

NAVIGATE YOUR DIGITAL TRANSFORMATION WITH CLOUD

HIGH-TECH INDUSTRY VIEW

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INTRODUCTION

Cloud transformation, an integral part of the digital transformation, can contribute to business both strategically and operationally by having a meaningful impact on customer experience, business agility, scalability and efficiency.

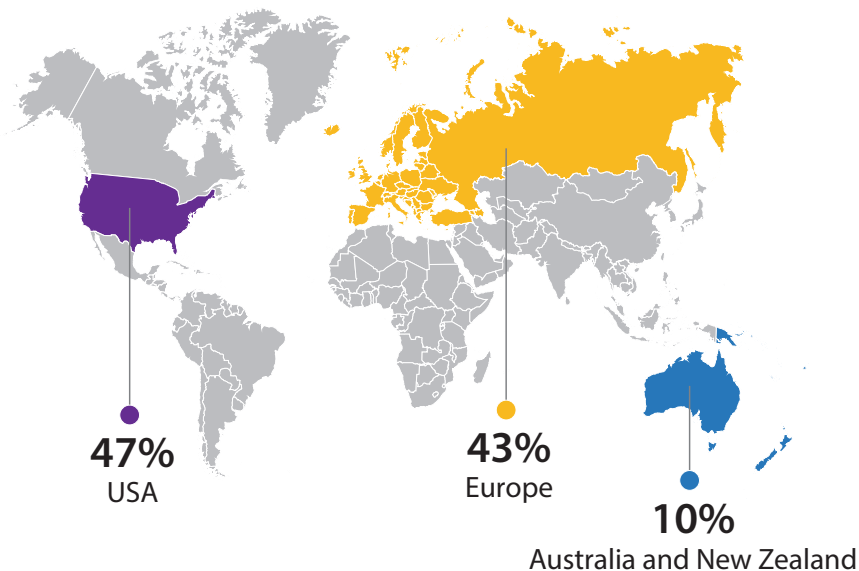
Emerging technologies, tech-savvy customers and regulations compel high-tech firms to find new and innovative ways to deliver superior business performance. Navigating a challenging business environment while attempting to uplift business results is tricky.

Digital transformation offers a viable solution to high-tech enterprises

seeking to overcome these challenges. Cloud transformation, an integral part of the digital transformation, can contribute to business both strategically and operationally by having a meaningful impact on customer experience, business agility, scalability and efficiency.

Our experience has shown us that high-tech firms approach cloud programs cautiously. Concerns over legacy systems, under-prepared systems and processes, and inadequate expertise hamper widespread adoption.

Figure 1: Respondent geographies



Infosys surveyed 60 executives from high-tech firms with over US\$1 billion in revenues across the United States, Europe, Australia and New Zealand (ANZ). The respondents were senior executives and leaders involved in cloud initiatives representing both technology and business functions.

The study aims to get a thorough understanding of ongoing and future cloud initiatives, both from strategic and implementation perspectives, and discuss the findings in this report.

THE CLOUD CAST



Types of enterprise players

The survey solicited respondents' views on cloud adoption intensity as well as their plans over the next three years. The analysis of the responses showed the status of cloud programs and helped identify four types of enterprises.

	Torchbearers 50%	Pathfinders 22%	Defenders 20%	Aspirants 8%
What are the characteristics of this cluster?	Enterprises with high adoption of cloud across functions, and seek to be fully integrated and a cloud-first organization	Enterprises with moderate cloud adoption, and actively seek to derive more business value from the cloud	Enterprises that understand the importance of cloud, but have a siloed approach and unsure about how to derive business value from the cloud	Enterprises with low adoption of cloud across functions, and mostly have a tactical approach towards the cloud
Do they have an enterprise-wide strategy?	Yes, and it is followed strictly or serves as a guideline	Yes, and it serves as a guideline	Yes, and it is followed strictly	Yes, and it serves as a guideline or is followed strictly
What drives them to adopt cloud programs?	<ol style="list-style-type: none"> 1. Competitive activity 2. Data security 3. Changing the partner ecosystem, reduced IT costs 	<ol style="list-style-type: none"> 1. Reduced IT costs 2. Emerging technologies 3. Competitive activity, data security 	<ol style="list-style-type: none"> 1. Reduced IT costs 2. Emerging technologies 3. Scalability, evolving customer needs 	<ol style="list-style-type: none"> 1. System availability and resilience 2. Data security, evolving customer needs 3. Reduced IT costs, competitive activity, changing partner ecosystem, scalability, domain-specific cloud solutions

	Torchbearers 50%	Pathfinders 22%	Defenders 20%	Aspirants 8%
What are the expected outcomes from cloud programs?	<ol style="list-style-type: none"> 1. Enhance customer experience 2. Maximize the cloud's capabilities 3. Standardize and integrate the technology landscape 	<ol style="list-style-type: none"> 1. Enhance enterprise-wide mobility and collaboration 2. Enhance customer experience 3. Standardize and integrate the technology landscape, reduce time to market 	<ol style="list-style-type: none"> 1. Enhance enterprise-wide mobility and collaboration 2. Standardize and integrate the technology landscape, build the cloud as a foundation 3. Reduce time to market, drive innovation 	<ol style="list-style-type: none"> 1. Enhance enterprise-wide mobility and collaboration 2. Enhance customer experience 3. Build the cloud as a foundation 4. Drive innovation

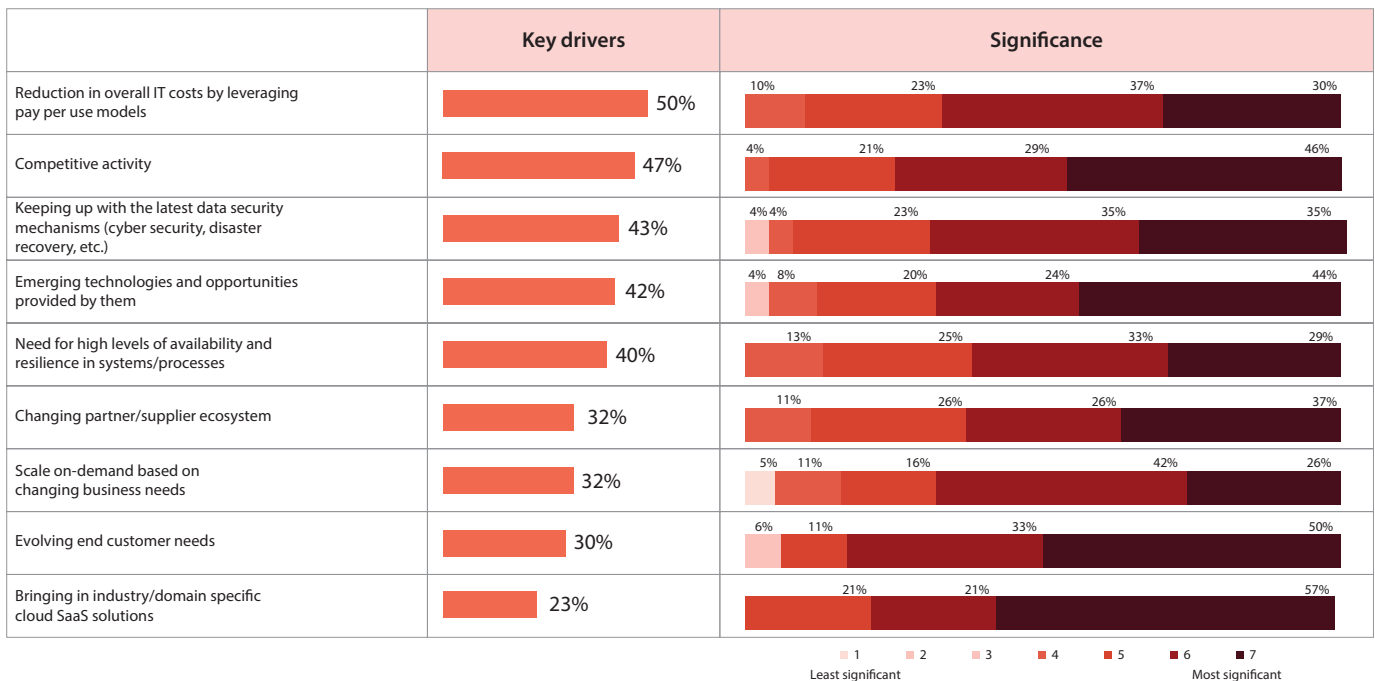
Understanding the drivers and expectations from cloud initiatives

The main drivers for cloud programs were reduced IT costs, competition and keeping pace with data security trends. The U.S. and Australia and New Zealand respondents ranked all three drivers high.

Cloud programs can significantly drive down the cost of owning and maintaining IT infrastructure while enhancing measures against data security threats.

However, the drivers that influence the pace of decision-making are more strategic and include evolving end-customer needs, the need for industry-specific cloud solutions and competition.

Figure 2: Cloud adoption drivers and their significance on decision-making

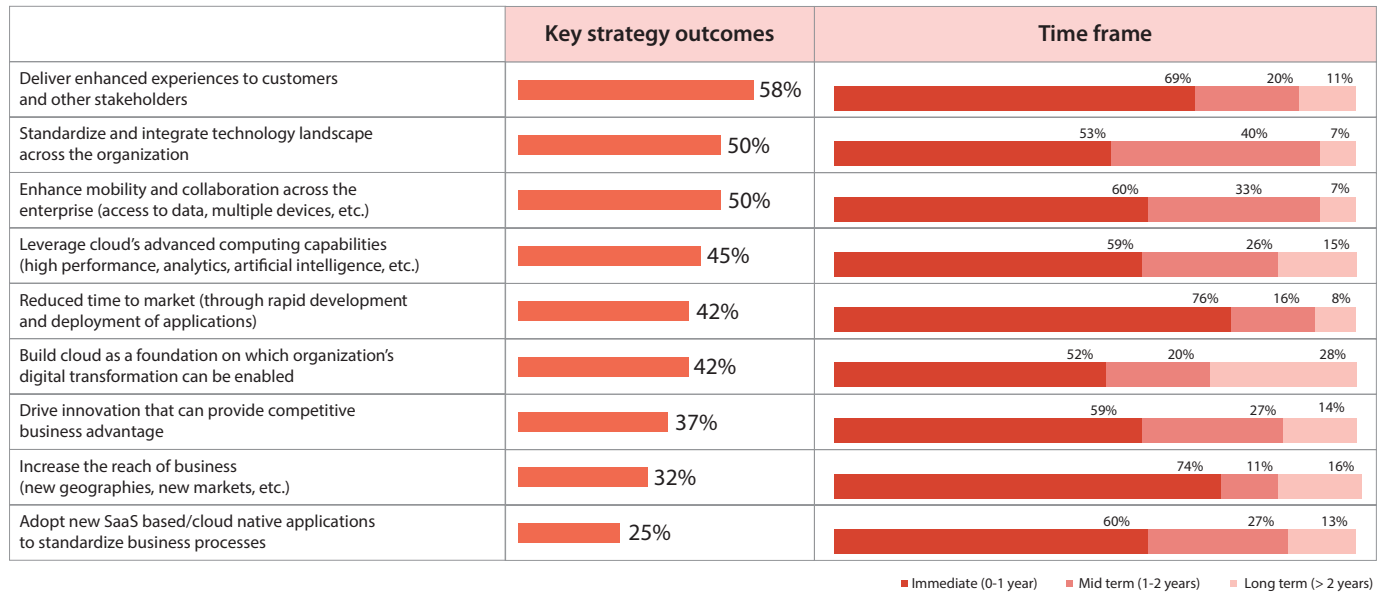


Enhanced customer experience (58 percent), standardized and integrated technology landscape (50 percent), and improved enterprise-wide mobility and collaboration (50 percent) are the most expected

outcomes from cloud programs. High-tech firms are willing to wait for these outcomes to be delivered over two years. In contrast, European respondents intend to achieve all the expected outcomes within a year.

High-tech enterprises expect to reduce time to market and increase business reach within a year, as they face stiff competition from existing and newer players with alternate business models.

Figure 3: Key expected outcomes and timeframes for achieving them



The top three concerns expressed before initiating cloud programs include:

- **Selecting the right cloud model (51 percent):** High-tech firms struggle with choosing the right cloud model as they balance data security and regulatory concerns with cost- and system resilience-related gains.
- **Stakeholder confidence around return on investment (42 percent):** The cloud journey involves multiple stakeholders across functions; hence, demonstrating results at regular intervals becomes essential.
- **Significant reliance on external solutions providers (42 percent):** Enterprises are still learning how to navigate the cloud journey, including dealing with vendors.

The views of U.S. and European respondents were aligned with the overall view.

Figure 4: Concerns before launching cloud programs

	Total	Geography		
		ANZ	EU	USA
Stakeholder confidence around ROI	42%	33%	38%	48%
Deciding on the cloud approach to adopt	51%	33%	54%	52%
Significant reliance on external solutions providers	42%	33%	42%	42%
Availability of internal talent/skill sets to manage the transition	36%	50%	27%	41%
Alignment between IT and business on the road map	41%	50%	31%	48%
Accountability and need for a dedicated team to drive the transition	22%	17%	19%	26%
Organizational readiness and maturity of existing IT landscape	24%	17%	19%	30%
Building the strategic and operational road maps	20%	17%	8%	33%
Overcoming postmigration challenges	27%	33%	27%	26%
Concerns with respect to enterprise information security	29%	17%	27%	33%
Need to continuously upgrade to new technologies	31%	33%	23%	37%

UNDERSTANDING CLOUD IMPLEMENTATION EXPERIENCES



Respondents view application refactoring to suit cloud architectures, promoting culture change and choosing the right tools as the most challenging during implementation. U.S. respondents and the Torchbearers cluster also agreed with that.

Figure 5: Challenges faced during implementation

	Overall
Application refactoring/tweaking to suit cloud architectures	5.81
Tracking and monitoring systems/processes on cloud	5.13
Aligning existing legacy systems/architectures and technology environments	5.47
Resource skillsets with cloud orientation	5.45
Accurate estimation of time and financial costs involved	5.25
Pace of execution/implementation of the initiative	5.47
Deciding on the choice of tools/technologies to pick from	5.53
Maintaining current service levels during transition	5.43
Lack of high levels of clarity in execution roadmap	5.22
Absence of an internal dedicated cloud team to drive the initiative	5.19
Promoting a culture change within the organization	5.60
Collaboration/integration with external service providers/stakeholders	5.35
Navigating existing agreements	5.27

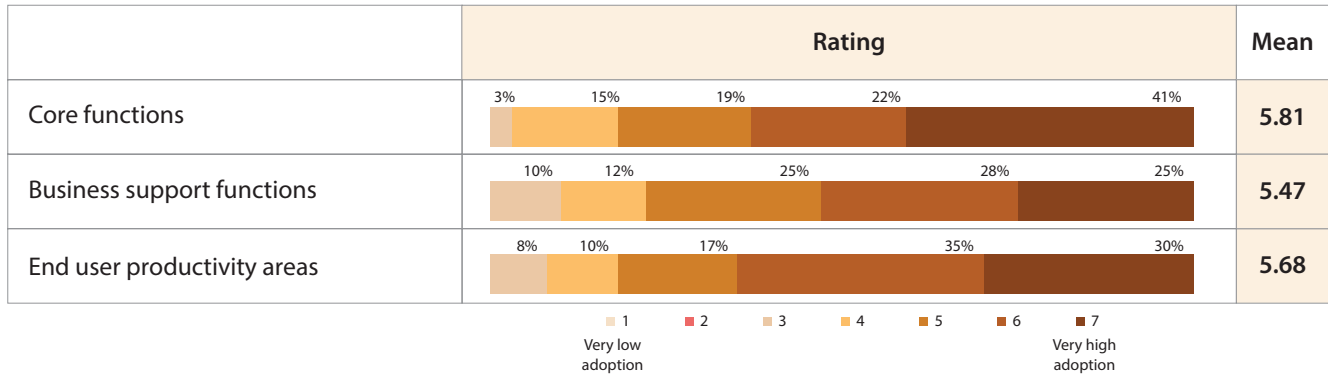
On the scale of 7

High-tech firms have been conservative while adopting cloud programs across the enterprise. The end-user productivity function led the way with 65 percent adoption,

followed by the core function at 63 percent and the business support function at 53 percent. U.S. firms exhibited higher adoption rates across all three functions compared

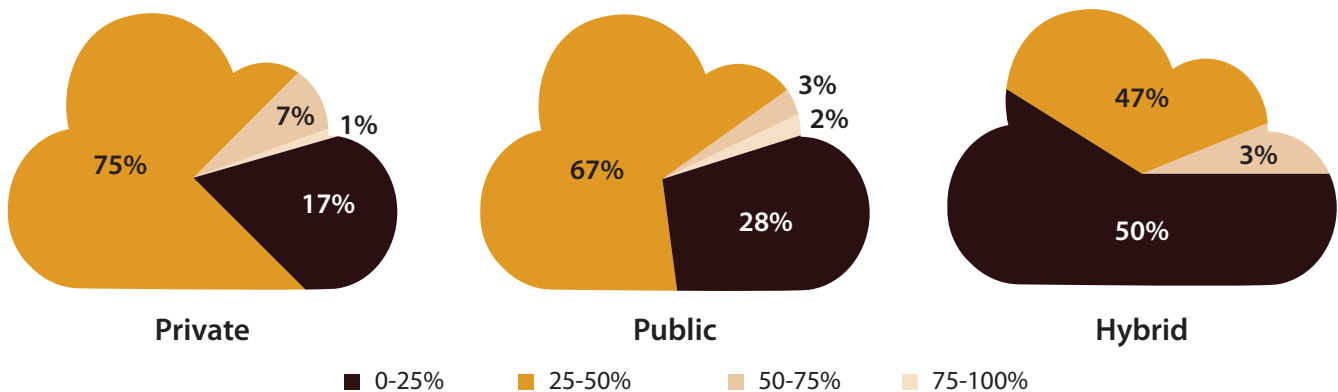
with European and Australia and New Zealand firms. Aging systems and insufficient know-how to anchor cloud transitions have slowed down adoption rates.

Figure 6: Cloud adoption across functions



The high-tech industry has a comparable footprint across private and public cloud models for workloads below 50 percent. They prefer private (75 percent) and public (67 percent) cloud models for workloads between 25 and 50 percent. Respondents said they used the hybrid cloud model (50 percent) for workloads below 25 percent. U.S. firms have a higher adoption of public and hybrid models in the 25-50-percent workload range. Also, Australia and New Zealand firms have ventured into the public cloud with workloads greater than 75 percent.

Figure 7: Workload spread across the cloud models



The pressure to align with regulatory changes and ensure system scalability and availability, faster upgrades to the IT landscape, data security, easier adoption of digital trends, and collaboration with external stakeholders have prompted high-tech firms to choose the public cloud model.

Three-year goals across respondents include becoming a fully integrated, cloud-first organization (35 percent), adopting an everything-as-a-service model (35 percent), and building cloud-native applications (28 percent).

A significant 60 percent of Torchbearers and 50 percent of Australia and New Zealand firms have set themselves the high goal of becoming fully integrated, cloud-first organizations.

The cloud may begin with the boardroom, but it ends with IT leaders

The business executive leadership is most involved in defining the requirement and making the final decision on external vendors, whereas IT executive leadership engage through the cloud journey. In addition, high-tech firms work with external vendors to draw up the cloud business and technology strategy, equip the application landscape for cloud programs, manage the transition to the cloud, and manage the cloud application landscape. The most common criteria used to evaluate external solution providers are the effectiveness of the proposed solution (57 percent), the range of services (43 percent) and credibility (40 percent).

New technologies will have a tangible impact on the cloud

Respondents view artificial intelligence and machine learning (45 percent), DevOps (45 percent), and big data analytics (43 percent) technologies as the most value-adding when adopted with the cloud.

Figure 8: Technologies impacting adoption of the cloud

	Overall
Artificial Intelligence/Machine Learning	45%
DevOps	45%
Big data analytics	43%
Internet of Things (IoT)	40%
Open-source (microservices, APIs)	40%
Edge computing	32%
Containers and Orchestration	28%
Hyperconvergence	27%

NEXT STEPS IN THE CLOUD JOURNEY FOR HIGH-TECH FIRMS



In a continuously evolving, customer-driven business environment, high-tech firms need to take advantage of all available enablers to ensure survival. Cloud transformation allows high-tech firms to handle digital disruption and, consequently, business pressures more effectively.

The Infosys study revealed that 50 percent of our respondents belonged to the advanced Torchbearers cluster. This cluster is a clear leader for other firms to follow.

The benefits of cloud transformation for an enterprise cannot be questioned. So what is preventing large-scale adoption of cloud programs? The Infosys study revealed

that prevalence of legacy systems, inability to make informed decisions and lack of skilled resources hold back high-tech firms from pursuing the cloud agenda more aggressively.

Infosys' experience shows that the cloud journey is too complicated to be successfully navigated with only in-house expertise. High-tech firms must align with a competent partner that can contribute on both business and technology aspects. In addition, the partner must be able to provide sound advice and act as a reliable implementation partner.

About Infosys Knowledge Institute

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