysts, and was reviewed, tested and administered by Gartner’s Research Data and Analytics team.

2 Analysis and conclusions based on more than 9,000 interactions with customers during 2019 in areas of interest related to cloud strategy, cloud implementation plan, cloud team organization and cloud management.

3 Gartner 2018 Cloud Study: This survey was conducted online by an internal partner from October through November 2018. In total, 1,200 respondents were interviewed in their native language across the U.S. (18%), Canada (8%), the U.K. (13%), Germany (13%), France (8%), China (13%), India (8%), Australia (8%), Mexico (8%) and Brazil (8%). Percentages may not add to 100% due to rounding.

Recommended by the Author

7 Elements for Creating a Pragmatic Enterprise Cloud Strategy
Move From Cloud First to Cloud Smart to Improve Cloud Journey Success
The IT Leaders Guide to How to Take the Cloud Center of Excellence to the Next Level
Cloud Architects: What They Do and Why You Need One
Check 3 Critical Dimensions Before Selecting Public Cloud Infrastructure Managed and Professional Services Providers
How to Identify Solutions for Managing Costs in Public Cloud IaaS
IaaS Cloud Governance Guidelines and Guardrails for Midsize Enterprises

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