

## Navigating Cloud: The Skills Gaps

### Executive Summary:

- Cloud infrastructure management is a critical new workload for businesses that have adopted Cloud technologies
- A widening skills gap is emerging between required Cloud operations capabilities and available internal resources
- Key drivers include:
  - Growth and scaling demand more and more of the infrastructure and its design,
  - Operations requires skill sets that are distinct from development
  - Scarcity and high cost of Cloud talent
  - Challenges of upskilling existing staff
- Innovative companies are increasingly partnering with specialist Cloud operations providers to:
  - Access scarce skills cost-effectively
  - Focus internal resources on core business priorities
  - Ensure 24/7 operational excellence

### The Cloud Operations Imperative

For businesses that have embraced Cloud technologies, a new and often overlooked challenge has emerged: the imperative to effectively manage Cloud infrastructure to support the operational objectives of the business.

As Cloud-based systems transition from development to production, they must start delivering consistently and securely, and scale effectively in advance of the growth, scaling and other requirements of the business plan.

This brings with it an entirely new workload—Cloud Operations—focused on ensuring the continuous security, reliability and efficiency of Cloud infrastructure.

The skills and experience required for Cloud operations are markedly different from those needed in development roles. While developers drive technological change and innovation, Cloud Operations personnel are tasked with maintaining stability and optimising performance. This distinction is crucial, yet frequently underappreciated until systems are live and supporting core business functions.

As Gartner analyst Lydia Leong notes, "The operational aspects of Cloud adoption are often overlooked in the rush to migrate applications, leading to unforeseen challenges down the line". This oversight can have significant consequences, as effective Cloud operations are essential for realising the full benefits of Cloud adoption and supporting business objectives.

# The Growing Skills Chasm

A significant gap is widening between the Cloud operations capabilities businesses require and what they can realistically achieve with internal resources. This skills chasm is being driven by several interrelated factors:

- **Distinct Skill Sets and Expertise Required**

Cloud operations demand a unique blend of technical knowledge, operational experience, and business acumen. The imperatives governing operations—maintaining stability, optimising performance, and ensuring security—are fundamentally different from those driving development teams.

As Cloud expert David Linthicum observes, "The skills needed to operate Cloud systems are often very different from traditional development skills. There's a steep learning curve". This distinction means that simply reassigning development personnel to operational roles is rarely effective.

- **Scarcity of Cloud Talent**

The rapid adoption of Cloud technologies across industries has created intense competition for Cloud skills. A recent study by Global Knowledge found that Cloud computing is the most challenging area for organisations to find qualified talent. This scarcity is particularly acute in Cloud operations roles, where hands-on experience of the operational issues is crucial.

The talent shortage is exacerbated by the pace of technological change in the Cloud space. As new services and best practices emerge, the knowledge gap between available talent and required skills continues to widen.

- **Upskilling Challenges**

Many organisations attempt to bridge the skills gap by training existing IT staff in Cloud technologies. However, this approach often proves inadequate for several reasons:

- **Time constraints:** The demands of maintaining existing systems leave little time for intensive training.
- **Depth of knowledge required:** Cloud operations require a breadth and depth of expertise that is difficult to develop quickly.
- **Continuous learning:** The rapid evolution of Cloud technologies necessitates ongoing education, creating a constant upskilling burden.

As a result, internal upskilling initiatives frequently fall short of meeting operational needs.

- **Recruitment Hurdles**

Hiring experienced Cloud operations professionals is an obvious solution, but one fraught with challenges. The scarcity of qualified candidates has driven up salaries, making it difficult for many businesses—particularly SMEs—to compete for top talent.

Moreover, retention of Cloud professionals is a significant challenge. The high demand for their skills means they are constantly presented with new opportunities, leading to high turnover rates.

Additionally, this approach requires considerable management effort and surrounding resources devoted to non-core workloads, in addition to the salaries involved.

## Implications for Businesses

The Cloud skills gap has far-reaching implications for businesses relying on Cloud infrastructure:

- **Operational Risk:** Without adequate operational expertise, businesses face increased risk of outages, security breaches, and performance issues. These can have severe consequences, including financial losses, reputational damage, and regulatory non-compliance.
- **Inefficient, Uneconomic Cloud Resource Allocation:** Attempting to manage Cloud operations with insufficient expertise often leads to inefficient use of Cloud resources. This can result in unnecessarily high costs and suboptimal performance.
- **Innovation Bottlenecks:** When development teams are burdened with operational responsibilities, it can slow the pace of innovation. This opportunity cost is often overlooked but can significantly impact a company's competitive position.
- **Scalability Challenges:** As businesses grow and their Cloud infrastructure expands, the skills gap becomes increasingly pronounced. Without a scalable approach to Cloud operations, companies may find their growth constrained by operational limitations.

## Navigating the Skills Gap

Innovative companies are adopting several strategies to navigate the Cloud skills gap:

- **Embracing DevOps Practices:**

DevOps methodologies are part of the mix, but only a part. DevOps can help bridge the gap between development and operations, but there must be an operations team to pass the responsibilities to.

It's crucial to recognise that DevOps is not a substitute for dedicated Cloud operations expertise. As Gene Kim, co-author of "The Phoenix Project", notes, "DevOps enables better collaboration, but it doesn't eliminate the need for specialised operational skills".

- **Leveraging Managed Services**

Cloud providers offer an array of managed services that can offload some operational responsibilities. These services can be valuable, but they often require specific expertise to implement and manage effectively, and typically cover only a portion of the operational needs, leaving significant gaps that must be addressed.

Moreover, using these facilities serves to strengthen vendor lock-in, making even harder to move, should this be the right choice for the business. Additionally, of course, these services work only on the facilities from that provider, requiring duplication if the business needs to run multi-Cloud.

- **Partnering with Cloud Operations Specialists**

An increasingly attractive approach is partnering with independent specialists in Cloud operations. This strategy offers several advantages:

- **Access to Expertise:** Partners bring deep, specialised knowledge and experience in Cloud operations.
- **Scalability:** External partners can quickly scale resources up or down based on needs.
- **Focus on Core Competencies:** By outsourcing Cloud operations, businesses can concentrate internal resources on core value-driving activities.
- **Cost-Effectiveness:** Partnering can be more cost-effective than building and maintaining an in-house team, especially for SMEs.

## The Business Case for Specialist Partnerships

For many businesses, particularly SMEs, partnering with a Cloud operations specialist presents a compelling business case:

- **Cost Optimisation:** Specialist partners can often deliver more efficient Cloud operations, optimising resource utilisation and reducing waste. This can lead to significant cost savings over time.
- **Risk Mitigation:** With their deep expertise and focus on best practices, specialist partners can significantly reduce operational risks. This includes improved security posture, better disaster recovery capabilities, and more reliable performance.
- **Scalability and Flexibility:** Cloud operations partners can provide flexible resources that scale with business needs. This adaptability is particularly valuable for businesses experiencing rapid growth or seasonal fluctuations.
- **Access to Latest Technologies:** Specialist partners invest heavily in staying current with the latest Cloud technologies and best practices. This ensures that businesses benefit from cutting-edge operational capabilities without the burden of continuous internal upskilling.
- **Focus on Core Business:** Perhaps most importantly, partnering for Cloud operations allows businesses to focus their internal resources on core value-driving activities. As management guru Peter Drucker famously advised, "Do what you do best and outsource the rest".

## Conclusion

The Cloud skills gap presents a significant challenge for businesses relying on Cloud infrastructure. As the complexity and criticality of Cloud operations continue to grow, so too does the imperative to address this gap effectively.

While various strategies can help mitigate the skills shortage, partnering with Cloud operations specialists offers a compelling solution, particularly for SMEs. By providing access to scarce expertise, enabling focus on core competencies, and offering cost-effective scalability, such partnerships can play a crucial role in navigating the Cloud skills gap.

As businesses continue to grapple with the operational demands of Cloud infrastructure, those that successfully bridge the skills gap will be best positioned to realise the full potential of their Cloud investments and drive sustainable growth.