DELLTechnologies

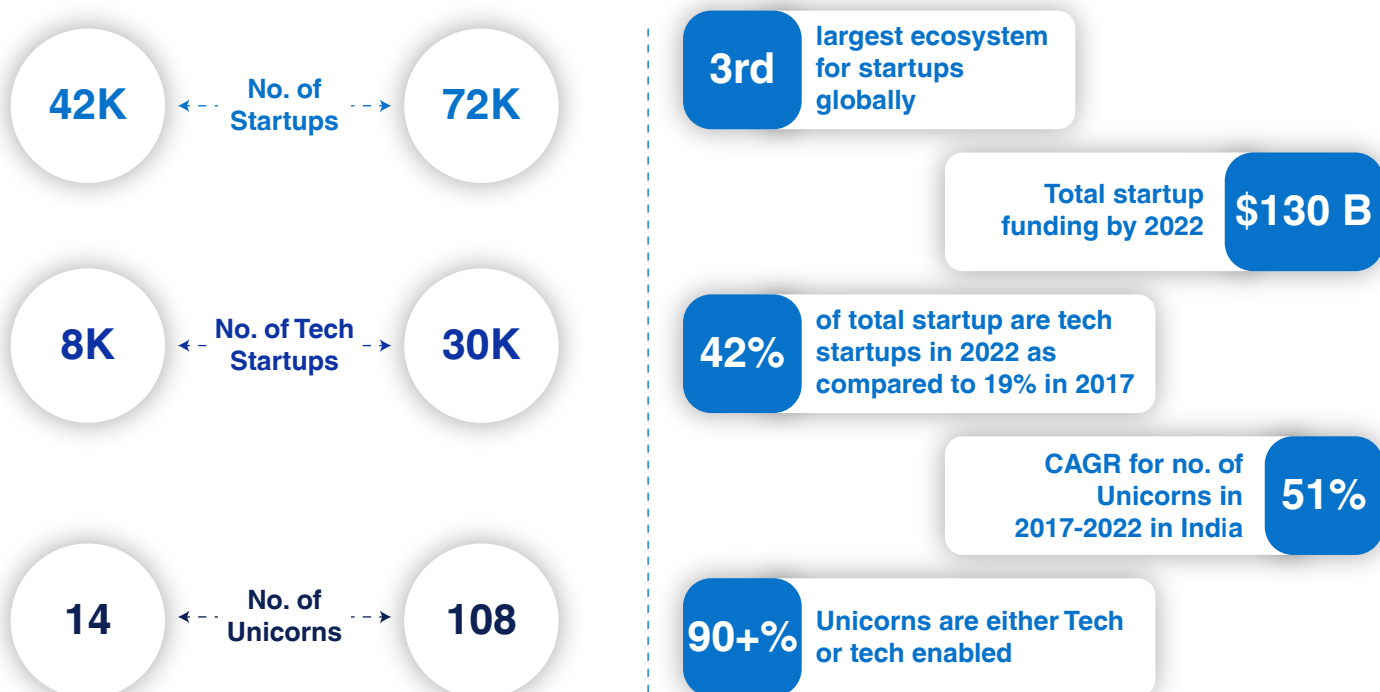# Building Resilient Startups –
Leveraging Agile, Cost Efficient & Secure Hybrid IT

Indian Startup Ecosystem: 3rd largest in the world majorly driven by Tech led Startups

The growth of the startup ecosystem in India has been nothing short of phenomenal over the past decade. India has become the third-largest startup ecosystem in the world after the US and China, showcasing exponential growth in last few years. India is now home to more than 72,000 active startups with about $130 B total funding. The number of unicorns in India has reached to 108 in 2022 from just 14 in 2017 growing at CAGR of more than 50%. Indian Startups are flourishing in the fast-paced and dynamic economy of today. These startups are not only developing innovative solutions and technologies but are generating large-scale employment.

Indian Startup Ecosystem has seen exponential growth in past few years contributing significant to the Indian economy. These startups are not only developing innovative solutions and technologies but are generating large-scale employment.

INDIAN STARTUP ECOSYSTEM AT A GLANCE

42K	No. of Startups	72K
8K	No. of Tech Startups	30K
14	No. of Unicorns	108

3rd largest ecosystem for startups globally

Total startup funding by 2022 **$130 B**

42% of total startup are tech startups in 2022 as compared to 19% in 2017

CAGR for no. of Unicorns in 2017-2022 in India **51%**
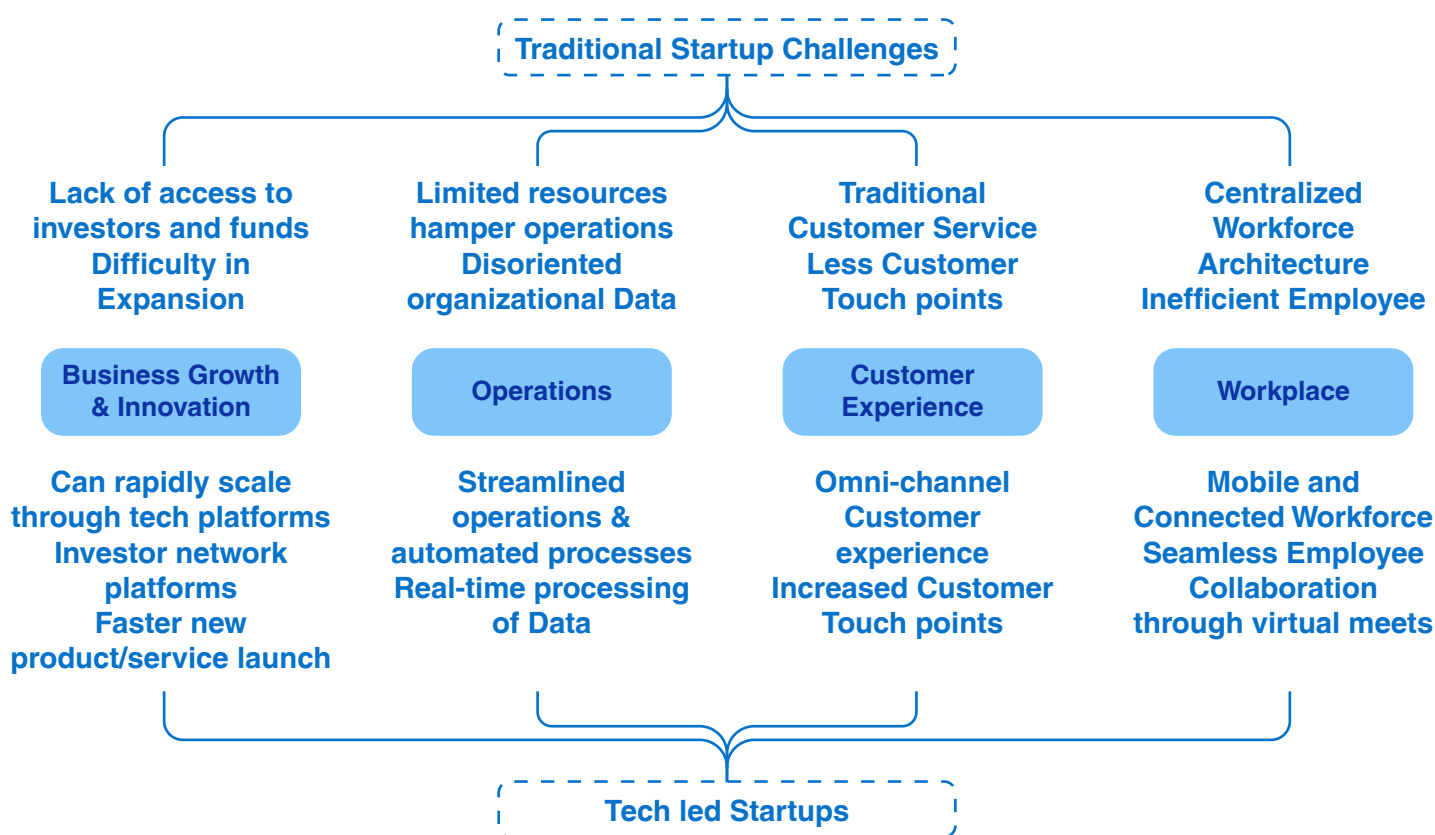
90+% Unicorns are either Tech or tech enabled

The startup ecosystem has evolved over the years, with the majority of startups established in the last few years being tech-led or tech-enabled. This represents a departure from the startup landscape of a decade ago. The share of tech startups in India has increased to 42% from 19% in last 5 years. More than 90% unicorns are tech or tech-enabled in India.

Technology as a Catalyst for Business Growth and Innovation for Startups

In today's fast-paced and competitive business landscape, startups are increasingly turning to technology as a catalyst for success. By leveraging emerging technologies such as AI, blockchain, cloud computing, IoT, and data analytics, startups can gain a competitive edge, streamline operations, and deliver innovative solutions. These technologies enable startups to optimize processes, make data-driven decisions, enhance customer experiences, and scale rapidly.

Majority of startups established in last few years are tech led or tech enabled startups. The shift towards technology-led startups can be attributed to the transformative power of technology providing a fertile ground for innovation and new business models at a significantly lesser cost. Apart from that, the decreasing costs of technology, changing consumer behavior, and the availability of venture capital are other factors contributing to this trend.

Traditional Startup Challenges

Lack of access to investors and funds Difficulty in Expansion	Limited resources hamper operations Disoriented organizational Data	Traditional Customer Service Less Customer Touch points	Centralized Workforce Architecture Inefficient Employee
Business Growth & Innovation	**Operations**	**Customer Experience**	**Workplace**
Can rapidly scale through tech platforms Investor network platforms Faster new product/service launch	Streamlined operations & automated processes Real-time processing of Data	Omni-channel Customer experience Increased Customer Touch points	Mobile and Connected Workforce Seamless Employee Collaboration through virtual meets

Tech led Startups

Technological advancements have opened up new avenues and created unprecedented opportunities for entrepreneurs to leverage technology as a foundation for their ventures. Earlier, starting a technology-based startup required substantial upfront investment in infrastructure, hardware, and software. However, the emergence of scalable and affordable cloud services, open-source software, and readily available development tools have significantly lowered the barrier to entry. Entrepreneurs can now build and launch their products or services with minimal resources, enabling them to focus more on ideation and innovation.

Cloud Computing: A Foundational infrastructure for majority of Tech or Tech enabled Startups

One of the most important drivers of a tech start-up's success is its ability to be an early adopter of emerging technologies, and its openness to building its business through innovative applications as a new market entrant. Cloud computing has emerged as a foundational infrastructure for building nimble, scalable, and digitally enabled firms. Cloud technology plays a critical role as startups look to optimize the resources at hand to propel them forward in their digital journey to success.

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Penetration of Cloud in Startup Ecosystem

3 out of 4 new startups in last 5 year are **tech or tech enabled startups**

More than 80% of tech startups in India are **Cloud-First or Cloud-Native**

More than 60% of tech startups are SaaS based startups

Start-ups of all shapes and sizes are building their solutions and platforms using cloud-computing technology and are integrating services provided by cloud-based companies.

More than 75% of startups consider **Cloud as a critical enabler** of their Business growth and innovation

More than 80% of startups believe that the cloud helps them to be **competitive or even surpass well-established enterprises.**

Startups typically have limited resources and budgets. Cloud allows them to avoid large upfront costs for hardware, software licenses, and infrastructure setup. This cost-efficient model helps startups to allocate their funds effectively and scale their infrastructure as their business grows. They can easily scale up or down their computing resources based on traffic fluctuations, user demand, or business requirements. Cloud services offer a wide range of APIs, allowing startups to integrate with other popular tools, platforms, and services.

Startups are increasingly adopting cloud technologies due to the numerous benefits they offer, including cost efficiency, scalability, flexibility, global accessibility, reliability, security, integration, and data analytics. Cloud adoption allows startups to focus on innovation, accelerate time-to-market, and scale their businesses without the burdens of managing extensive IT infrastructure.
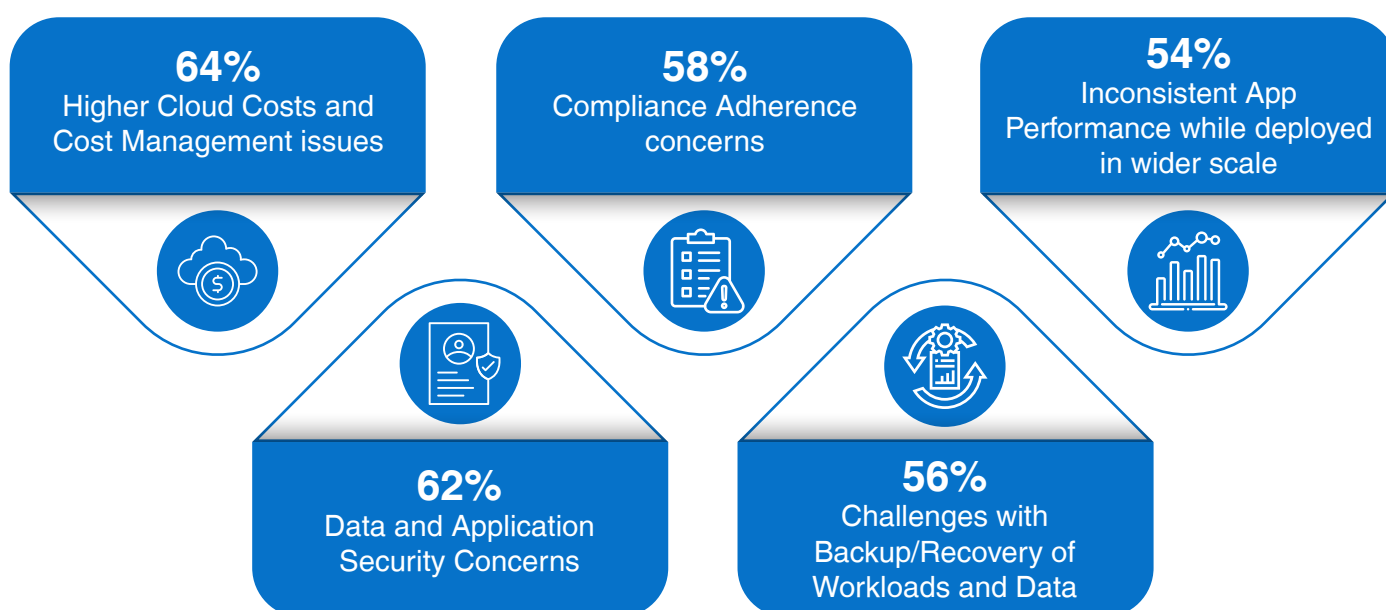
Startups with Pure Cloud environment face many challenges when they Scale out

Public cloud is the preferred starting point for most startups because of the agility and flexibility it provides in relatively less initial investment. However, startups with one-dimensional approach of leveraging just public cloud for their IT infrastructure face many challenges as they scale further.

Two major challenges for startups with pure cloud environment are:

| Higher Cloud Cost in long term as the company scale
| Data and App security concerns

While public cloud services can be cost-effective for small-scale applications, costs can escalate as the startup's usage grows. Cloud billing can be complex, and startups may face unexpected expenses if they don't carefully manage their resources.

64%
Higher Cloud Costs and Cost Management issues

58%
Compliance Adherence concerns

54%
Inconsistent App Performance while deployed in wider scale

62%
Data and Application Security Concerns

56%
Challenges with Backup/Recovery of Workloads and Data

Apart from these, less control over Applications and challenges with optimization of Apps & workloads are also notable concerns for Startups.
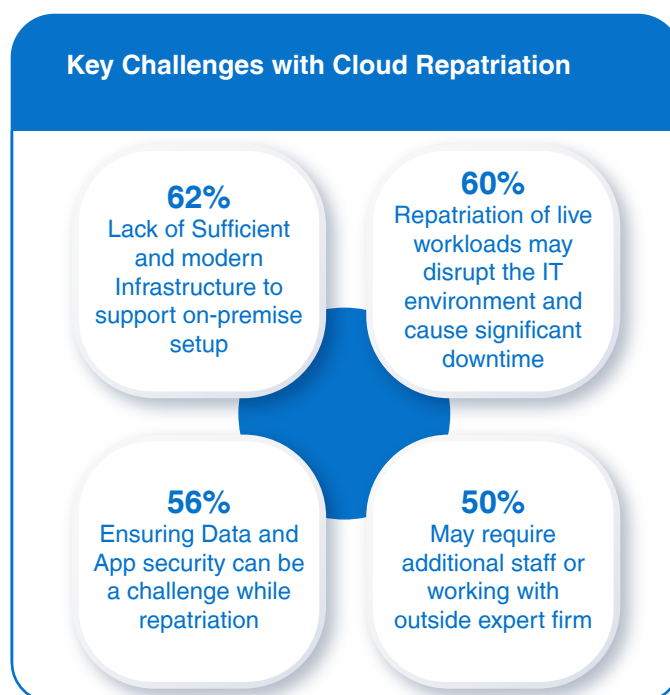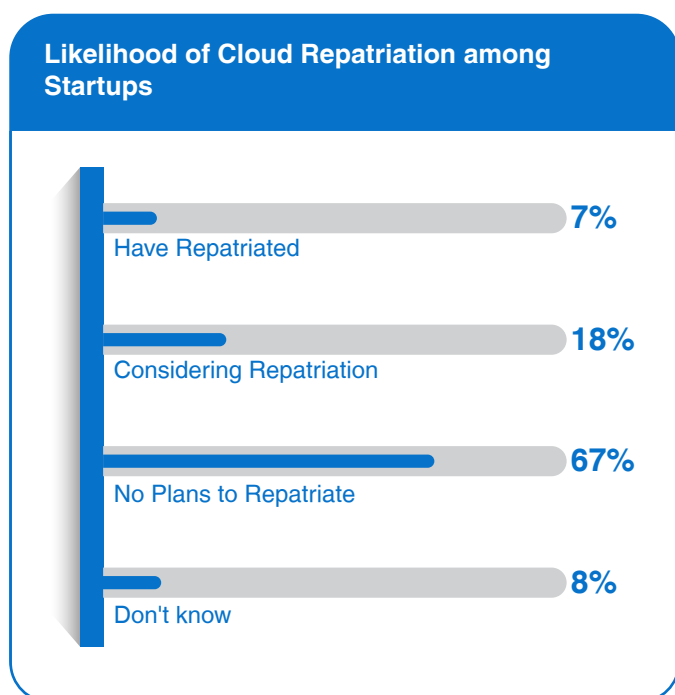
Data security is a critical concern for any business, and startups are no exception. Entrusting sensitive customer data or intellectual property to a third-party cloud provider requires a high level of trust. In recent years, cyber-attacks and threats have seen a significant increase, and startups are becoming increasingly vulnerable targets as they often operate on tight budgets and may lack the financial capacity to invest heavily in robust cybersecurity measures. Startups in certain industries, such as healthcare or finance, must comply with strict regulations regarding data storage, privacy, and security. In addition to these, Inconsistent app performance while deployed in wider scale and less control over workloads are other notable challenges.

Cloud Repatriation: Startups Consider repatriating some applications from Cloud

Majority of startups start with public cloud or migrate all of their applications to public cloud without proper assessment to save on initial cost and get agility and scalability. However, as they grow and scale, they start to face many challenges such as cost concerns, application performance in wider scale, security issues etc.

To address the challenges associated with public cloud usage and optimize their business operations, some startups are considering repatriating certain applications or workloads from the cloud to an on-premises environment. About 1/4th of the startups are repatriating on considering to repatriate some of their applications from Cloud to on-premise environment.

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Likelihood of Cloud Repatriation among Startups

7%
Have Repatriated

18%
Considering Repatriation

67%
No Plans to Repatriate

8%
Don't know

Key Challenges with Cloud Repatriation

62%
Lack of Sufficient and modern Infrastructure to support on-premise setup

60%
Repatriation of live workloads may disrupt the IT environment and cause significant downtime

56%
Ensuring Data and App security can be a challenge while repatriation

50%
May require additional staff or working with outside expert firm

While challenges like infrastructure, expertise and security exist, they can be overcome with careful planning and execution.

Here are key reasons why startups consider Cloud repatriation:

| Cost Control: Cloud costs can escalate as startups grow and scale their operations. By bringing certain workloads back to on-premises servers, startups can have more control over infrastructure expenses, potentially leading to cost savings.

| Performance Optimization: Certain applications may have specific performance requirements that can be better met in an on-premises environment, where they can have direct control over hardware and network configurations.

| Data Security and Compliance: Startups operating in highly regulated industries or handling sensitive data may choose to repatriate certain workloads to enhance data security and ensure compliance with industry-specific regulations.

| Data Sovereignty: In regions with strict data sovereignty laws, repatriating data to an on-premises environment can ensure compliance with local data storage requirements.

However, Cloud repatriation is not a straight-forward tasks for startups. Cloud repatriation, while a viable strategy for some startups, comes with its own set of challenges. It's crucial for startups to be aware of these challenges to make informed decisions and plan for a successful repatriation process. Here are some common challenges in cloud repatriation:

| Lack of sufficient and modern Infrastructure to support on-premise setup
| Repatriation of live workloads may disrupt the IT environment and cause significant downtime
| Ensuring Data and App security can be a challenge while repatriation.
| May require additional staff or working with outside expert firm

It's essential for startups to conduct a comprehensive analysis before deciding on cloud repatriation. Factors such as long-term cost projections, security considerations, scalability needs, and the technical expertise required to manage on-premises infrastructure should be carefully evaluated.

Hybrid IT: A Cornerstone to build Agile and Resilient Startup

Startups often encounter several challenges in a pure cloud environment, including increased cloud costs, reduced control, and concerns about data and application security. Therefore, it is crucial for startups to conduct a thorough analysis, considering factors such as cost, security, and performance, to establish an optimal IT environment.

In response to these challenges and build optimal IT environment, many startups are embracing the concept of Hybrid IT, which involves strategically integrating on-premise infrastructure with cloud services. They have come to realize that Hybrid IT offers an effective solution to overcome these obstacles while achieving essential business resilience and agility. Moreover, Hybrid IT enables them to ensure cost savings in the cloud, enhance security measures, and maintain better control over their IT operations.

Startups face many challenges with Pure Cloud environment such as higher cloud cost, lesser control, data & app security etc. Hybrid IT has emerged as a suitable environment for startups to overcome these challenges by optimally combining on-premise and cloud environment. **They have started to realize that** Hybrid IT is the way forward **to achieve required** business resilience and agility while ensuring cloud cost savings, better security, and control.

Hybrid IT adoption: Startup Perspective

More than 55% startups believe **Hybrid IT as optimal infrastructure** option once they scale out

About **16%** startups are **currently using Hybrid IT** strategy for their IT set up

More than **30% intend to adopt Hybrid IT strategy in near future**

Key Benefits of Hybrid IT for Startups

62%
Cost Efficiency & Predictability

60%
Security and Control

54%
Scalability & Flexibility

48%
Compliance Adherence

46%
Redundancy and Disaster Recovery

As per recent Think Teal research, about 55% startups believe that Hybrid IT strategy can enable the most optimal infrastructure specially when they scale out extensively. Two major benefits of Hybrid IT for startups are: Cost Efficiency & Predictability and Security & Control.

Startups often have limited budgets, and hybrid IT allows them to choose which workloads and applications to host on-premises and which ones to move to the cloud. This flexibility can result in cost savings and better cost predictability. By keeping certain sensitive data and critical applications on-premises, startups can maintain a higher level of control and security over their infrastructure. This is especially important for businesses in regulated industries or those dealing with sensitive customer data.

Best Practices for Startups to Build and Manage Optimal Hybrid IT Infrastructure

Adopting a hybrid IT strategy can offer startups greater flexibility, scalability, and cost-efficiency in managing their IT infrastructure. However, careful planning, consideration of specific business needs, and attention to security and data management are essential to make the most of this approach. Here are some key Best Practices for Startups to Build and Manage Optimal Hybrid IT Infrastructure:

| **Proper Application Assessment:** Startups should have a well-defined strategy for their hybrid IT deployment. This includes identifying which applications and workloads are best suited for on-premises hosting and which can benefit from the scalability and cost-effectiveness of the cloud.

| **Integration and Compatibility:** Ensuring seamless integration between on-premises and cloud environments is crucial. Startups need to select cloud providers and services that can work cohesively with their existing infrastructure.

| **Emphasis on Data Management:** Startups should carefully plan how they will manage and transfer data between on-premises and cloud environments. Data security, compliance, and data governance should be given priority.

| **Monitoring and Performance Management:** A hybrid IT setup introduces additional complexity. Startups need to implement appropriate tools and processes to track performance and ensure optimal system functioning.

| **Staff Training for Hybrid IT Skills:** Hybrid IT may require different skill sets for managing on-premises infrastructure and cloud services. Startups should invest in training their IT teams to handle these complexities effectively.

| **Compliance and Regulatory Requirements:** Startups in more regulated industries such as BFSI, Healthcare and Pharma need to build a mechanism to frequently assess compliance requirements.

Last Word

The growth of India's startup ecosystem has been remarkable in the last decade, making it the world's third largest after the US and China. Startups are increasingly recognizing the importance of technology for their success in today's competitive landscape. Many startups, established in recent years, are either tech-led or tech-enabled, benefiting from the transformative power of technology, which fosters innovation and new business models at a lower cost.

Early adoption of emerging technologies and innovative applications is a key driver of success for tech startups. Cloud computing has become a foundational infrastructure, enabling agile, scalable, and digitally enabled firms. Embracing the public cloud initially is common for most startups due to its agility and lower initial investment. However, relying solely on the public cloud can lead to challenges as the startup scales, such as higher costs, data security concerns, compliance issues, and limited control over workloads.

To address these challenges and build an optimal IT environment, many startups are turning to Hybrid IT, strategically combining on-premises infrastructure with cloud services. Hybrid IT provides an effective solution to overcome obstacles while ensuring business resilience and agility. It also enables cost savings, better cost control, enhanced security measures, and greater control over IT operations.

The adoption of a hybrid IT strategy can offer startups the flexibility, scalability, and cost-efficiency required for managing their IT infrastructure. However, careful planning, consideration of specific business needs, and a focus on security and data management are crucial for making the most of this approach.

About Dell Technologies

Dell Technologies (NYSE: DELL) helps organizations and individuals build their digital future and transform how they work, live and play. The company provides customers with the industry's broadest and most innovative technology and services portfolio for the data era.

ABOUT THINK TEAL

Think Teal is an Analyst firm tracking the Enterprise ICT Market in India. Think Teal helps technology firms understand the markets that they serve and support them in achieving their business objectives.

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