

The NASSCOM logo is positioned in the top left corner. The background of the slide features a dark blue field with a large, glowing blue cloud in the center, surrounded by concentric circles and a network of lines and nodes, suggesting a digital or cloud environment.

NASSCOM®

SMB Cloud Adoption In India

Towards a Cloud First Nation

September 2020

Foreword



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President,
NASSCOM

The last two decades have seen businesses (large, medium, small, micro) being disrupted by advances in technologies, social & economic upheavals, policies & regulations, etc. The recent onset of the COVID-19 pandemic has taken this disruption to the next level and is forcing companies to re-think their businesses and business models. Small & Medium Businesses (SMBs) have been the worst hit due to the lockdown.

SMBs in India are a significant contributor to the robustness of the Indian economy – they contribute over one-third of India’s GDP, employ 110 million people and account for almost half of India’s exports. It is therefore imperative that these businesses have the wherewithal to survive any crisis. While government measures and stimulus packages do sustain this segment, in the long run, it is best that they become self-sustaining to maintain their competitiveness.

And Technology Adoption particularly cloud will play a key role in this journey. In the current pandemic scenario, cloud will enable business continuity for SMBs, help expand customer segments across geographies and verticals, lead to cost optimization and help them innovate/customize their products/services as per customer needs.

Tech SMEs can position themselves as Digital Transformation Partners in this journey and provide SMBs with the right combination of consulting-implementation-management-training & support services.

This report has been put together with two objectives: One, understand cloud adoption maturity among SMBs in India and provide them with a set of best practices in their cloud journey; two, based on the characteristics of SMB segment, we have presented a Go-To-Market Framework for Tech SMEs that will help them target specific SMB segments.

We hope you find the insights useful and we welcome your feedback and comments at research@nasscom.in.

Research Objectives and Methodology



- Map **SMB (demand side firms with revenue between ₹ 10 - 250 crores)** across various industries in India against their current cloud adoption maturity, drivers & adoption roadblocks, demand for cloud solutions



- For SMBs: Devise a roadmap to start / mature in cloud adoption journey
- For **Tech SMEs***: Devise a go-to-market framework for cloud ecosystem to address SMB opportunities in India



- 1000 SMBs surveyed:
- 630 were existing users of cloud, of which 400 detailed surveys were completed
 - 370 were non-users

Notes:

- Small & medium technology solution providers
- Cloud Players: Refers to both cloud platform providers and firms that provide SI or cloud implementation services

Executive Summary: Indian SMBs at the Cusp of Digital Transformation (1/2)

Overall SMB segment

Total SMB# revenue (2019)

952
\$ billion

Revenue gain for SMBs*# with online presence

10-20%

Survey findings

SMBs at initial stages of cloud adoption

~50%

Productivity gains due to cloud

25-30%

Reduction in operational costs due to cloud

15-20%

Notes:

SMBs: Demand side *enterprises with revenue between ₹ 10 - 250 crores*

Total SMB market; * Refers to SMBs with online presence in eRetail, eLearning, eHealth, etc.

Executive Summary: Indian SMBs at the Cusp of Digital Transformation (2/2)



Adoption

>60% of Indian SMBs using cloud

Primary Challenge- Lack of **Leadership** support



Maturity

~4% advanced cloud users

6-14 cloud-based apps deployed by most users



Opportunities

Security

Analytics

O2O- Offline to Online



GTM Strategies

Leadership Buy-in

Bundled Services

Flexible Pricing

Customer driven Branding

Notes:

SMBs: Demand side *enterprises with revenue between ₹ 10 - 250 crores*

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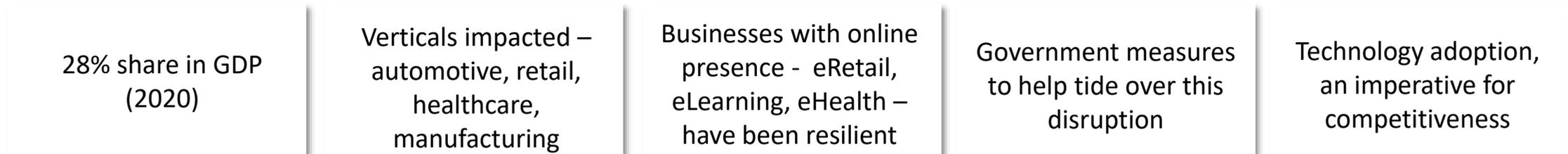
SECTION 1: SMBs - THE POWER OF THE SMALL

SMBs – The Power of the Small: Key Takeaways

SIGNIFICANT CONTRIBUTOR TO INDIA'S ECONOMIC GROWTH - 2019

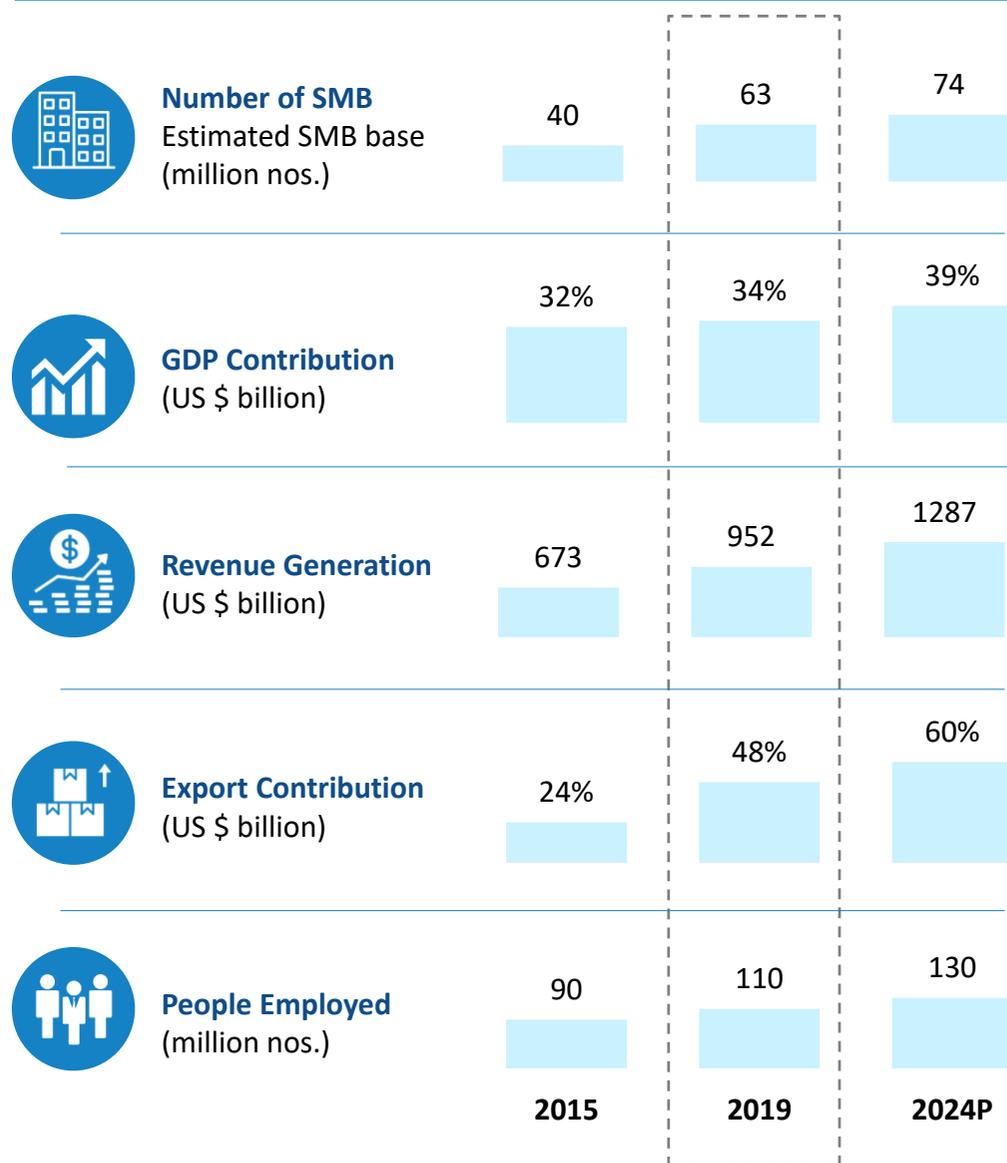


COVID-19 IMPACT



Small & Medium Businesses (SMBs): Fueling the Indian Economy...

SMBs in India: Small businesses, big economic impact



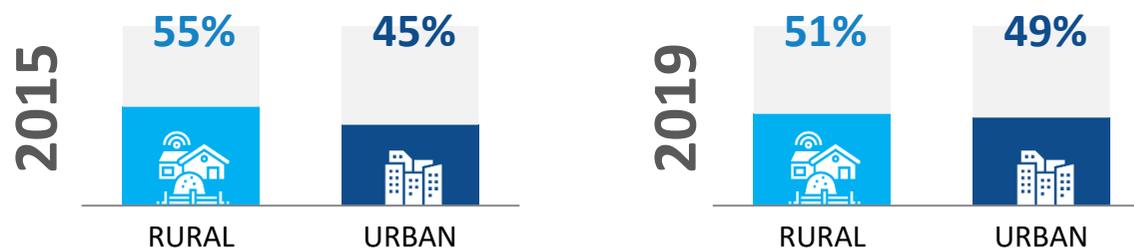
SMB distribution (% share)



Advantages of registration

- Easy access to finance
- Low interest rates on loans
- Assistance in export by government
- Compensation of ISO certificate expenditure
- Government assistance in setting up a business

SMBs: Employment generator & enabling regional development (% share)



Note: SMB Turnover - Micro - up to ₹ 5 crore, Small - up to ₹ 75 crore and Medium - up to ₹ 250 crore
 Source: Reserve Bank of India (RBI); International Monetary Fund (IMF); Frost & Sullivan and MSME Reports

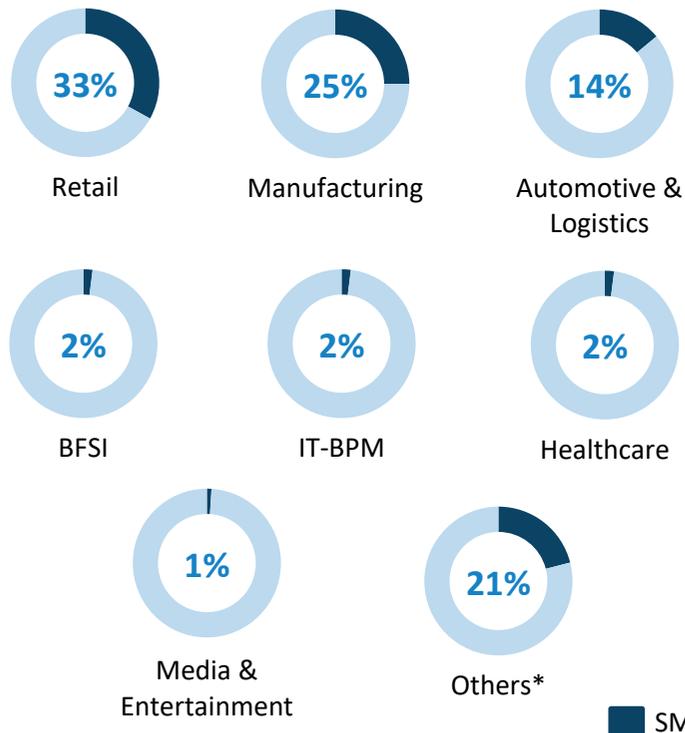
...Key Forex Contributor - USD 232 Billion Exports in 2019

SMBs are a critical spoke in the supply chain for various industries (automotive, pharma, retail, etc.), act as the last mile connectivity especially in remote parts of India and are also building entrepreneurial talent in Tier-II and Tier-III cities and rural parts of India. SMBs are a strong pillar for industry growth - clients to large businesses and part of the supply chain esp. in manufacturing.

Globalization has resulted in export expansion to major economies. Currently, locations like UAE, China, Singapore and Hong Kong form the bulk of export markets for SMBs; however, going forward untapped regions like Latin America, Eastern EU and Africa hold good potential.

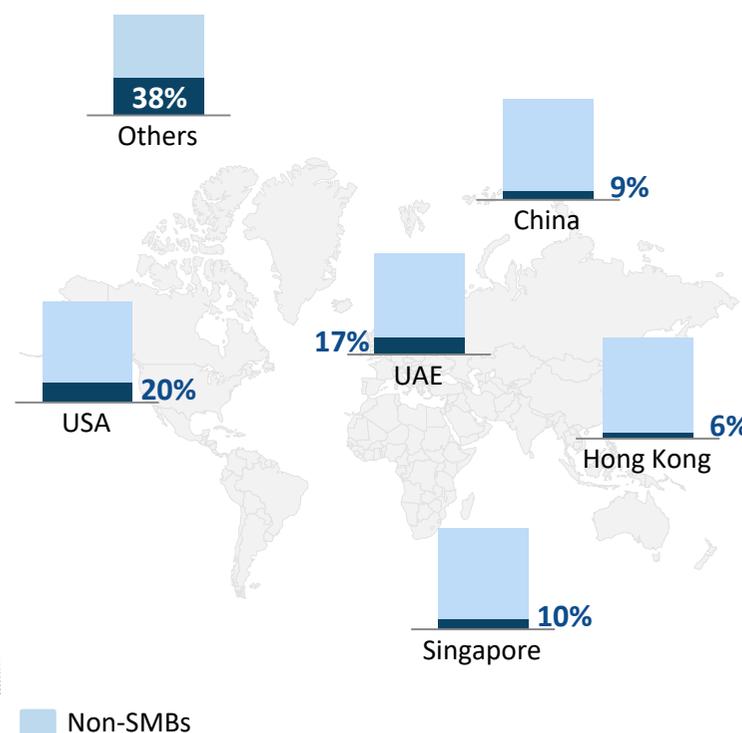
Sectoral revenue contribution – 2019 (USD 952 billion)

(% share)



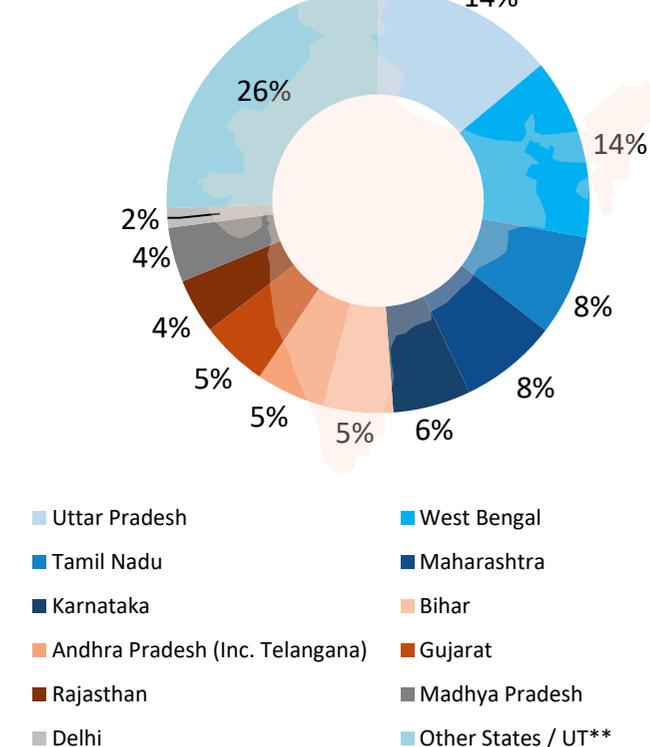
Exports: Focus on near-shore markets – 2019 (USD 232 billion)

(% share)



State-wise distribution – 2019 (63 million nos.)

(% share)



Notes:

* Others includes Tourism & Hospitality, Education, professional consulting services etc.

** Others /UT includes Arunachal Pradesh, Assam, Chhattisgarh, Goa, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Kerala, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Sikkim, Tripura, Uttarakhand, A & N Islands, Chandigarh, Dadra & Nagar Haveli, Daman & Diu, Lakshadweep, and Puducherry.

Source: Frost & Sullivan and MSME Reports

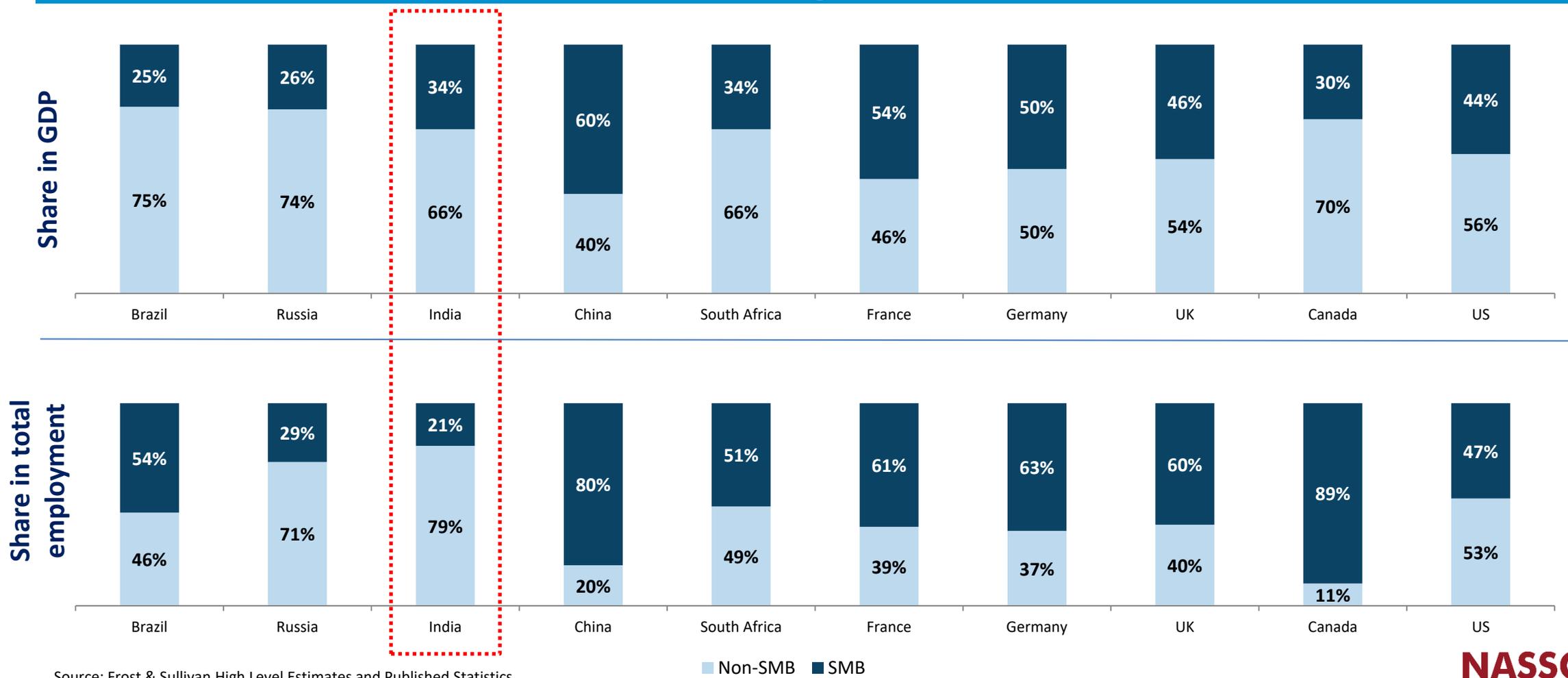
Indian SMBs: Second Largest After China Among BRICS Nations

A country comparison of SMBs contribution to GDP and employment indicates:

- Within the BRICS nations, India's share in GDP is the second highest after China and on par with South Africa
- In total employment, India lags behind with only 21% share

Going forward, as globalization and therefore, international competition increases and due to the impact of Covid-19, as production processes and customer demographics change, Indian SMBs will have to focus on improving their manufacturing processes, adopting the Zero Effect Zero Defect (ZED) certification, digital initiatives and focus on IP creation. This will enable them to be globally competitive and scale their markets worldwide.

Benchmarking SMBs - 2019



Source: Frost & Sullivan High Level Estimates and Published Statistics

Global Competitiveness of Indian SMBs: ICT Adoption & Talent - Areas of Improvement

	Brazil	Russia	India	China	South Africa	Bangladesh	Thailand	Vietnam
ICT Adoption	Yellow	Green	Red	Green	Orange	Yellow	Green	Orange
Financing of SMBs	Orange	Red	Green	Green	Yellow	Yellow	Green	Yellow
Macroeconomic Stability	Red	Yellow	Yellow	Green	Yellow	Red	Yellow	Orange
Workforce Skills	Yellow	Green	Orange	Green	Yellow	Red	Green	Yellow
Innovation capability	Yellow	Green	Orange	Green	Yellow	Red	Yellow	Orange
Managerial Competence	Yellow	Orange	Red	Green	Yellow	Orange	Yellow	Red



Indian SMBs' Maturity

Many SMB are just starting their digital transformation journey.

It is crucial that Indian SMBs remain competitive both nationally and globally. The most important element of an SMB's competitiveness is innovation

Developing economies such as India face a formidable challenge and need extensive government capacity to foster innovation support mechanisms

Talent

Indian SMBs face challenges accessing skilled workforce and capital which is limiting its growth and expansion

Managerial competitiveness, particularly sales & marketing, among the SMB workforce in India is also often found wanting

Macro-Environment

A rapidly changing demand landscape (e.g., automotive-the push for autonomous/EVs; media industry going digital, etc.)

Marketplaces shifted from brick & mortar to online

Uncertain demand for innovative products; production and quality concerns; supply chain disruptions

COVID-19 Impact: Rapid Physical to Digital Shift Impacting SMBs...

Automotive



Healthcare



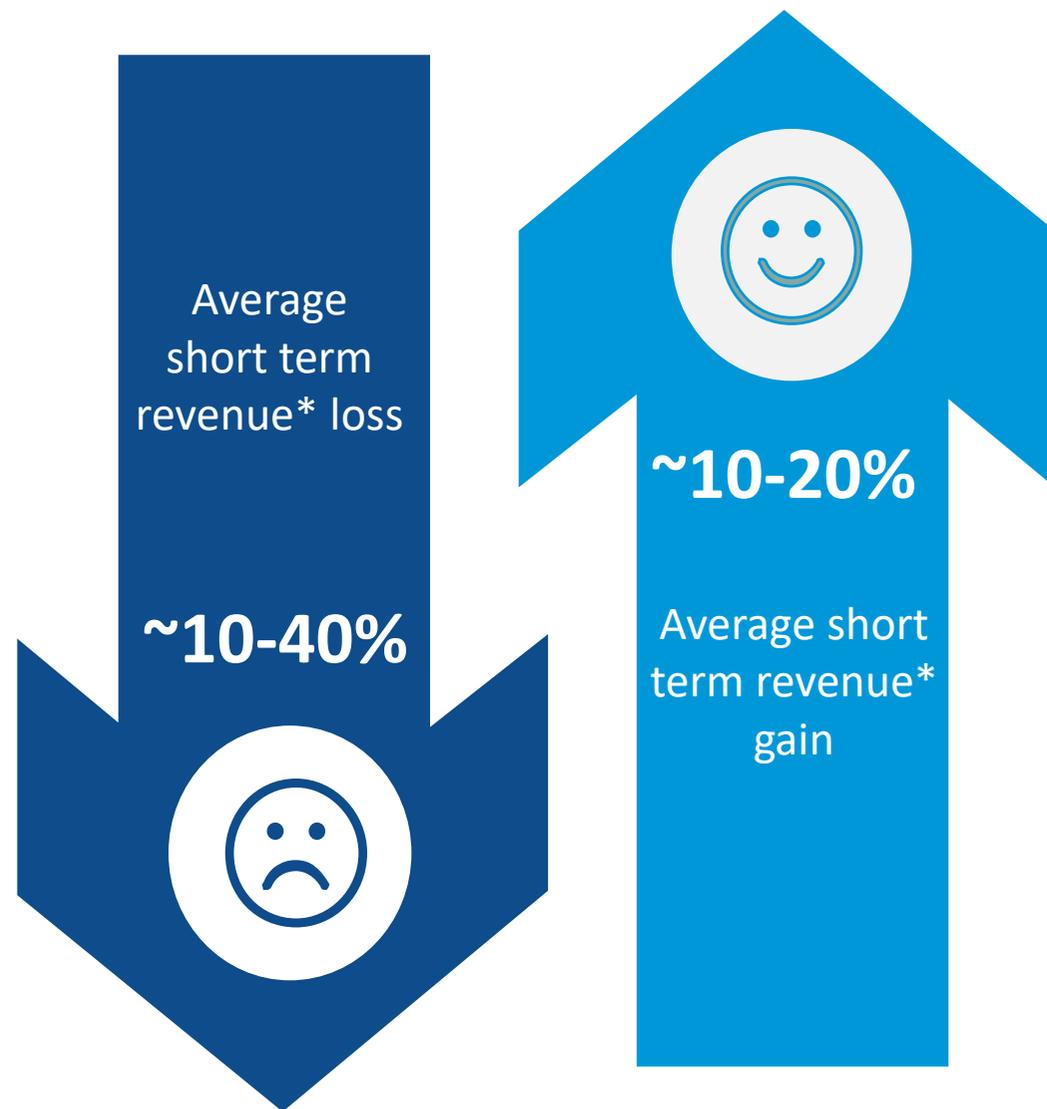
Retail



Travel & Tourism



Manufacturing



E-Learning



E-Health



E-Gaming



E-Entertainment



E-Retail

Note: * Estimated revenue gain/loss; the segments on the right half of this slide comprise businesses that have an online presence also
 Source: Frost & Sullivan

...Needing more focus on Capital and Technology

Government Measures

**Corporate Tax Rate*
Cut to 22%** 

- Standard corporate tax rate slashed from 30% to 22% (effective Apr-2019), with rate cuts for new manufacturing firms as well
- India's tax rate consequently became more competitive vis-à-vis global average of ~25%

₹ 20,000 crore subordinate debt 

- SMBs declared NPAs or under debt eligible

Global tenders prohibited 

- Foreign firms excluded for tenders up to ₹ 200 crore

~₹ 4 lakh crores collateral-free loans 

- SMBs with up to ₹ 25 crore outstanding credit and ₹ 100 crore annual turnover can take loans having 4 year tenure and 12 months moratorium
- ₹ 50,000 crore equity funding for SMBs

Easing of Capital Financing 

- May 2020: Government announced ₹ 20 lakh crore stimulus package for the economy during COVID-19

Rescheduling of Payments

- May 2020: FM stated that government & central public sector firms will release all SMB receivables in 45 days

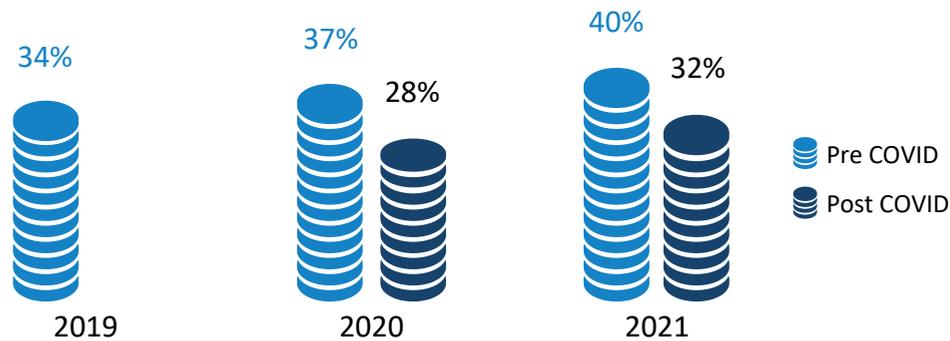
Technology for Competitiveness

<p>Cost optimization</p> <p>Cloud –CAPEX heavy to OPEX light model</p> <p>Eliminates most infrastructure investments</p> 	<p>Communication & Engagement</p> <p>Cloud CRM - Deeper client mining</p> <p>Digital presence - Expand markets, identify customer segments</p> 	<p>Process automation</p> <p>Improve business efficiencies</p> <p>Mitigate errors</p> <p>Reduce cost</p> 
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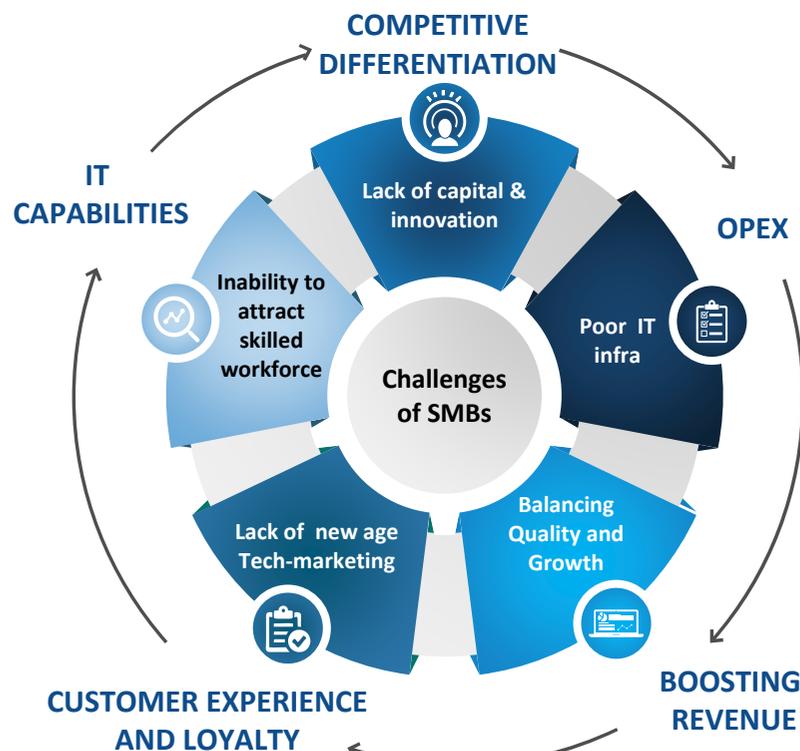
Note: *Excluding cess and surcharge
Source: Reserve Bank of India; World Bank; Frost & Sullivan

Covid-19 Impact: Recovery Expected by 2021

GDP contribution: Estimate lowered by 6% to 28% share for 2020



The need of the hour:
 See technology as an investment in future business rather than an expense



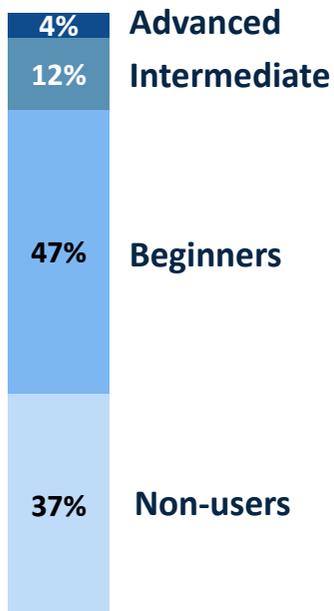
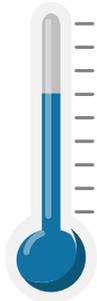
IT initiatives for digital transformation:

- Upgrading outdated infrastructure
- Cloud adoption across business functions
- Moving existing workloads to cloud
- Deployment of security
- Process Automation for manufacturing

The background features a complex digital aesthetic with a dark blue gradient. It is populated with numerous small, semi-transparent orange and red triangles scattered across the frame. In the foreground and midground, there are intricate wireframe structures composed of white and light blue lines connecting various points, creating a sense of depth and connectivity. A prominent dark blue rectangular box is positioned on the left side, containing the section title in white, bold, sans-serif text.

SECTION 2: CLOUD ADOPTION AMONG SMBs

Cloud Adoption Among SMBs: Key Takeaways



- **>60%** of respondents indicate using cloud in some form
- Public cloud, the most dominant model

- **16%** of cloud users at mature stage of their cloud journey
- Majority users have deployed 6-14 cloud-based apps
- M&E, services, retail, auto, manufacturing, healthcare – emerging verticals for adoption

- Management commitment, lack of necessary skills - most important barriers
- Reasons for considering cloud: cost savings across staff, infrastructure and software



Drivers

- SaaS: Enabling business continuity and improved collaboration; quick scalability; cost optimization
- IaaS: Faster deployment, high uptime, scalability



Opportunities

- Collaboration, communication & content, CRM, security tools seeing an uptick driven by Covid-19
- Managed services - back-up, security & compliance solutions



Challenges:

- Hidden costs
- Ability to scale offering
- Lack of understanding of vertical



Influencer marketing

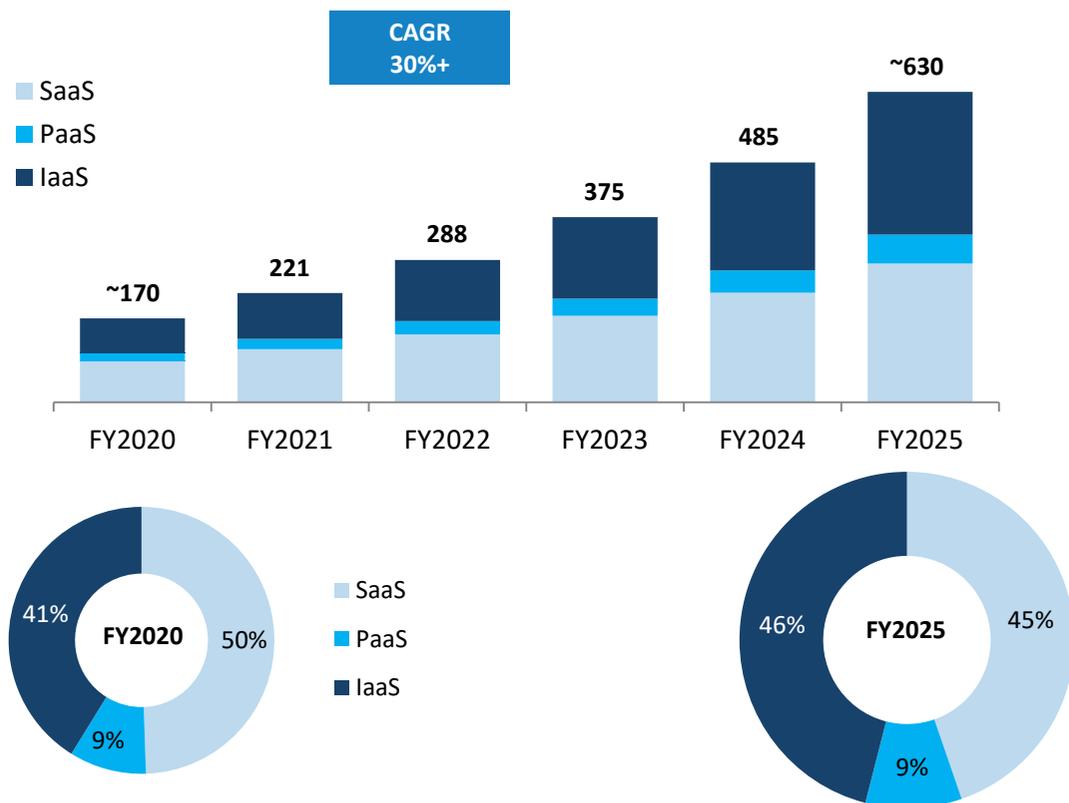
- CEOs/CTO – key decision makers; most SMBs buy cloud solutions through channel partners
- Flexible pricing model - pay per hour/month, pay per data used, etc.

India's Public Cloud Market to Grow at ~30% CAGR till 2025

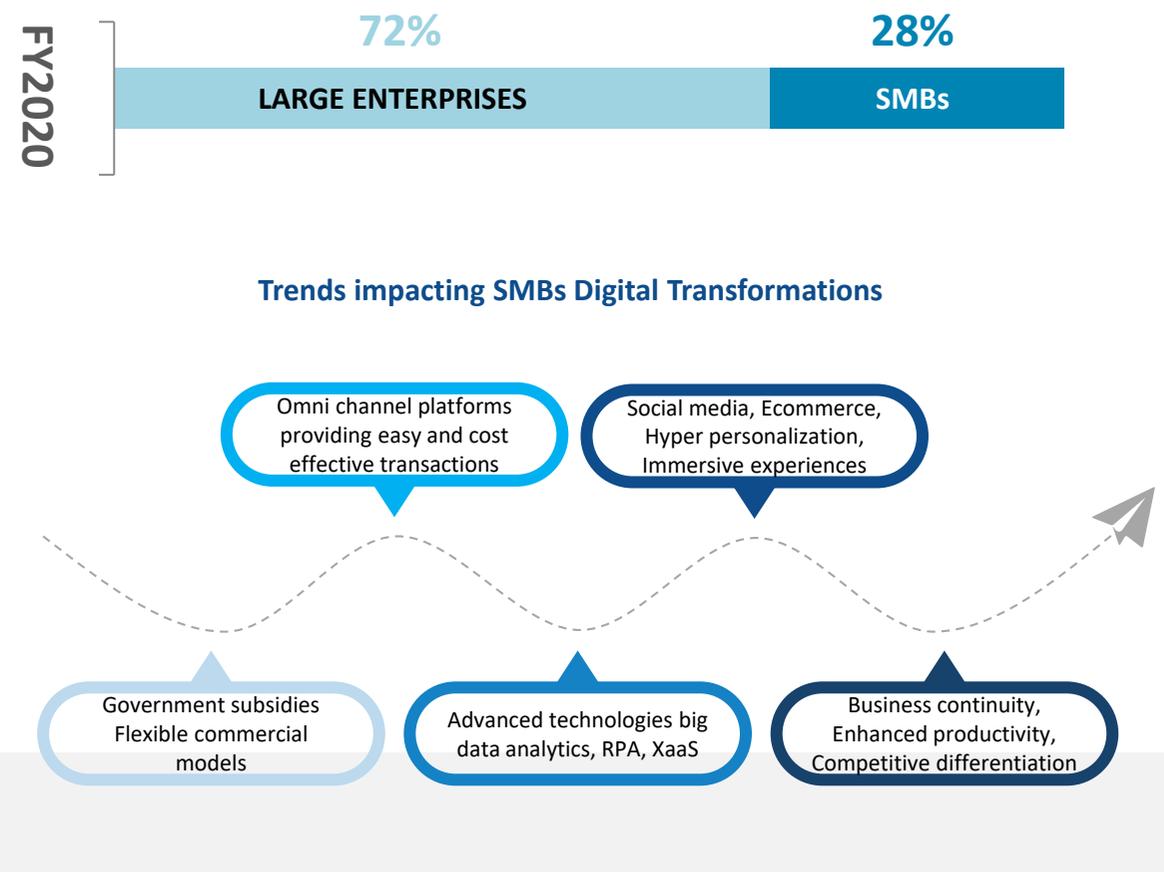
- India's Public Cloud market is estimated at ~ ₹ 17,000 crores in FY2020
 - SaaS has the dominant share (50%) in FY2020; expected CAGR at 27%+
 - IaaS is growing at a faster rate - 33% CAGR. SaaS adoption is a gateway to adopt IaaS as the cost effectiveness of the As-a-Service model is already evident. Shift from a CAPEX to OPEX model is another driver.
 - Exponential data generation, demand for big data analytics, use of storage-as-a-services, DRaaS & backup services - driving IaaS

Public Cloud Services Market: Scalability and Economies of Scale driving cloud adoption

India: Public Cloud Services Market
(₹ billion)



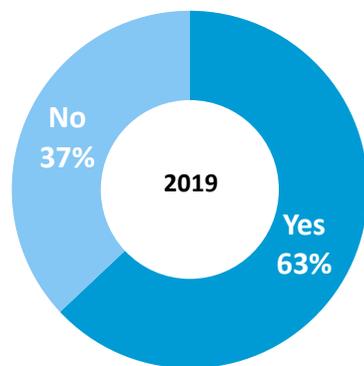
SMBs account for ~28% share in India's cloud market~



Note: SMBs are Enterprises with revenue between ₹ 10 crores and ₹ 250 crores
Source: Frost & Sullivan

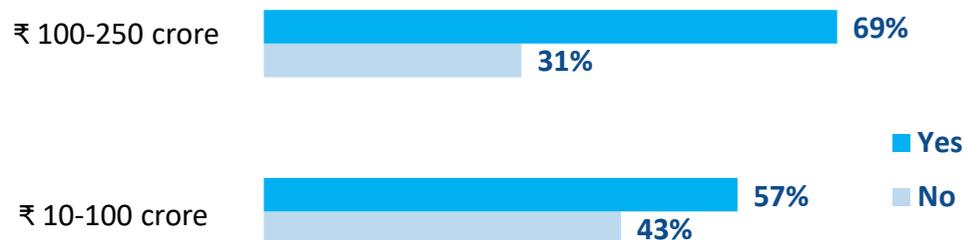
Over 60% of SMBs in India are Already Using Cloud Infrastructure and Services

6 out of 10 SMBs using some form of cloud application
(% share)



(N=1000)

SMBs in ₹ 100-250 crore revenue range are more mature cloud adopters
(% share)



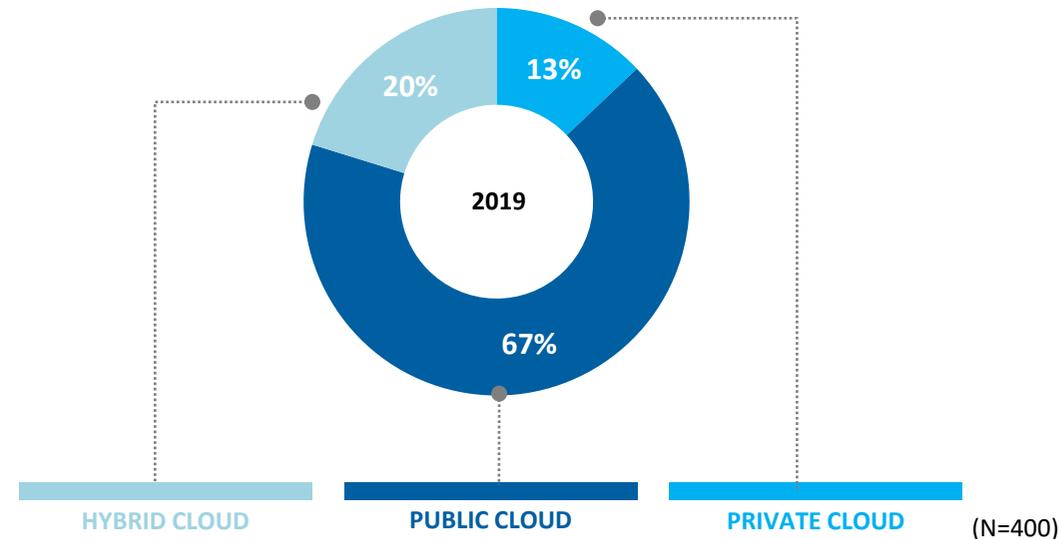
(N=1000)

Notes:
Numbers are based on survey responses

*Cloud User: SMB using one or more than one cloud application is an adopter/user of cloud. Cloud applications which could be basic cloud services such as enterprise email or file storage solutions etc.

Source: Frost & Sullivan

Public cloud: The prominent deployment model
(% share)

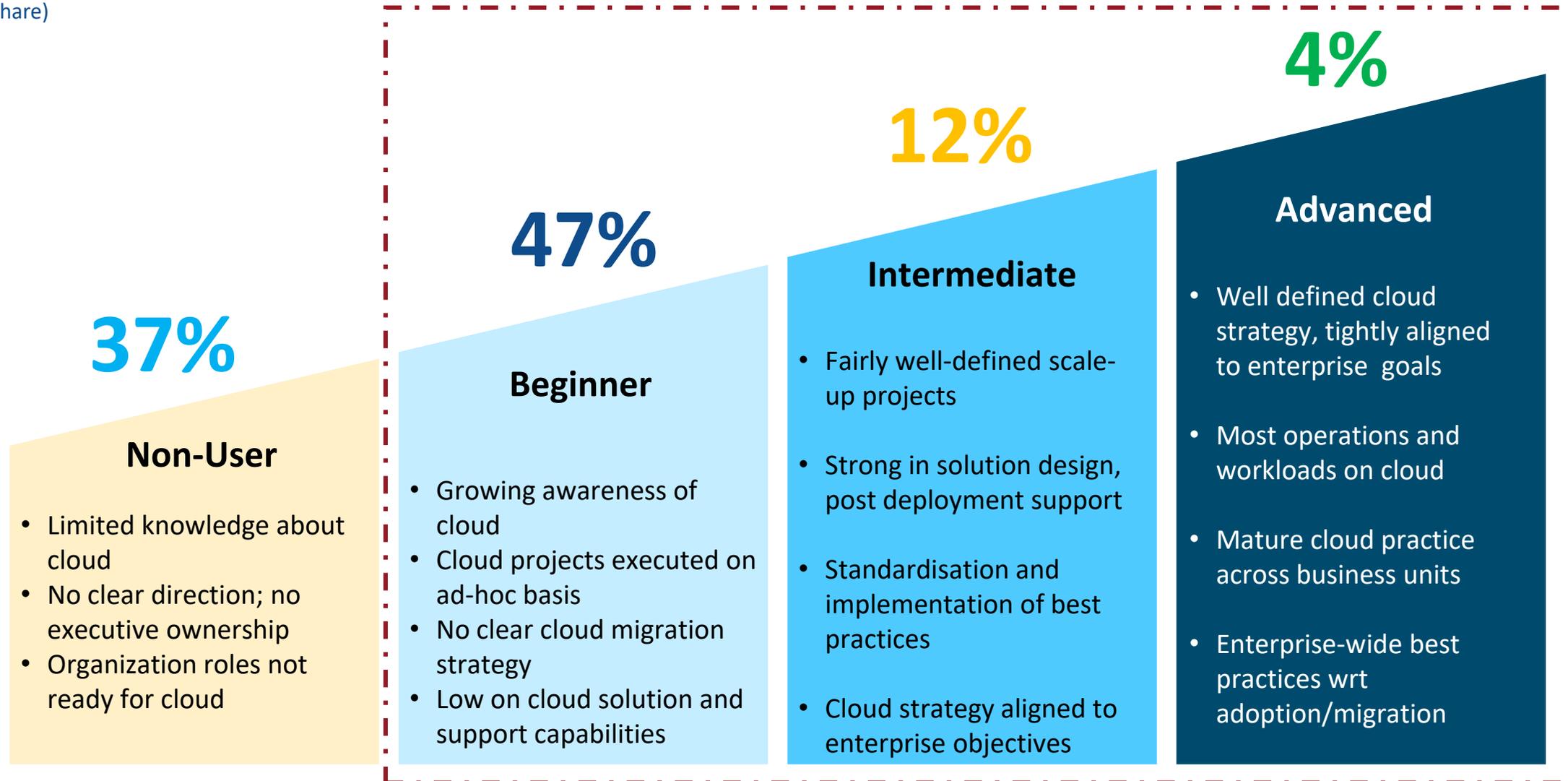


(N=400)

- Enterprises are choosing deployment models as per their business requirements. Currently, **Public cloud** is the de facto preference for most companies
- **Factors** such as cost effectiveness (OPEX), speed to market and RoI are providing positive push to the public cloud ecosystem
- Going forward, with the adoption of the multi-cloud, **hybrid cloud** is expected to see higher adoption

Most SMBs are at the Initial Stage of the Cloud Journey

(% share)



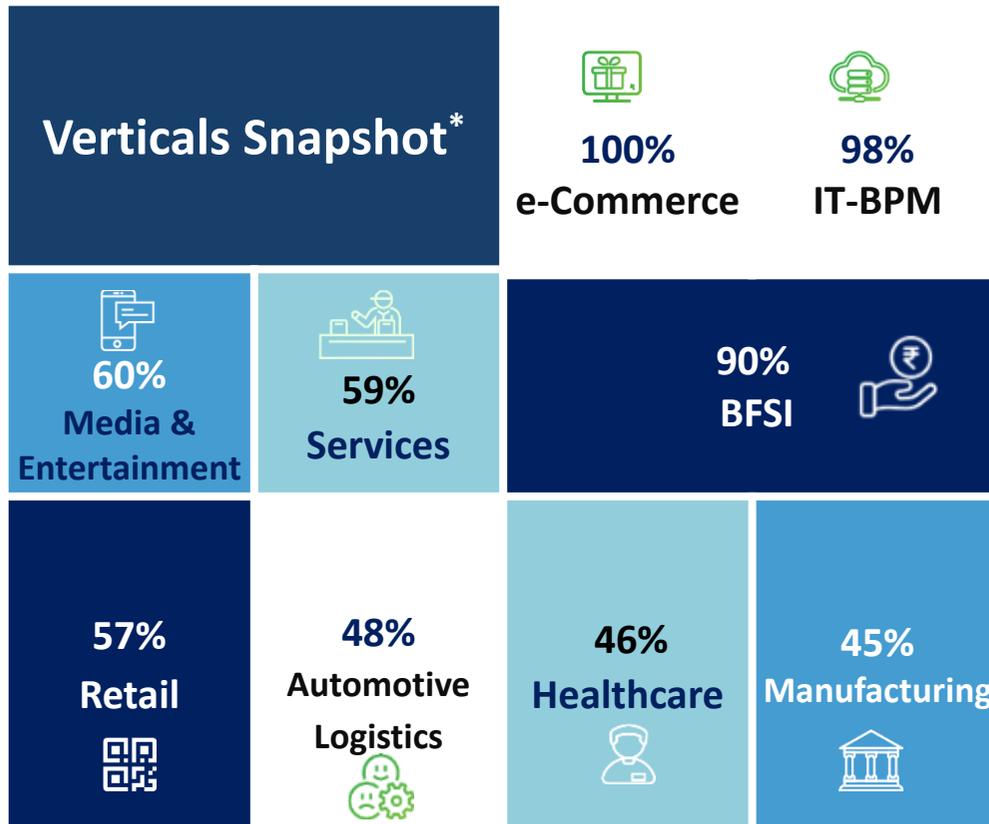
Note: N = 1000: Numbers are based on survey responses
Source: Frost & Sullivan, NASSCOM

Media & Entertainment, Healthcare, Manufacturing – Emerging Growth Verticals

Technology and technology-based sectors such as e-Commerce and IT-BPM, followed by BFSI are leaders in terms of cloud adoption. Most IT start-ups & e-Commerce businesses are largely born-on-cloud and others are steadily emerging to follow a cloud-only strategy. Verticals with high levels of Cloud adoption expected to shift new and existing workloads over Cloud.

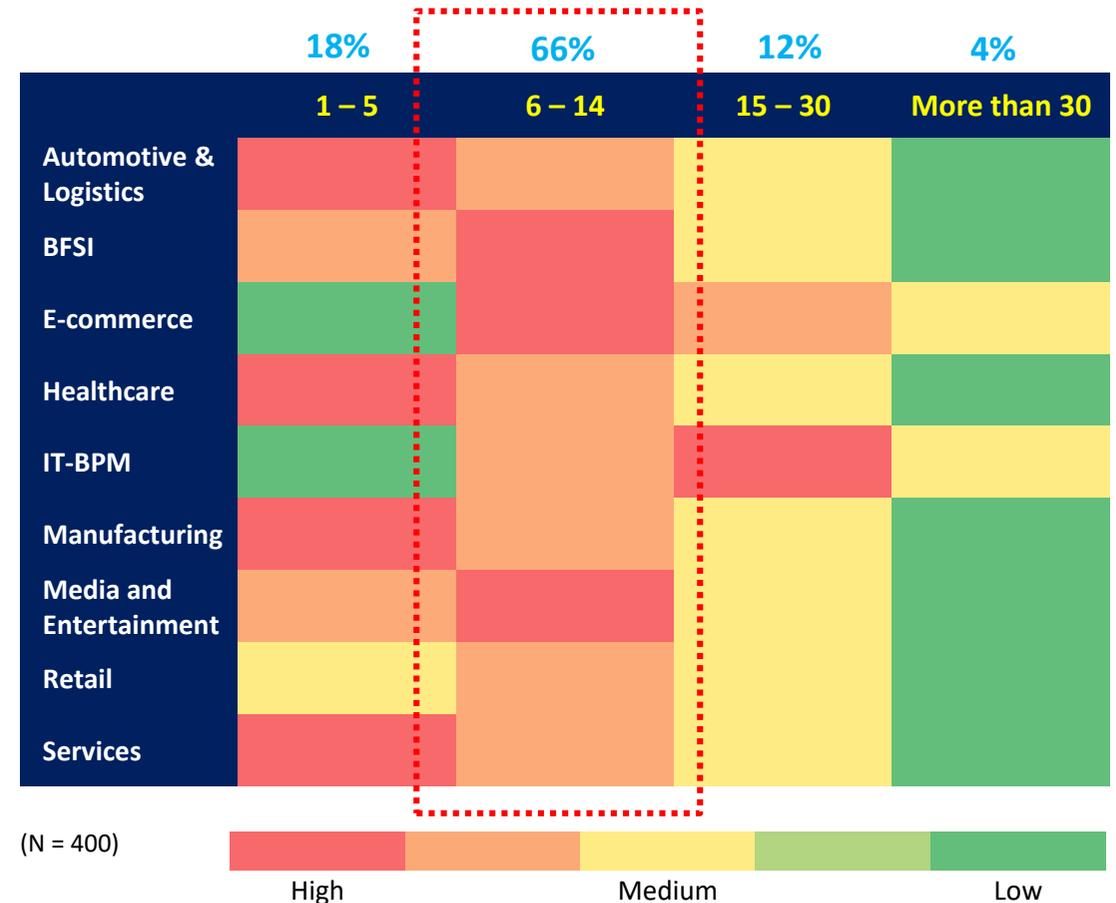
SMBs: Cloud penetration by industry

(% share)



Average number of applications among SMBs

- ~70% respondents indicate having deployed between 6 and 14 SaaS-based applications
- Mature IT-BPM enterprises and tech unicorns expected to be using >15 SaaS-based apps



Notes: N = 630; Numbers are based on survey responses

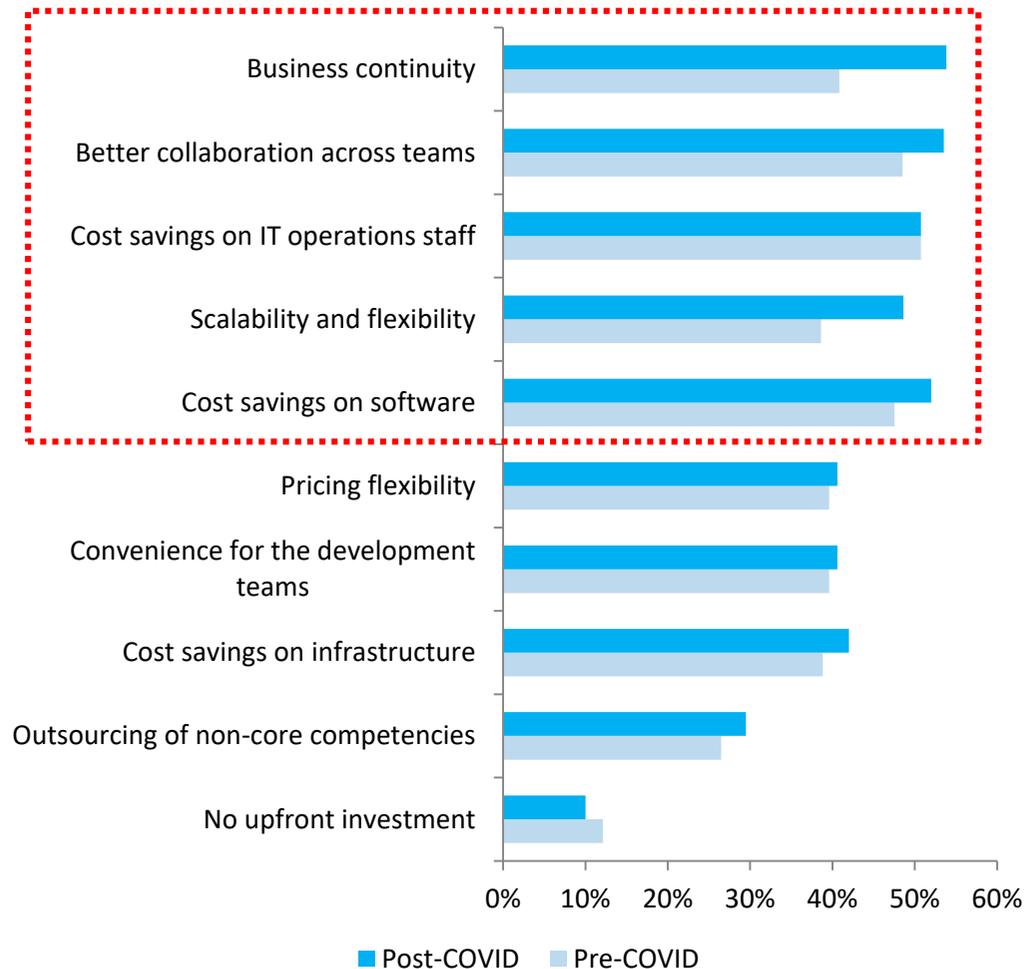
*The percentages here are adoption penetration within the respective industry

Source: Frost & Sullivan

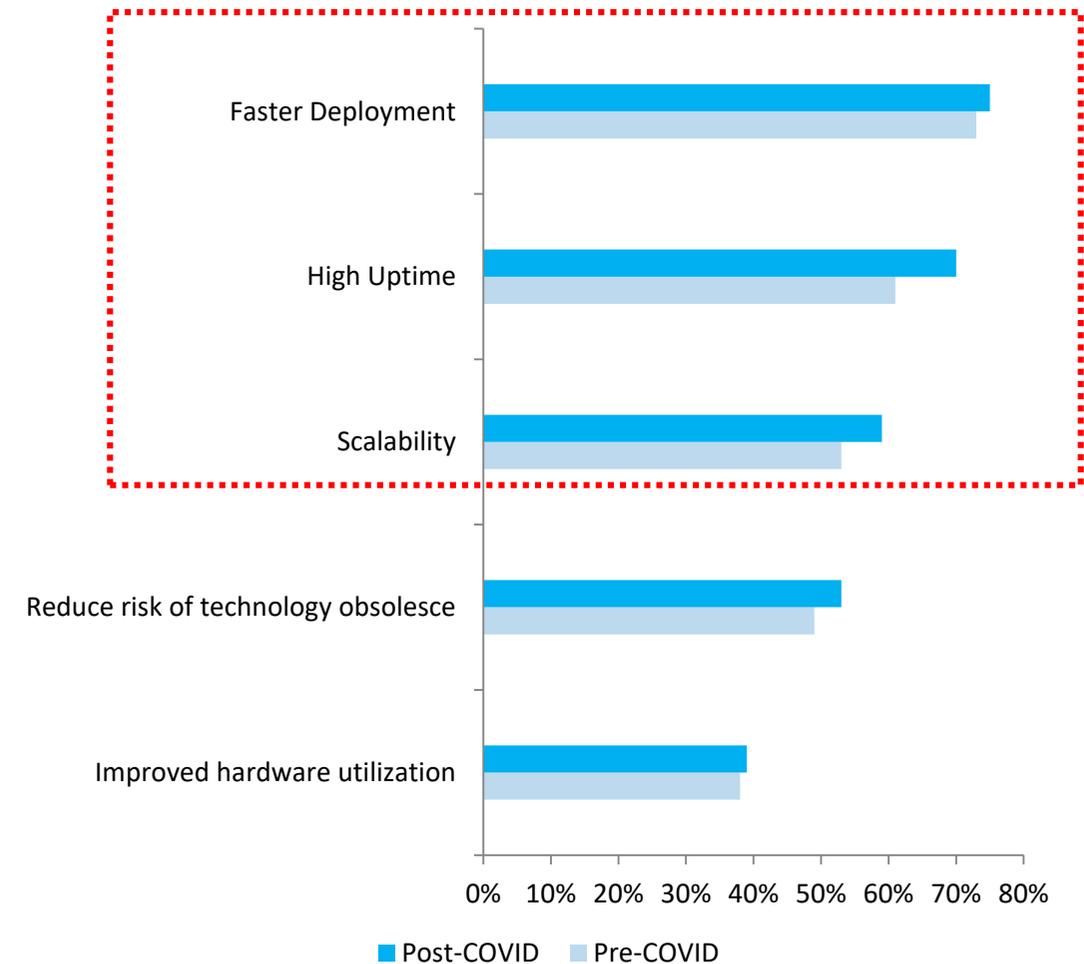
Business Continuity, Collaboration, Cost – Post Covid-19 Factors Driving Adoption

While cost works as the key trigger, enabling business continuity and improved collaboration have emerged as the leading drivers of SaaS due to the COVID-19 crisis. IaaS adoption being driven by faster deployment and high uptime – the “true” typical cloud benefits. This may be indicative of an awareness of the differentiated benefits that IaaS is capable of delivering. Post-COVID, enterprises will have a particular focus on increasing operational efficiencies by ensuring they are ‘always-on and ready’

Key drivers - SaaS



Key drivers - IaaS



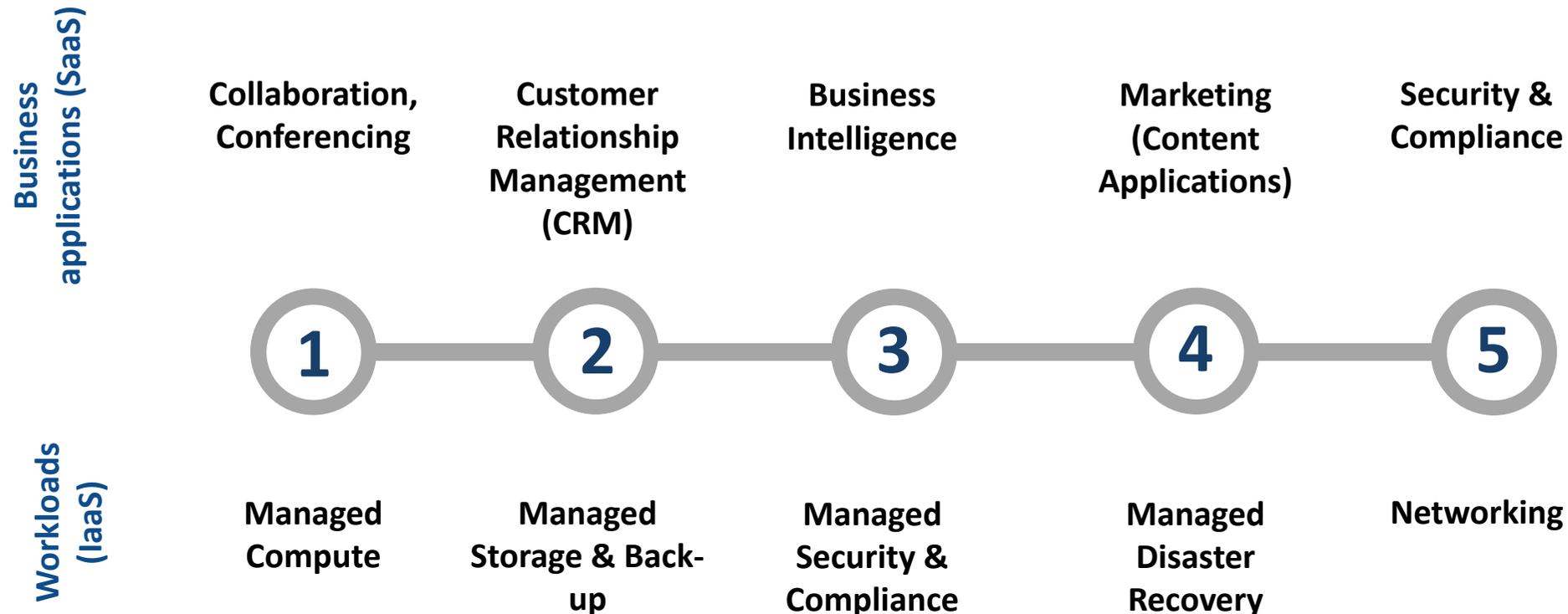
Note: *N = 400; Numbers are based on survey responses

Source: Frost & Sullivan

CRM, Collaboration, Managed Services Gain Prominence due to Distancing Norms

- A widely distributed workforce, customers and vendor partners has pushed demand for cloud-based collaboration and security tools
- Online had emerged as the primary channel of engagement with clients (B2B, B2C), pursuing for rapid adoption of cloud-based CRM and MarTech

- Managed compute & storage are important investment domains; for SMBs, these are best placed to go cloud first to provide scalability and agility
- Managed security is a big area considering the increase in cyber attacks esp. in Covid times and the distributed model of working



Note: *N = 400; Numbers are based on survey responses

Source: Frost & Sullivan

Key Challenges to be Addressed during Cloud Implementation

- Our research indicates that hidden costs and vendors' inability to scale offerings are the top implementation challenges
- SMBs also face resistance from employees to switch from manual to digitized processes



37%

Hidden costs



27%

Vendor lacks understanding of industry



33%

Inability to scale with company's growing needs



22%

Data migration and integration issues

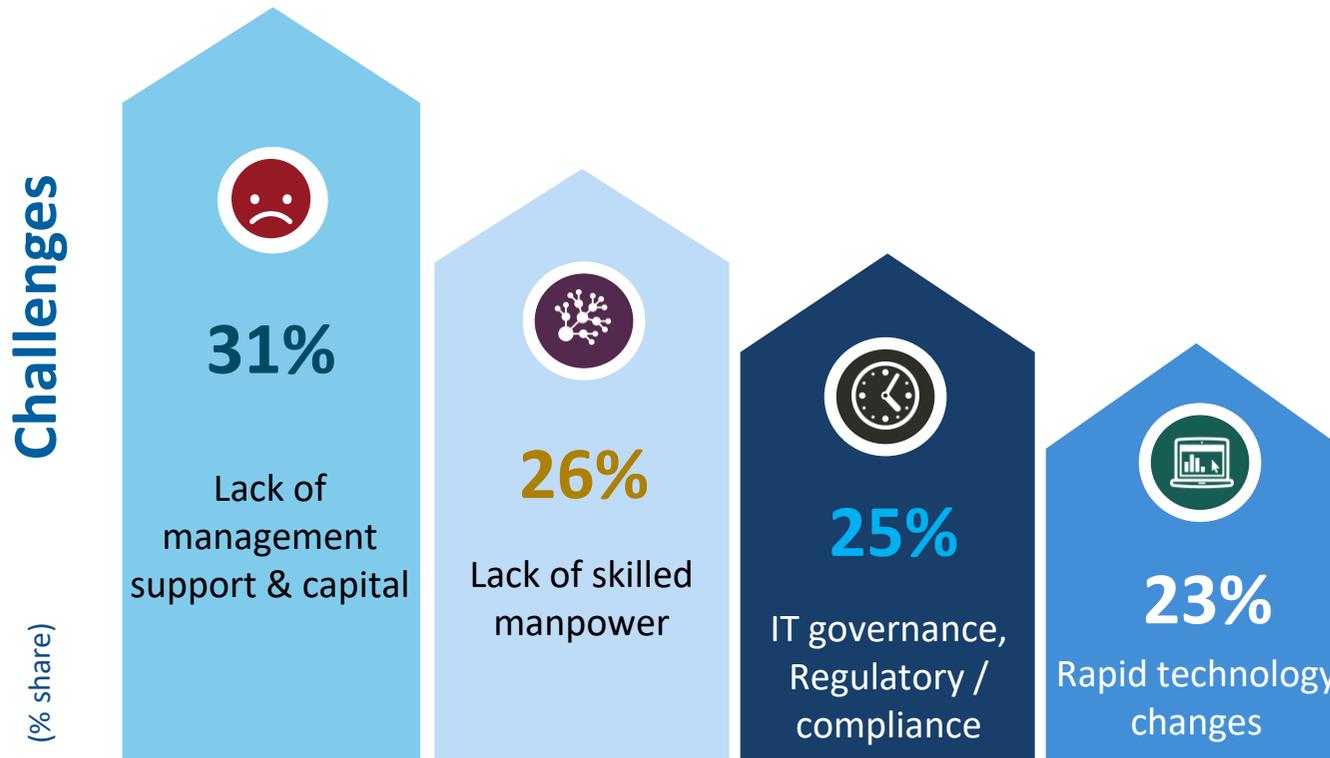


29%

Employee resistance to digitization of processes

Note: *N = 400; Numbers are based on survey responses
Source: Frost & Sullivan

Non-Users: Management Support - Top Barrier; Cost Saving – Top Benefit



- Unclear about long term cloud benefits
- Fear of loss of control over data
- High dependency on cloud players
- Lack of knowledge & understanding of cloud contract terms
- Lack of understanding of data privacy, data localization
- Concerns around migrating workloads
- Variety of players, solutions & features
- Interoperability of hardware & software



For Tech SMEs, conversations around **cost control & optimization, productivity & operational efficiencies** - key focus areas

Note: *N = 370; Numbers are based on survey responses
Source: Frost & Sullivan

Cloud – CEOs and CTOs, the Chief Decision Makers and Influencers

(% share)

CEO/MD...

39%



Concerned about revenue and long term strategic vision.
Scaling of present opportunities and making business model more predictable

- ✓ Corporate Strategy
- ✓ Board Engagement
- ✓ Organization Alignment



CORPORATE STRATEGY

Vision, revenue growth, cost containment, resource optimization



BOARD ENGAGEMENT

Forward looking vision, Relationships with customers, balancing capabilities and growth



ORGANIZATION ALIGNMENT

Organizational structure, management rationality, human resource and value alignment

CIO/CTO...

37%



Strategic IT planning & decision-making, trend scouting, product & technology roadmap

- ✓ Strategic Digital Transformation
- ✓ Functional Success



DIGITAL TRANSFORMATION

Business success, innovation, agility and scalability



FUNCTIONAL SUCCESS

RoI, simplifying tech architecture, up-time

Note: *N = 400; Numbers are based on survey responses

Source: Frost & Sullivan

SMBs Predominantly Rely on Local Channel Partners for Cloud Solutions

Typically, cloud requirements of SMBs are catered largely through Channel partners/IT resellers due to their extensive reach. However, there is growing confidence in digital channels. Going forward, both these channels would co-exist.

Channel partners consist of Value Added Resellers (VARs), Managed Service Providers (MSPs), System Integrators (SIs) and a few other miscellaneous classifications. Looking at the massive scale of the underserved SMBs, most cloud players sell through channels, though some sell directly to more mature SMBs.

(% share)

Where SMBs Buy Cloud



Top factors for effective channel partner selection



INDUSTRY EXPERIENCE

- Specialist skills
- Certifications & trainings
- Network for target market



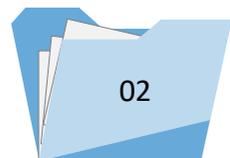
VISION ALIGNMENT

- No conflict of business interest
- New revenue opportunities



RELIABILITY

- High deployment efficiency
- Track record



SERVICE PORTFOLIO

- Portfolio breadth and depth to meet the business and technology needs



MARKET FOCUS

- Geographic focus
- Business type
- Network for target market



SUCCESS STORIES

- Reference customers
- Brands served as testament



FOOTPRINT

- Global and Local footprint
- Regional Penetration



FINANCIALS

- Secure business model
- Financial reporting
- Financial history



SCALABILITY

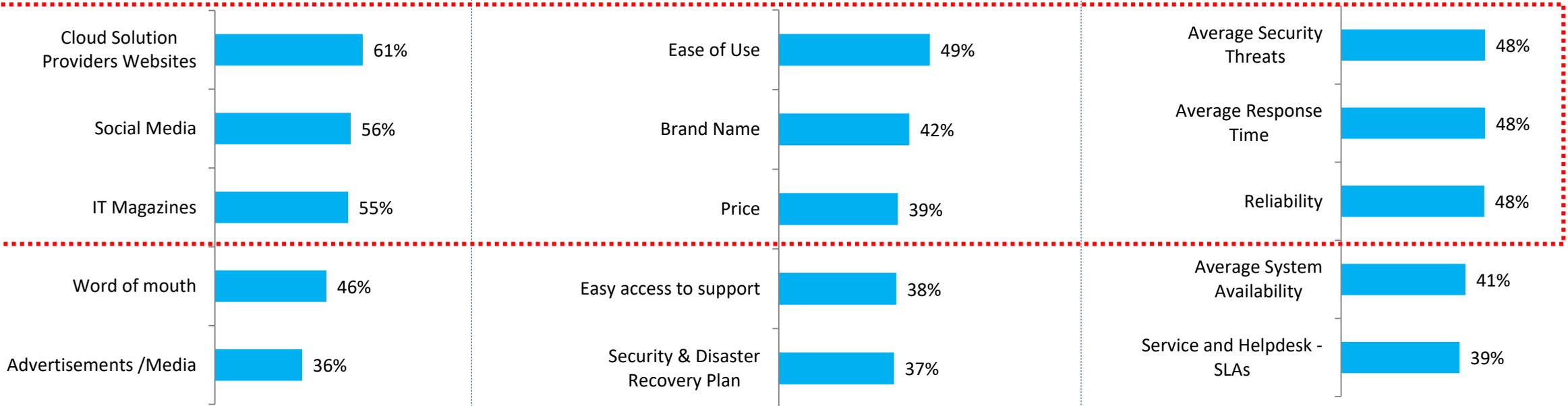
- Ability to support future requirements

Note: *N = 400; Numbers are based on survey responses

Source: Frost & Sullivan

Cloud Players' Online Presence, Ease of Use, Security – Key Selection Criteria

(% share)



Top information sources...

- Cloud players' websites & social media platforms have emerged as the top sources of information that influence solution awareness and buying decision
- Emphasis on search engine optimization (SEO) will pay rich dividends given the preferred medium of information collation

Top Decision Parameters ...

- SMBs need ease of use, as they lack management skills and because they want the apps/infra to be up and running quickly that they can themselves manage
- Further, as companies grow larger, simple management becomes even more important

KPIs followed by SMBs for Cloud Service Providers ...

- Demand for system robustness and security

60% SMBs use more than 3 Cloud Service Providers to avoid a lock-in situation

Note: *N = 400; Numbers are based on survey responses

Source: Frost & Sullivan

Preferred Pricing Models: Pay Per Use Remains Dominant

(% share)



Preferred pricing models in SMBs

81%



Pay as you use
model

17%



Moderate up-front
payment with
recurring expenses

2%



Large upfront
payment with low
recurring expenses

5 ways of pricing to increase ADOPTION

Financial Economic
Model

Dynamic, based on
usage and ROI

Combination
Model

Flexibility for
instances on per
month or per hour
or per minutes

Resource
Algorithm Model

Dynamic, based on
real time usage of
resources

User Algorithm
Model

Dynamic, based on
fluctuation of users'
distributions

Value Based Model

Algorithm
increasing revenues
and provides
outcome

SCHEME	MODEL
Per hour usage or RAM/CPU cycles consumed	PAY-PER-USE
Per data transferred (traffic flow basis)	PAY-PER-USE
Charge Per GB* of storage	PAY-PER-USE
Charge on hourly basis for processing power	PAY-PER-USE
Charge on hourly basis	PAY-PER-USE
Per transferred GB basis	PAY-PER-USE
Pricing for fixed storage capacity	SUBSCRIPTION
Per user basis	SUBSCRIPTION
Monthly basis charges	SUBSCRIPTION

SCHEME	MODEL
Based on the reservation of units	SUBSCRIPTION
Number of transactions per month	SUBSCRIPTION
Based on monthly basis subscription for database	SUBSCRIPTION
Per hour usage	SUBSCRIPTION
Monthly basis charges	HYBRID PRICING**
If limits are exhausted, then charge per GB per hour	HYBRID PRICING
Monthly fee on the assigned package	HYBRID PRICING
If limits are exhausted, then charge per GB	HYBRID PRICING



Notes:

N = 400; ; Numbers are based on survey responses

** Hybrid Pricing = Pay-per-use + Subscription; *GB = Gigabytes

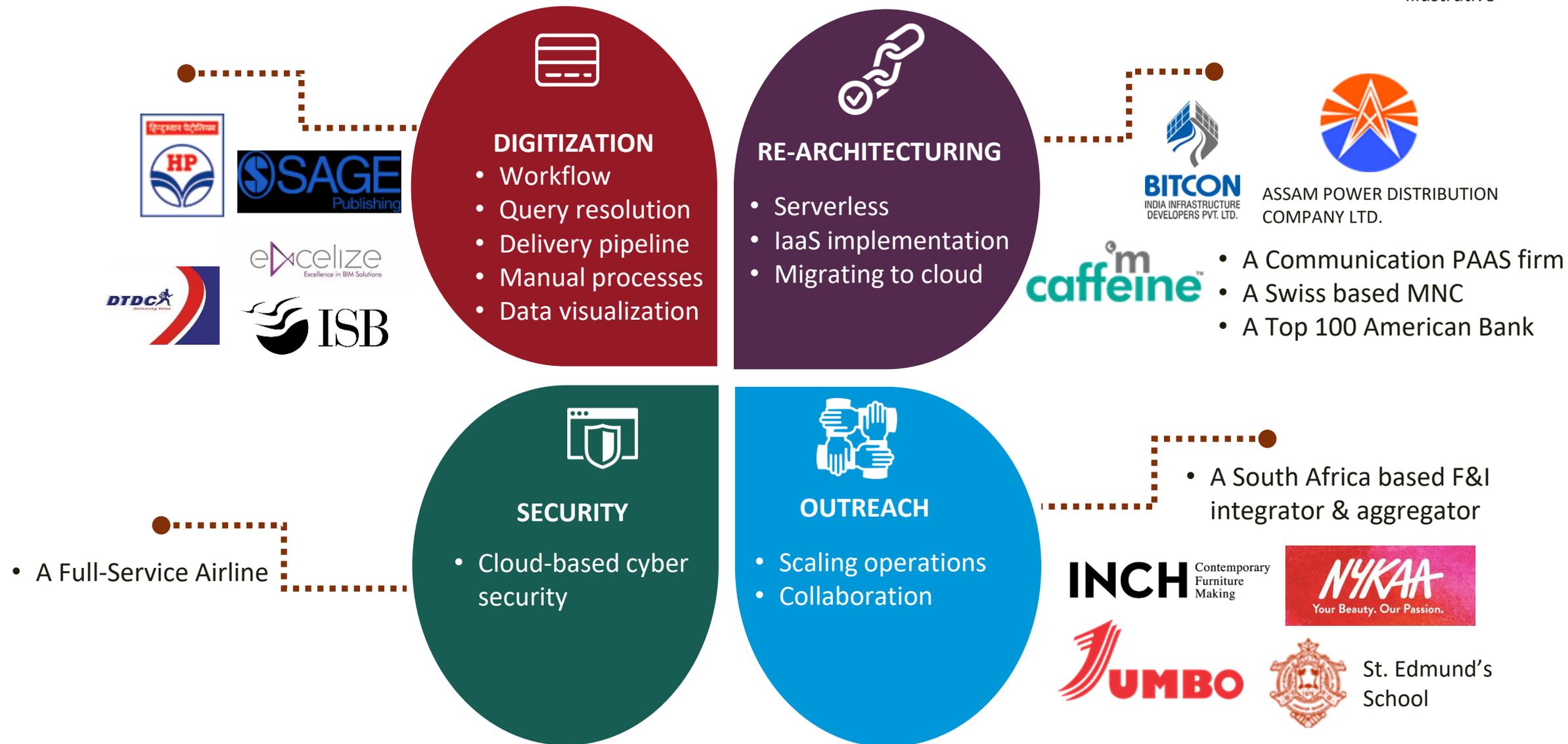
Source: Frost & Sullivan

SECTION 3: CUSTOMER SUCCESS STORIES



Digitization, Migration and Scaling – Recurring Themes for Cloud Adoption

Illustrative





Customer:

**OWNS A COMMUNICATION
PAAS PRODUCT**

Industry:

TECHNOLOGY

OBJECTIVE:

- Needed a serverless architecture to define the nature of API request and decide what code of line to execute when needed without need for server or container

CHALLENGES

- Loosely coupled environment to support multi-tenant architecture with minimal management of services and focus on improving the code
- Client also wanted to monitor every service and logs generated to troubleshoot any issues identified
- Multiple serverless tasks needed to be performed and also manage server load

BENEFITS



20%

Lower billing – achieved cost-optimized environment



2X

Growth in requests handled: up to 10K per second



Very little manual monitoring; greater focus on **product improvement** features



Swift **auto scaling** in peak times using ECS Container Auto Scaling

Designing Serverless & Microservice Architecture To Lower Costs

SOLUTION

BigStep's DevOps engineers at designed the serverless architecture using Lambda and implementing the serverless functions executing on requests made by users

- Failed Executions are managed using AWS Cloud Watch. For example, if SQS Lambda function fails, the failed data goes into flight mode and it automatically re-executes the Lambda function
- Concurrency: The architecture is using AWS API Gateway with ALB and Lambda functions as well as Ngnix plus application server to maintain concurrency

Solution also includes Elastic Container Service (Amazon ECS) where containers are running to support the backend of the application and are being used in ancillary roles

In order to integrate the serverless architecture, AWS Identity and Access Management (IAM) policies are being used to call other services when the Lambda function is triggered

- AmazonSQS full access
- AWS LambdaFullAccess
- AWSLambdaENIManagement Access



Customer:
SWISS BASED MNC

Industry:
INSURANCE

OBJECTIVE:

- Customer had initiated an organization-wide initiative to reduce on-premise footprint of their IT ecosystem

CHALLENGES

- Service disruption and high operation cost were the critical challenges faced by customer

BENEFITS



~60%

time & effort saved in deploying code from one environment to another



Improved project visibility and reduced product delivery risk



99.9%

availability and instance scalable resources



15-20%

reduction in operational cost

Migrate From On-premise To A Private Cloud Environment

SOLUTION

Customer approached Birlasoft team with these issues and after a quick assessment of the ecosystem, Birlasoft proposed and performed below activities:

- Migrated on-premise SQL and Oracle databases to DBaaS (Database-as-a-service) on private cloud
- Porting of on-premise applications and Informatica Workflows to private cloud
- Integrated SNOW Change Management with complete auditing of CI/CD Pipeline
- Setup of 100+ CI/CD Pipelines on Azure DevOps for applications (.NET and Java), robotic solutions (UiPath) and Informatica Workflows (ETL integration components) to promote rapid changes in upstream environments (private cloud)



Customer:
BITCON INDIA INFRASTRUCTURE

Industry:
INFRASTRUCTURE DEVELOPMENT

OBJECTIVE:

- Host ERP solution on cloud for central accessibility due to COVID-19 lockdown and ensure business continuity

CHALLENGES

- Key members were unable to access on-premise business applications
- Scaling on-premise model to multiple offices would be difficult in existing setup
- To have minimum or no disruption when migrating ERP data securely to cloud and ensure regular backup
- Security of cloud platform & concerns with malwares, ransomware, etc.

BENEFITS



Migrated in hours
and not days or weeks



99.99%
Uptime Pay-as-you-go with cost effective & scalable cloud infrastructure



Anywhere, anytime access – centralized, secure access to data



30%
Increase in staff productivity due to improved uptime and performance

Migrate From On-premise To Cloud Hosted Services

SOLUTION

- Cirrusform, a Cloud Management platform focused on SMBs, enabled them to build their Data center in the cloud without any cloud skills.
- Cirrusform is as easy as using email and helped in the setup secure cloud infrastructure, and subsequently manage and optimize it. The Client was able to connect their new AWS account with Cirrusform in few clicks. Once this was done, they easily launched Cloud Infrastructures in region of choice
- Cirrusform user was able to migrate existing Accounting and ERP data to the new Environment with few clicks. The ERP solution is integrated in Cirrusform as a point solution and once launched multiple users were able to connect remotely
- Also backup of data to highly durable data store was enabled automatically. The user then enabled Antivirus to ensure Windows security
- It took less than 2 hours for the customer to de-risk their business and continue operations on cloud with help of Cirrusform



Customer:
HPCL

Industry:
OIL & GAS

OBJECTIVE:

- To leverage IoT & digitalization across their businesses for improved uptime, efficiencies and asset utilization

CHALLENGES

- Hazardous Zone 1 & Zone 2 operations
- Compliance to statutory guidelines
- Root cause analysis of problems
- Real-time incident management
- Preventive, proactive and prescriptive information to ensure highest uptime

BENEFITS



>\$ 6,500 p.a.
savings - ~2.5 hours/day
savings in man-hours



\$ 7,000 p.a.
savings due to timely oiling of
pumps & engines

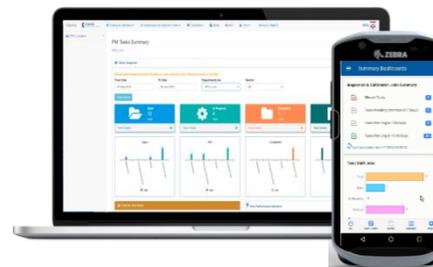


>\$ 20,000
saved per location



Real-time maintenance tracking
& problem analysis leading to
Increased uptime of equipment

Digitizing Manual Processes For Better Coordination & Management



SOLUTION

DOMMS Mobile App

- Used by field executives to capture data
- App works in offline mode also so network connectivity issues don't stop it's functioning
- QRCode feature enables asset tagging
- Pictures can be attached as part of data capture process
- Alerts & notifications can be created from mobile app itself by creating and assigning tasks to department

DOMMS Server on Cloud

- Central server hosted on Azure
- Manages all workflows, reporting & dashboard requirements
- Generated automated MIS reports

IoT Box

- IoT box (**IoT Edge**) enables automatic data collection from field devices. It pushes data to central server through **IoT Hub**

Security

- Azure Security Center to manage end-to-end security

**Customer:**

**ASSAM POWER DISTRIBUTION
COMPANY LTD.**

Industry:

ENERGY & UTILITIES

OBJECTIVE:

- Client seeking a technology partner that could offer secure and affordable services for deploying SAP-based Enterprise Business Solution across the organization

CHALLENGES

- Client was experiencing difficulty in streamlining its business processes and managing its on-premises computing infrastructure

BENEFITS**No CAPEX**

for servers, network, security devices, infrastructure or maintenance

**99.95%**

guaranteed network uptime

**15%**

reduction in IT overheads

**25-30%**

Employee productivity up due to enhanced remote access

**30%**

Lower technical issues due to 24*7 incident handling

Implemented Cloud-based IaaS For ERP Hosting & Facility Management Service

SOLUTION

Cyfuture carried out a detailed requirement analysis for APDCL's servers and storage. Based on this analysis, we devised an affordable solution which included:

- Deployment of 42 Virtualized LDOMs on Sun Solaris 11.2 platform
- Setup of Critical Severity 1 production servers on a cluster including Sybase DB and SAP-based ERP APP in order to maintain high availability
- All critical applications and database files have been placed on EMC storage
- Disaster recovery (DR) site has been configured with 10 separate Critical Virtualization LDOMs with EMC Storage
- To ensure availability of data, Storage-to-Storage asynchronous replication has been implemented
- Backup storage at datacentres and disaster recovery (DR) has also been configured for offsite back-up



Customer:
SAGE PUBLISHING

Industry:
MEDIA

OBJECTIVE:

- Signing legally valid virtual contracts with customer based in different parts of the world

CHALLENGES

- Due to Covid-19, one of the major challenges the client faced was difficulty in sending contracts for signatures to authors and vendors because of the lockdown in place
- Without the legally signed contracts, work on books couldn't be commenced and it resulted in delays in publishing

BENEFITS



Document processing time down to **1-2 days**



Creating account and getting started **within hours**



Single solution for 30 users across multiple departments



Legally binding signatures to secure contracts

Digital Signing Solution For An Indian Publishing House

SOLUTION

The client, Sage Publishing is a renowned Indian publishing house that is more than 50 years old and is engaged in publishing academic and professional content including journals, books, and reference works.

- In the earlier process, contracts were printed out and sent through courier to mailing addresses in India and overseas. The entire process of getting the signed contracts back could take anywhere up to 10-20 days or even more in cases of air couriers
- Cygnature, a cloud based electronic signature solution offered an easy solution to the challenge. Using Cygnature, authors/editors across the world, and vendors and partners were able to seamlessly sign the contracts
- This solution was time and cost effective

TECH STACK

- ISO 27001 Certified Data Center
- VAPT Certified
- Web Server IIS 8.0
- DB Server MS SQL 2017
- Blockchain server
- API server

“Cygnature has proved to be a seamless transition from print to cloud during this time of crisis. The solution is easy to navigate, user friendly and secure.” – SAGE Team

Customer:

ST. EDMUNDS EDUCATION SOCIETY

Industry:

eLEARNING & EDUCATION

OBJECTIVE:

- Need for a more robust and scalable infrastructure to replace existing systems to meet exponential growth in online education

CHALLENGES

- Faced infrastructure challenges in their online LMS (Learning Management System) due to sudden and rapid spurt in their online students due to COVID-19 lockdown
- Manual provisioning of new infrastructure was time taking and depended on human resources
- Existing traditional infrastructure was unable to fulfill demand requests
- Addition upfront cost involved to scale up system for more students

BENEFITS**Huge cost saving**

by paying only for the resource when it is in use



Scalable infrastructure to handle exponential growth



Secure, flexible and easy to use self managed system.

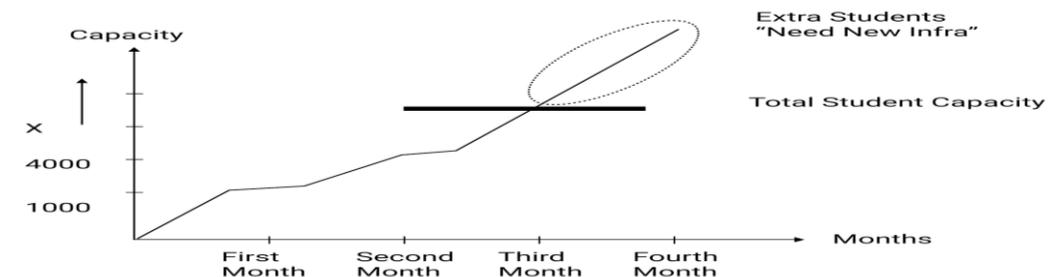


Fast, mobile friendly content delivery for end users



Inbuilt **business continuity** and disaster plan during lockdowns

Cloud Infra Helped Meet The Sudden Spurt In Student Demand

**SOLUTION**

The institute made a Smart Scaling decision, by setting up Cloud, Minimizing Downtime, Optimizing Resources, and Automatically Maintaining Performance

- Autoscaling with cloud computational resources helped the institute's LMS to cope with the incoming load at any given time
- Vertical scaling (resizing server; minimizes operational overhead) and Horizontal Scaling (split load across multiple servers; server management as per load demand patterns)

ROLE OF EVERDATA

We designed a new secured Cloud-based architecture for the institute's LMS, provided new age tools for accessing cloud in a simple Pay-as-you-Go model, where they have to pay for using Cloud facilities upon requirement as the student demand wasn't fixed; it was sometimes high and sometimes low! The robustness of the public cloud supporting essential tools has now proven

We are successfully helping them in meeting students demands and maintaining IT operations, cybersecurity, privacy, secure cloud architecture while the institute runs our elastic, scalable applications and services



Customer:
EXCELIZE SOFTWARE PVT. LTD.

Industry:
IT ENABLED SERVICES KPO FIRM

OBJECTIVE:

- Anytime, anywhere access to project data
- Cover the entire span of building construction lifecycle
- Real Time Revit cloud work sharing
- Common data environment for global projects

CHALLENGES

- Connect global project teams for collaboration & coordination
- Updated and accurate project information source
- Project completion within deadlines
- Improve decision making and predict project outcomes

BENEFITS



40%
cost reduction by allowing virtual teams working from different locations



50%
increase in accuracy of work delivery due to online collaboration



Streamlining of BIM project workflows resulting in faster completion dates



15%
reduction in actual project costs by reducing rework during construction phase

Autodesk BIM 360 Docs & Design Cloud Solution

SOLUTION

BIM 360 Design (formerly known as Collaboration for Revit) is a cloud-based service that connects building project teams with centralized access to project data. Autodesk BIM 360

- Connects design teams to improve project outcomes :
 - Successful project outcomes depend on consistent communication with the team throughout every project phase
 - Connect teams and information in a central project location in the cloud to improve productivity, reduce rework, and accelerate project delivery
- Boost productivity :
 - Teams can work on the same project, which helps them avoid time wasted on uploading, syncing, transferring or waiting on large files
- Accelerate project delivery:
 - Project information in a single cloud-based repository helps streamline approvals
 - Expedite review cycles with trackable coordination activity recorded for all teams

IN-HOUSE IMPLEMENTATION OF AUTODESK BIM 360 SOLUTION

- Full solution implementation done by in-house Excelize IT team along with Autodesk BIM 360 subscription technical support whenever required
- The In-house IT team manages the updates and upgrades in BIM 360

IMPETUS

Customer:
A TOP 100 AMERICAN BANK

Industry:
BFSI

OBJECTIVE:

- Validate the transformation scope, identify gaps and gather information about technical debt, dependencies, and performance recommendations
- A detailed inventory and complexity analysis report, including the current state process, functional mapping, and an implementation roadmap

CHALLENGES

- High CAPEX and OPEX expenditures to maintain the legacy environment
- Inability to respond quickly to its growing needs for analytics
- Lack of in-house skills to undertake such a critical transformation
- Ensuring consistency from a data security and compliance perspective post-transformation

BENEFITS



50%
cost and time saved compared to manual transformation



~80%
auto-conversion of Oracle and Informatica code to AWS



Established frameworks for
cloud-native CI/CD
and data governance



Retained existing business logic and process flows on the AWS platform

Automated Assessment & Transformation Of Informatica Workflows & Oracle EDW To AWS

SOLUTION

Impetus Technologies Inc. leveraged its Workload Transformation Solution for an automated assessment of the bank's Informatica workflows and Oracle environment to identify the scope of migration. The report detailed the future architecture, a phased transformation roadmap, and recommended hybrid/on-premise security and compliance tools/processes aligned to the bank's policies.

The solution includes code conversion, data and query validation, orchestration, and performance tuning.

The bank also required CI/CD and cloud-native DevOps to ensure long term success to cover the following operational aspects:

- Instituting a cloud-native CI/CD framework, integrated for automated deployments
- Instituting frameworks essential to facilitate an agile development methodology (from epics to software deployments)
- Integration with the bank's ITSM framework for demand and incident management

The Impetus team also helped the bank to establish a data catalog system on AWS for data governance, planned for end-to-end maintenance of the infrastructure on AWS, and used an information lifecycle management framework to bridge corporate and IT functions



Customer:

INCH FURNITURE

Industry:

MODULAR FURNITURE

OBJECTIVE:

- Needed a more scalable cloud-based solution with rapid deployment of ERP system which can manage the financial, inventory tracking and manufacturing activities

CHALLENGES

- Needed to track orders and overall visibility of orders with online access
- Seamless integration with current design and production system

BENEFITS



45%

improvement in agility for decision due to real-time visibility on complete business



Clear visibility

of orders and Inventory tracking



Order tracking & real-time financial reporting at the click of a button



30%

productivity gains for finance department due to automation of complete approval process of monthly invoices & tax compliance

Cloud-based End-to-end ERP Solution

SOLUTION

This project was part of the customer's Digital Transformation initiative

- Oracle Netsuite Cloud ERP was chosen as the cloud solution of choice
- Helped automate the finance department functions including manage their multi-currency transactions and provide real-time analysis of Trial Balance and Income Statement
- Gave 360° business view to CFO & management through analytical role-based dashboard
- Customer also used Inspirria's Indian Taxation SuiteApp bundle to calculate accurate & complex tax rules (GST) & be compliant with government norms
- Streamlined and automated their Order to Cash and Procure to Pay process
- Helped manage inventory effectively by having real-time visibility on stocks
- Mobile app enabled access to business transactions / approvals from anywhere

ROLE AS IMPLEMENTATION PARTNER

Inspirria Cloudtech was chosen as a Consultative & Implementation partner to provide a more modern and scalable solution for customer's business

- Involved in Business Transformation Engagement to study, review & streamline existing process to the best practices
- Deployed Oracle NetSuite Cloud solution with agile methodology and helped Inch Furniture with a full-fledged Cloud based ERP system with Financials, Manufacturing and Inventory tracking activities
- Offered robust tax solution IIT SuiteApp compatible with GST
- Inspirria Consultants offered a service offering to meet up with change management and better usability of the system by internal business users



Customer:
INDIAN SCHOOL OF BUSINESS

Industry:
EDUCATION

OBJECTIVE:

- Digitize the admission process

CHALLENGES

- Internal system was not totally customized and scalable as required
- The vendor supporting the system was not always available
- Was designed iteratively & was not designed for the cloud

BENEFITS



Seamless & integrated student lifecycle management on cloud



Highly secure
& scalable system which can scale up and down on demand



End-to-end digitized
workflow



Working on a unique & first of its kind **freemium model** on cloud stack

Digitizing Admissions Process For An Educational Institution

SOLUTION

Customer is replacing their in-house admission system with iWeb's Student Lifecycle Management System on the cloud

- Digitized the entire Student Lifecycle right from pre-admission to the admission process, AI based screening, shortlisting of candidates along with their final campus allotment & offer followed by fee payment and student on-boarding
- Also integrating the same with the client's backend SAP system for seamless integration with no manual intervention in the entire process whatsoever
- Biggest benefit is end-to-end workflow digitization for all concerned stakeholders

TECHNICAL EXPERTISE

- Solution works on Microsoft Azure Cloud
- Deployed best-in-class Elastic Azure Cloud VMs which are load balanced and built for scale along with auto scaling provision to give the best-in-class experience to all students & stakeholders accessing the systems at any given instance or load factor



Customer:
DTDC

Industry:
LOGISTICS

OBJECTIVE:

- Shift from an on-premise model to cloud-based contact center model

CHALLENGES

- On-premise contact center model led to continuous downtime in their services
- Workload increased when customer queries spiked - losing over 99% uptime
- Most impacted service: Attending endless customer calls while missing out on important queries or opportunities
- No Unified Platform: Difficulty in maintaining customer data & track agents' performance

BENEFITS



99%+
Uptime



Improved call efficiency:
2.5- 3 lakh minutes
covered every month



Operations efficiency:
Up by **10% -15%** in query
resolution



Real time performance
tracking of remote team via call
analytics dashboard

Inbound Contact Center With IVR Services

SOLUTION

- Automation: Cloud-based Inbound Contact Center - A multi-level IVR solution allows automation of receiving instant customer queries, thereby simplifying the workflow and standardizing the process
- The centralized contact center identifies the pain points & acts as a unified platform that receives incoming calls from multiple customers & routes the call to the available agent
- Can be launched without any Capex requirement ensuring quick response to customer queries without missing out on any opportunity
- Live status monitoring of total calls answered/received, rejected, missed through a real-time call analytics dashboard

Customer:
PEP TECHNOLOGIES (mCaffeine)

Industry:
E-COMMERCE (DTC – Direct to Consumer Brand)

OBJECTIVE:

- Shift from the existing practice of gut feeling based decision making, to a data driven approach for taking decisions across business functions
- Develop comprehensive BI platform that can cater to the need for sales, marketing customer segmentation, discounts analysis, RoI, etc.

CHALLENGES

- Data was scattered across multiple sources and in different forms (DB tables, excel sheet) – making it difficult for stakeholders to make sense of it

BENEFITS



80%

Reduction in man-hours spent each month on creating reports for various stakeholders



40%

Increase in marketing RoI



15%

Increase in repeat customers



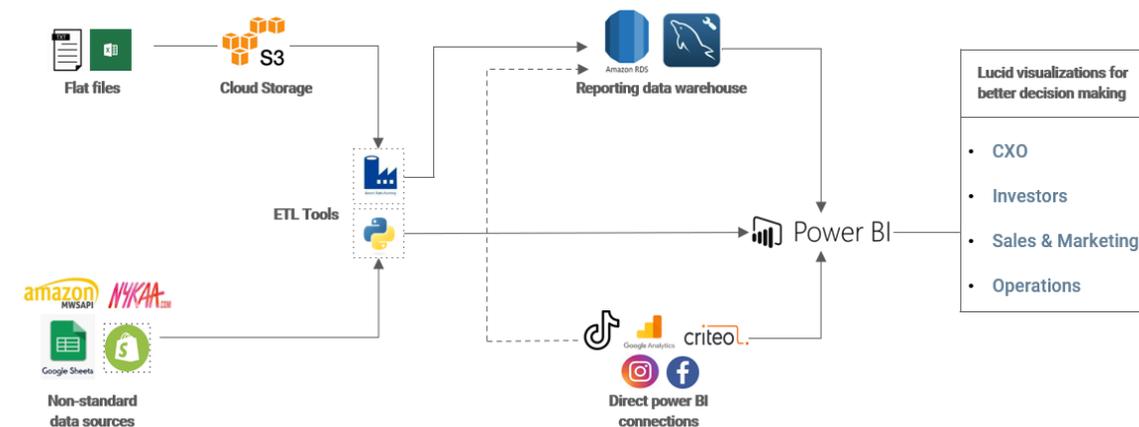
Daily inventory & sales tracking

Digital Transformation For A DTC Brand

SOLUTION

NeenOpal was tasked with building a comprehensive BI platform, building streamlined data pipelines from scratch to incorporate the previously existing data with the new data that is being collected on a daily basis from various commerce websites/channels

- NeenOpal analyzed the various tools and services being used by the business – Shopify for own website, Accounts on E-Commerce websites like Amazon, Flipkart and Nykaa, Social Media Channels – Facebook, Instagram, Tik-Tok, etc.
- The data is pulled using ETL scripts regularly at fixed intervals into a cloud data warehouse that NeenOpal setup for mCaffeine on AWS (MySQL database)
- Finally, the data was visualized using Microsoft PowerBI and different dashboards/KPIs were setup, catering to different stakeholders in the organization





TATA ADVANCED SYSTEMS

Customer:

A FULL-SERVICE AIRLINE

Industry:

AIR TRANSPORTATION

OBJECTIVE:

- Visibility and vulnerability coverage of entire multi-cloud environment
- Automation of repetitive tasks
- Bringing identities under one umbrella
- Data classification

CHALLENGES

- Vulnerability management
- Proactive security/incident mgmt.
- Security automation and response
- Access control with Identity lifecycle management
- Seamless user experience for remote and mobile workforce
- Privileged user governance & monitoring
- Classification and rights mgmt. for data in cloud

BENEFITS



>80%

cloud infrastructure vulnerability coverage through cloud-ready vulnerability management program



99.99%

response and resolution SLA using next-gen SOC platform



100%

coverage of user identity and access management



NIL

disruption of business operations after lockdown was announced

Cyber Security Deployments In Multi-cloud Environment

SOLUTION

As a strategy - the airline was pro-cloud. Therefore, as an independent security advisor, TASL designed a comprehensive information security program:

- An integration ready vulnerability management solution with managed services scanned every piece workload and is helping the client visualize existing weaknesses in the entire environment and has helped selective and effective vulnerability management
- A hybrid-model of delivery for Next-Gen SOC on cloud that gave information on correlated events, network and user anomalies. SOAR (Security Orchestration Automation and Response) solution was deployed on cloud & helped reduce alert fatigue to SOC analysts, remove false positives, automate repetitive tasks and respond to threats proactively. Clear playbooks, ingested threat intelligence/analytics aided threat hunting
- IDAM solution helped with close review of identity lifecycle (user/employee). Requirements ranging from birth-right to just-in-time access over cloud and on-premise applications and servers were automated; access management and review during joining-leaving-moving helped in smoother audits. A single sign-on (SSO) feature also helped improve user experience
- Cloud-based product suite covering privilege access monitoring, password vaulting, mandatory key/password rotation, endpoint privilege management was deployed to govern the privileged user
- An integrated rights management solution helped classify data in formats ranging from excel to documents, presentations. It helped data owners to carefully choose classification labels on the data/information; users were able to know the criticality of data. This also enabled data owners to put encryption to data in cloud and share the same with specific user for a specific time before it expires

**Customer:****NYKAA****Industry:****ONLINE FASHION**

NYKAA, a premier online beauty store in India selling fashion products to over half a million customers across 900 cities

OBJECTIVE:

- Optimize AWS Infrastructure costs and standardize deployment
- Setup CI/CD pipeline automation for faster integration & deployment
- 24/7 monitoring support

CHALLENGES

- Extremely complex setup on AWS running 200+ servers
- Infrastructure managed by different development team members
- No standard deployment processes or best practices in place
- Assets were provisioned, configured and managed manually leading to a lot of delays and were highly error-prone

BENEFITS**\$135K to \$70K**

Reduction in AWS spend within four months

**One-click**

rollback and deployment with zero downtime

**99.99%**

Availability; 24/7 monitoring & stringent SLAs

**90 mins. to 10 mins.**

Reduced time to provision and deploy new services

Helping NYKAA Get To Customers Faster With 50% Reduced AWS Spend

SOLUTION

Automated the delivery pipeline for Nykaa to reduce deployment time from hours to minutes

- Infrastructure control & provisioning in accordance with industry standards and protocols resulting in a greatly reduced deployment time and increased deployment frequency
- Leveraged Docker & Amazon Elastic Container Service (ECS) to build highly scalable environments that leverage spot instances and auto-scaling to dynamically scale with any change in website traffic
- Audited existing infrastructure against AWS best practices with below implementations:
 - Configuration management tool
 - Infrastructure as code
 - CI/CD pipelines
 - Security automation

TECHNICAL EXPERTISE

- Migrated complete infrastructure from EC2 Classic to Amazon VPC, separate VPC's for production and non-production environment
- Implemented one click blue-green deployment strategy with Zero downtime
- Implemented highly scalable ELK stack for centralized logging & analytics
- Integrated Grafana & NewRelic for tracking business and application metrics



Customer:

**SOUTH AFRICA BASED F&I
INTEGRATOR & AGGREGATOR**

Industry:

FINANCE & INSURANCE

OBJECTIVE:

- Create platform which would provide integration across multiple geographies with different form and factor
- Make sure compliance & regulations are met across the globe with ease and scale

CHALLENGES

- Integration with disparate third-party systems was key challenge along with scalability for different territories
- Finance and Insurance system mandates compliance and regulation across geographies

BENEFITS



Business continuity
& sustainability, Scalability and data compliance



APIs
for integrating multiple territories



Compliance
for dealership & retailers across globe

International Platform For Finance & Insurance Integration

SOLUTION

- Cloud has enabled seamless API integration with global scale, and we can provision cloud services on demand within short amount of time
- Cloud has made sure we are adhering to compliance and regulation irrespective of geography
- Client implemented cloud-based platform which is extensible and adaptable for international requirements and can be utilized in various industry sectors to facilitate finance, rental, loan and credit applications to financial institutions
- Integration with financial institution systems to provide electronic transfer of application data

TECHNICAL EXPERTISE

Used below Microsoft Azure components for Cloud-first:

- Azure App Service (PaaS) for Web Application
- SQL Server Database hosted over Azure VM (IaaS)
- Azure DevOps for PDLC (Product Development Lifecycle) and Project Management
- Blob Storage for file storage



Customer:
JUMBO FINVEST (INDIA) LIMITED

Industry:
NON-DEPOSIT TAKING NBFC

OBJECTIVE:

- Provide a scalable solution to help them react faster to unplanned events

CHALLENGES

- Generating massive amount of data due to multiple transactions, loans, insurance documents and payments
- Slow processes due to lack of resources, operating procedure & infrastructure
- Security concerns
- In-house servers, locally installed systems, multiple providers - resulted in management hassles

BENEFITS



60%
increase in overall process efficiency



70%
more savings on investment in infrastructure & technology



50%
increase in productivity



50%
increase in operational efficiencies

Increased Process Efficiency, Minimized Security Risks & Achieved Greater Savings With AWS Cloud

SOLUTION

- Thorough analysis of the existing infrastructure and requirements of the client
- Suggested and provided the client with AWS services – Amazon Elastic Container Service and Amazon Relational Database Service
- ZNetLive team suggested a move to the cloud to address the concerns
- ZNetLive technical team assisted throughout the migration process to enable the client's business to be digital-ready
 - Validate the source and target database version and engine
 - Identify hardware requirements for target server instance
 - Identify storage requirements, network features, network access security requirements, and application migration strategy
- Ensured that the new AWS was well integrated with existing legacy systems

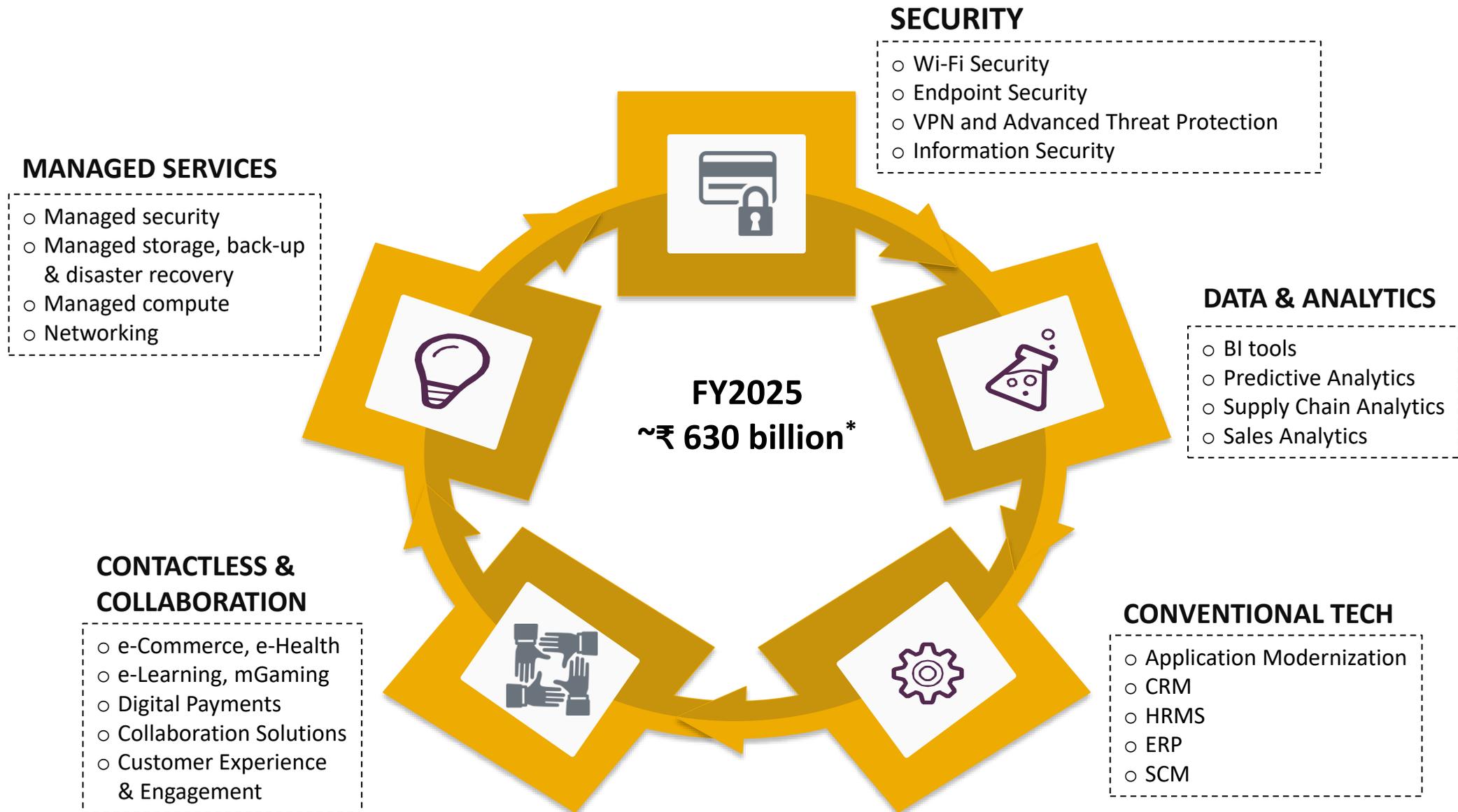


"It has helped us to manage a large number of data sets without costing much money - therefore, better management of the lending process and less paperwork. Our documents are now stored in a secured centralized system. That's transformative!"
- **Siddharth Ajay Singh, Managing Director and CEO**

SECTION 4: OPPORTUNITIES FOR CLOUD PLAYERS



Opportunities for Cloud Players: Key Takeaways



Note: Public cloud opportunity: ₹ 630 billion by 2025 for cloud players

Post Covid-19, Digital Transformation of SMBs: Mature from Struggling to Thriving



1 Create Vision and Strategy

- ▶ Business model recalibration: To build digital preparedness: *'Agile and remote'*
- ▶ Establishing business continuity through new digital priorities
- ▶ Recognise growth opportunities in existing portfolio and expand service offerings

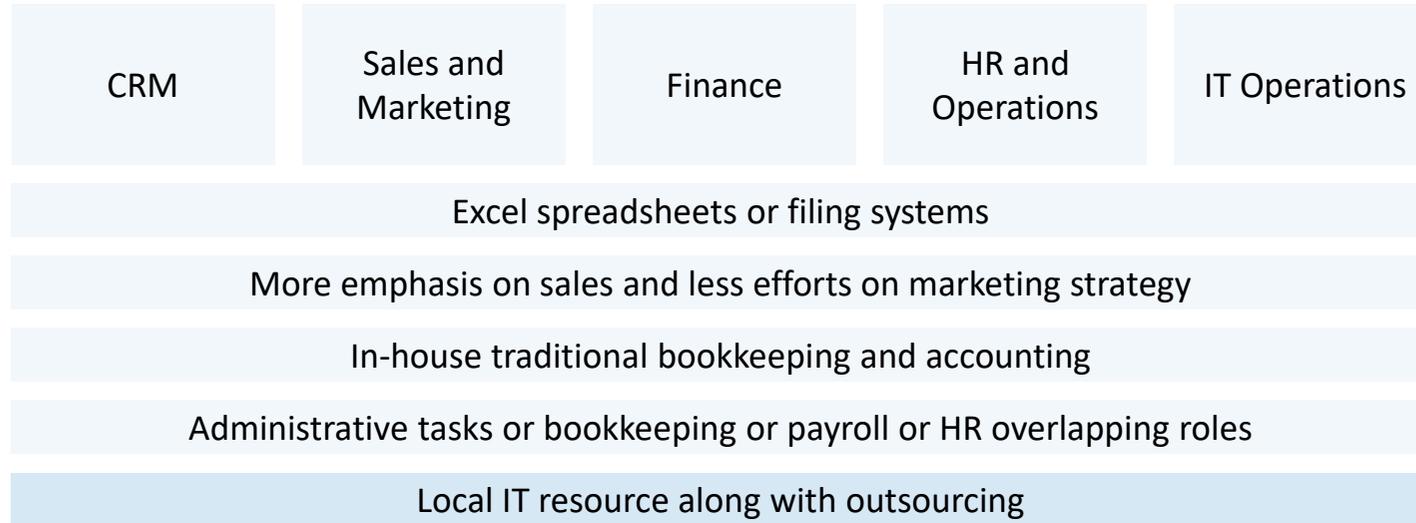
2 Safeguard Brand Equity and Capture Customer Needs

- ▶ Reinforce employee loyalty through exceptional employee care & support using virtual HR avatars
- ▶ Upskilling to thrive in accelerated digital world
- ▶ Explore opportunities using digital marketing & automation
- ▶ Utilize data to optimize sales and operations

3 Utilize Technology for Effective Functioning

- ▶ Shift to online - eCommerce, e-showrooms, door-step service offering, online customer support, etc.
- ▶ Shift to virtual-digital workplaces for continuity & operations
- ▶ Post-COVID technology innovation to address changing customer behaviours

Majority of Indian SMBs are still Relying on Legacy Systems



Major challenges faced by SMBs are IT management, CRM, data management and stakeholder management

By adopting cloud, SMBs can substantially improve their operations and productivity immensely

This will lead to profitability and put them ahead of competition

LOW HANGING OPPORTUNITIES				
CRM	Sales/Marketing	Finance	HR and Operations	IT Support
<ul style="list-style-type: none"> SMB centric CRM solutions 	<ul style="list-style-type: none"> A digital sales & marketing platform to boost sales and loyalty programs on email, social, web, mobile 	<ul style="list-style-type: none"> Cloud based financial management solution for integrated practice management for accounting, GST, etc 	<ul style="list-style-type: none"> Employee self-service Social recruiting Reporting, etc. 	<ul style="list-style-type: none"> Antivirus Data Back-up Infrastructure IT Implementations 

Growth Opportunities Critical for Future Success in light of Covid-19

Resilient Digital Transformation Models



- Enterprises will invest heavily on cloud based-collaboration solutions, Business Intelligence tools, Wi-Fi Security, Endpoint Security, VPN and Advanced Threat Protection solutions to achieve resilient models that include Remote Workforce Engagement
- Customer Experience and Customer engagement via virtual medium will be of focus

Governance & Risk Assessment



- Compliance and Security Risk Assessment in an extended network will emerge as CXO priority
- Global data protection laws to ensure compliance and data sovereignty
- Implementation of IT supply chain compliance
- Information security tools and services to assess internal and external risks

Digital business models to become mainstream



- Online with contactless business and services like e-Commerce to accelerate
- Reinforcing Healthcare IT with online health services
- e-Learning applications and services and mGaming to see momentum in Gen Z
- Accelerating digital payments with e services will see a surge

Modernizing Data Services

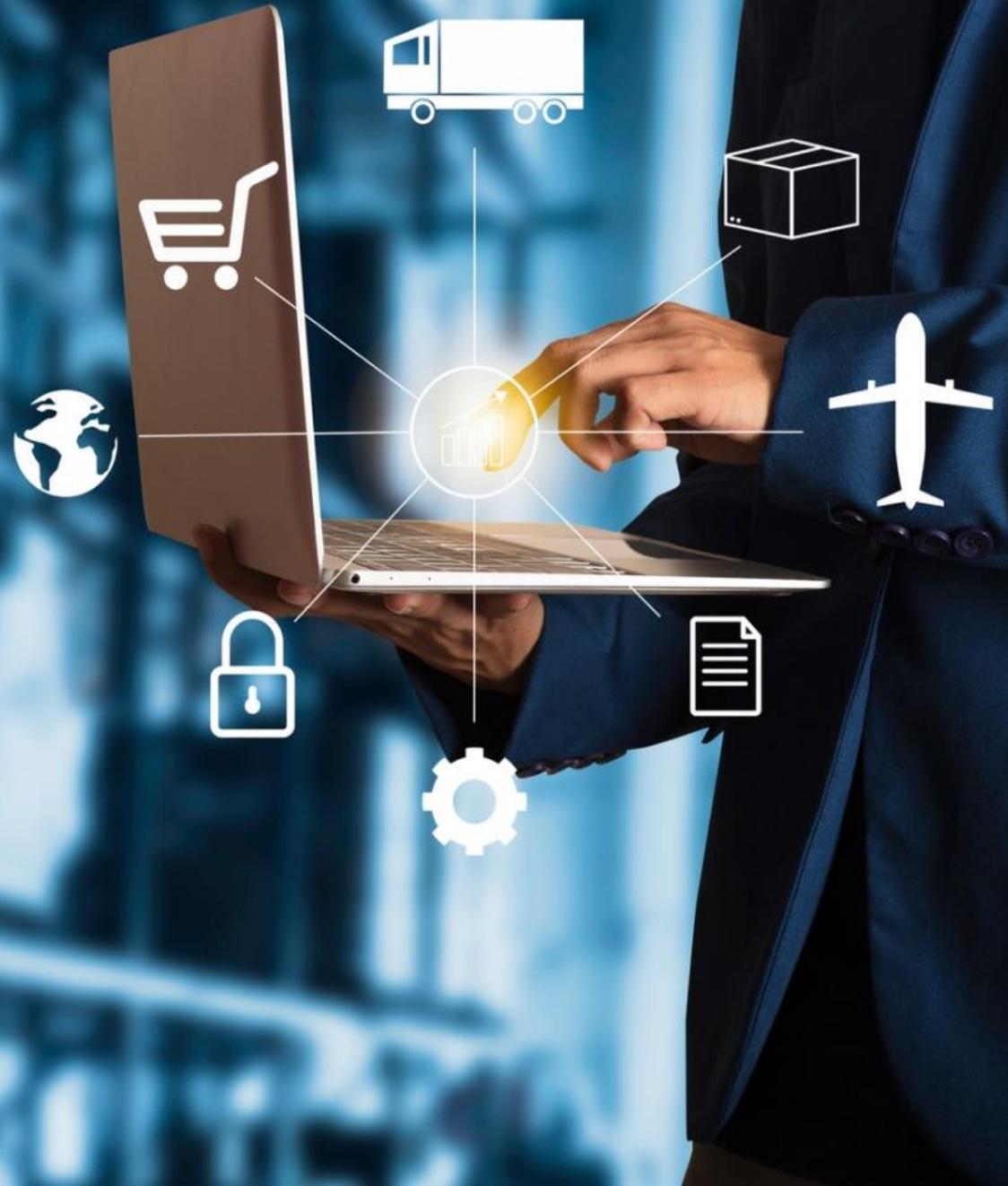


- Data driven decisions will see a rise as it will recognize anomalies before it scales. Predictive analysis to gain effective data intelligence will be the new norm
- Modernization in applications and services with AI and Big data tools will be critical

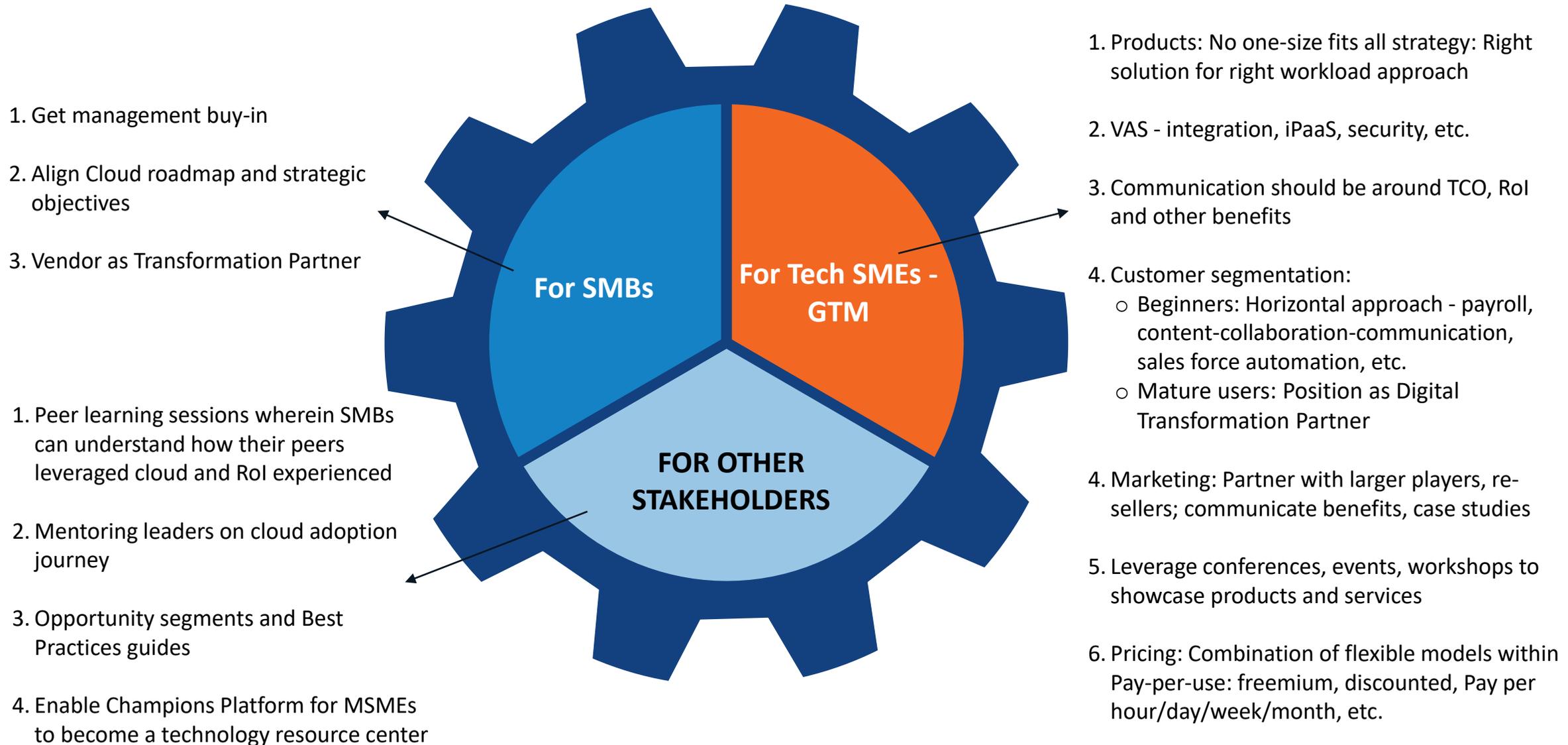
Key Tech Solutions that are in Demand across Business Functions

BUSINESS FUNCTIONS	TOP CHALLENGES			ON DEMAND TECH SOLUTIONS
	CHALLENGE 1	CHALLENGE 2	CHALLENGE 3	
MARKETING	Managing PR	Campaign management	Building websites and lead generation	Website builder app, eCommerce Cloud. CRM
SALES	Managing sales pipeline	Delivering accurate forecasts	Sales team productivity	CRM systems, LMS (Lead Management Systems) and sales analytics software
FINANCIAL MANAGEMENT	Proper financial planning	Procurement, spend, expense management	Quotes & invoicing/billing	Mobile and digital banking, RPA, Fintech, ERP
HUMAN RESOURCE MANAGEMENT	Recruiting employees	Paying employees	Managing employee	HR Management System (HRMS) and payroll
LEGAL AND SECRETARIAL MANAGEMENT	Complying with labour (employee) legislation	Building legal document	Updating legal documents	Legal document builder software
COLLABORATION	Enterprise email	Sharing files/document collaboration	Communication	Enterprise email or web conferencing app, sharing and collaborating apps
PROJECT MANAGEMENT	Planning and managing tasks (Scope, schedule, monitor)	Coordinating people and jobs	Knowledge management	Project collaboration, productivity tools and workforce management software
MANAGING CUSTOMERS	Managing leads	Managing customer Relations	Recording new contacts and dealing with enquiries	Web conferencing tools, marketing automation, CRM systems
SUPPLY CHAIN MANAGEMENT	Managing logistics	Procurement traceability	Analytics	ERP, SCM, order mgmt., supply chain analytics & reporting, inventory & warehouse mgmt.
IT SUPPORT	Data back-up	Security	Infrastructure management	Antivirus, IaaS, enterprise service management

SECTION 5: RECOMMENDATIONS

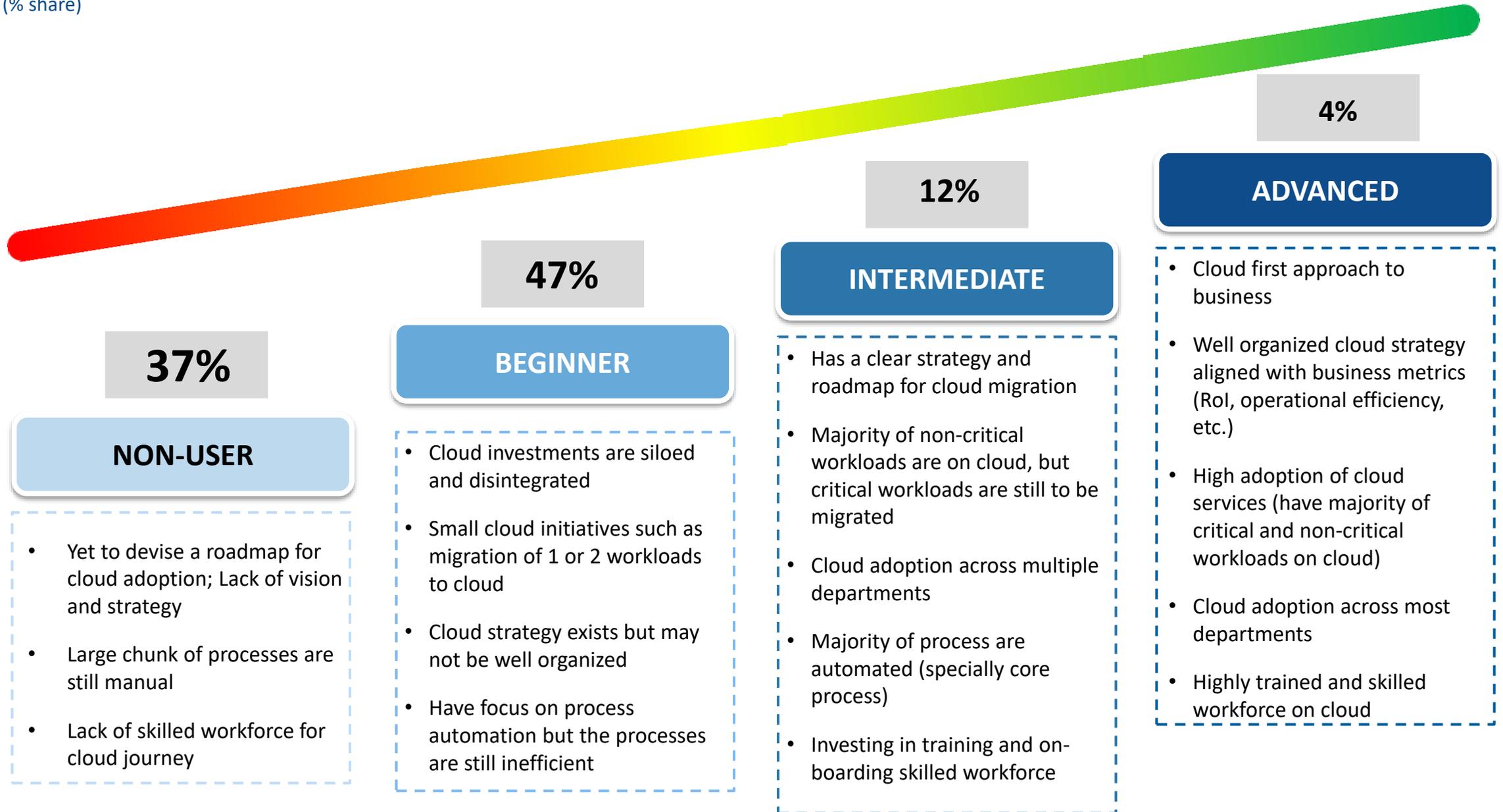


Recommendations for Stakeholders: Key Takeaways



Cloud Maturity Framework for SMBs: A Roadmap to become a Cloud Champion

(% share)



Note: *N = 1000; Numbers are based on survey responses

Source: Frost & Sullivan

Best Practices: Building a Progressive Cloud Strategy

Cloud Benefits

*Illustrative**



Operational
Costs



15-20%



Productivity
Gains



25-30%



Reduced
Errors



25-40%



DO'S: STRATEGIC EXCELLENCE

- Get BUY-IN from management
- Define CLOUD GOALS & map to BUSINESS OBJECTIVES
- PLAN INVESTMENTS to meet cloud objectives
- Assess current tech ecosystem & IDENTIFY cloud-ready areas
- Build MIGRATION strategy
- IDENTIFY & PRIORITIZE what you are migrating
- Determine KPIs & INNOVATE constantly



DO'S: TECHNOLOGY ROADMAP

- Select vendors who are TRANSFORMATION partners
- EVALUATE latest technology enablers & deal with legacy IT
- Define TECHNICAL, LEGAL, SECURITY requirements
- Consider BACK-UP & DISASTER RECOVERY
- Have an ENTERPRISE IT ARCHITECTURE team
- TEST everything; MANAGE cloud environment
- Address SKILL gaps early



DON'TS

- No One-SIZE-FITS-ALL strategy: Customize solutions as per need
- Don't focus on OUTCOMES: Allow for experimentation, testing, etc.
- Don't migrate too many WORKLOADS at once - each workload/application has different requirements
- Don't MIGRATE everything to cloud
- Don't take SECURITY for GRANTED: Never depend completely on vendor for ensuring security

* From the set of case studies included in this report
Source: Frost & Sullivan, NASSCOM

Go-To-Market (GTM) Framework for Cloud Players to Tap SMB Opportunities

- GTM framework that has been created based on inputs from SMBs which serves as a guide for Tech SMEs to outline their strategy to target SMBs in India
- Given the wide range of SMBs, a framework approach would help SMBs tailor their GTM based on their products / services and target segments

Strategic Pillar 1

Which Products?

- i. For XaaS
 - ii. For MSP/SIs
- Products
 - Potential products
 - Product Parameters
 - Product Attributes

Strategic Pillar 2

Which Segments?

Customer segments for XaaS, MSPs/SIs

- By Revenue
- By Verticals

Strategic Pillar 3

Why will SMBs buy?

- i. For XaaS
 - ii. For MSP/SIs
- Perceived Benefits
 - Adoption Barriers

Strategic Pillar 4

How to position?

- i. For XaaS
 - ii. For MSP/SI
- Partner or create
 - Pricing options
 - Distribution model
 - Beta/Market Test
 - Marketing

* XaaS = As a Service Provider such as CSP; MSP = Managed Service Provider; SI = System Integrator
Source: Frost & Sullivan

Products (1/2): Ensure Application – Workload Compatibility

Strategic Pillar 1 > Which Products?

	Cloud Service Provider (X-as-a-Service Provider)	IT Service Provider (MSP/SI)
Products	<ul style="list-style-type: none"> • <i>COVID-19 impact: Aggressively target non-user SMBs; high cloud demand is projected from this segment as they need to collaborate and communicate in a more distributed ecosystem</i> <p>Focus on Core: Focus on a few core areas of opportunities, adding depth from a vertical perspective to meet specific requirements of the market</p> <p>SaaS Applications</p> <ul style="list-style-type: none"> • Shift from ‘one size fits all’ to ‘right solution for the right workload’ approach. Deeper understanding of SMBs – how they use software; solutions will need to become ever more targeted, easy to use and effective • Employ iPaaS as a bundled offering; iPaaS creates a single platform to connect otherwise disjointed systems to deliver a unified solution to clients. It acts as a communication channel between multiple systems — allowing for integration & data sharing • Offer product integration – important as the number of applications used increase • Offer a full-fledged solution and certain value-added service (Embedded BI, etc.) <p>Develop a Cloud IaaS Strategy: Crystallize cloud offerings - Incorporate differential offerings in the overall portfolio</p> <p>IaaS Workloads:</p> <ul style="list-style-type: none"> • Customers typically purchase multiple services over time, starting with an anchor application then continuing with satellite/future apps. CSPs need to lead with appropriate anchors, then cross-sell satellites along this journey and/or intelligently bundle services at the anchor service point of sale 	<p>SaaS: Service integration, the new market for System Integrators - ‘Connectible’ applications</p> <ul style="list-style-type: none"> • With increase in applications used, integration and management is growing as an opportunity. Mission critical applications still need complex integration, training, service support <p>Certifications: SIs partner status from cloud platform providers (AWS, Google, Microsoft, etc.) & SaaS providers</p> <ul style="list-style-type: none"> • Knowledge & Experience: Display experience with CRM, business ops & collaboration applications, etc. and knowledge of business function specific data privacy and legal requirements and other regulations <p>IaaS Workloads</p> <ul style="list-style-type: none"> • Become Cloud Broker / Integrator • As SMBs’ traditional infrastructure will benefit from modern architectural and operational alternatives (database mgmt., DevOps, analytics, managed DR), move to hybrid IT model & offer MDM-as-a-Service & Data Workflow processes as-a-Service • Hybrid cloud: Offer easy deployments to integrate workload with on-premise systems

Products (2/2): Well Defined KPIs to Measure Impact

Strategic Pillar 1 > Which Products?

Product KPIs	Cloud Service Provider (X-as-a-Service Provider)	IT Service Provider (MSP/SI)
<p>Parameters</p>	<p>Must have Product KPIs</p> <ul style="list-style-type: none"> • Ensure that system robustness and security are top features • Drive conversations around top KPIs during sales & marketing • Response time - average time taken for every round trip request. Generally, system response time should be in the interval of 0.1 - 1 second. Lesser the response time, better is client satisfaction 	<ul style="list-style-type: none"> • SIs can develop applications on CSPs' platforms by leveraging domain expertise, develop plugins for integrations and offer managed services (VAS) to cater to specific business needs of SMBs • Top KPIs could also be looked for in integrations - cloud supplier's uptime (>99.95%) and must drive conversations around top KPIs during sales process and marketing
<p>Ease of Use</p>	<ul style="list-style-type: none"> • Platform simplicity should be central to any strategy aimed at reaching SMBs • Create on-demand digital self-service portals where customers can purchase cloud services & can upgrade/downgrade seamlessly • Chatbots / live chat for user support • Easy to use interface that does not require technical expertise 	<ul style="list-style-type: none"> • Integration platform and tools offered must be easy to use not only for implementation-integration, but also for the end customers <p>Self-Service Integration Marketplaces</p> <ul style="list-style-type: none"> • Standardize common, repetitive integration scenarios, automate these and make these available on a common platform (marketplace) for end customers at competitive rates

Customer Segmentation: A Must for Product Positioning

Strategic Pillar 2 > Which Segments?

Segments	Cloud Service Provider (X-as-a-Service Provider) and IT Service Provider (MSP/SI)
Revenue	<ul style="list-style-type: none"> • Target more mature SMBs as they are more attuned to cloud benefits, thus making them ideal adopters • Channel sales must be a large part of the strategy for cloud players. Tech based start-ups will always go for IaaS and SaaS simultaneously • SaaS start-ups can begin with smaller SMBs, then position themselves for mature SMBs. They can target this segment via a comprehensive digital strategy with available financial resources • For non-users or initial adopters, a horizontal approach is preferable - opportunities in payroll, content-collaboration-communication, sales force automation, HR, etc. • For intermediate & mature adopters, solutions/services can be tailored to specific vertical needs
Verticals	<ul style="list-style-type: none"> • Prioritize verticals mature in cloud adoption - e-Commerce, IT-BPM BFSI; they are expected to move to cloud only strategy and have a higher inclination to move additional applications/workloads on to cloud platform • Media & Entertainment and brick & mortar Retail SMBs - Active engagement will drive necessary innovation and product development • For traditional sectors such as Manufacturing and Automotive & Logistics, players must increase awareness on the value proposition of cloud computing - how it provides a platform for innovation by helping integrate business processes, systems & people, enabling faster time to market, expanding reach, etc. • Gaps in understanding cloud benefits must be minimized during initial contact with potential buyers; showcase various use cases and customer successes with major focus on impact – ROI, productivity gains, operational efficiencies, etc. • Crucial to also identify verticals and specific use cases that show potential for long-term demand <p>Domain Expertise: Build domain specific cloud portfolio to cater to vertical specific needs</p>

Important to Communicate the Advantages of Cloud Platforms

Strategic Pillar 3 > Why will SMBs buy?

Product KPIs	Cloud Service Provider (X-as-a-Service Provider)	IT Service Provider (MSP/SI)
<p>Communicate Benefits</p>	<ul style="list-style-type: none"> • Cloud benefits need to be factored into communication, strategies, service offerings and sales pitch • Provide service alternatives in case there is an outage • Partner with multiple CSPs - Google, AWS, Microsoft, etc. • Leverage partnerships to build native cloud applications for differentiation • Use cases highlighting bottom line impact (productivity, operational efficiencies, etc.) 	<p>SaaS</p> <ul style="list-style-type: none"> • Communicate with buyers on the cost savings; factor in benefits into communication, strategies, service offerings, sales pitch • Help effectively predict costs for CIOs to decide scalability <p>IaaS</p> <ul style="list-style-type: none"> • Monitor & automate reports; advance warning wrt planned outages • Ensure regular auto backup of data & workloads
<p>Address Challenges</p>	<p>Security Concerns</p> <ul style="list-style-type: none"> • Create mass awareness using an omni-channel approach. Engage with top management & users better to mitigate these concerns • Certain security aspects must be in-built into the solution; others can be offered separately <p>Integration: Provide consulting and integration support and build SLA framework in collaboration with SMBs</p> <p>Post-purchase experience: Ensure pricing transparency; bring in professional services arm/change management consultant to enable transition</p>	<p>SaaS</p> <p>Communicate reduction of risk, governance, compliance factors</p> <p>Cost effective Integration-as-a-Service delivery model</p> <p>IaaS</p> <p>Contract: Costs and consideration of material, licenses, travel, labour, installation, etc. should be part of proposal</p> <p>Billing: Fewer line items so SMBs can understand financials easily</p> <p>Optimize post-purchase experience: Response time & 24/7 availability</p>

Distribution, Marketing and Pricing (1/3): Rethink Partnerships

Strategic Pillar 4 > How to position?

Models	Cloud Service Provider (X-as-a-Service Provider) and IT Service Provider (MSP/SI)
Partner or Create	<p>Build necessary domain understanding. Alternatively: Crafting an effective development outsourcing strategy to improve clients' business efficiency, reduce time to market. Managed services providers can help implement custom automation across different business processes</p>
Distribution Models	<p>Market Development Funds (MDF): Allocate sufficient funds to foster key channel partners, thereby ensuring a certain degree of motivation and loyalty</p> <p>Rethink partner roles and relationships: Partners have their own value-add and inherent business models, so some may naturally align better with business objectives. Knowing ahead what relationship model to offer will help cloud players to select the strongest partners for a mutually beneficial relationship</p> <p>Partnership Type</p> <ul style="list-style-type: none"> Value Added Resellers (VAR) grow sales through complementary services. Since up-sell offers a way to offset customer churn, this could be a more reliable way to structure cloud partnerships IT System Integrators, Datacentre service providers and Telecom service providers can also play a critical role in bringing the ecosystem together <p>Build a robust Online/Digital platform: Providers should take a page from B2C e-Commerce industry and focus on highly segmented digital acquisition. By analyzing customer needs, e.g., based on referral paths, search terms, conversion rates, industries, geographies, etc., providers can identify best prospects at micro-segment level and customize user experience with personalized landing pages, messaging, pathways, offers, etc.</p> <p>Partner website must have all the required information of the products such as case studies, whitepapers, demo videos, product attributes, etc.</p> <p>Partner motivation: Timely disbursement of commissions/incentives and online visibility into commission status, amount eligibility, etc. is important</p>

Distribution, Marketing and Pricing (2/3): Significant Online Presence is a Must

Strategic Pillar 4 > How to position?

Models	Cloud Service Provider (X-as-a-Service Provider) and IT Service Provider (MSP/SI)
Marketing & Sales: Online	<p>Targeting right Persona: Positioning strategy to enforce product attributes around superior technical support, reliable and simplified management vis-à-vis price</p> <p>Cloud players must create brand equity using omni-channel media</p> <p>Generate awareness: Integrated campaigns with partners and/or via communication mediums such email, social media, Pay-Per-Click campaigns, etc.</p> <p>Considerable marketing efforts with channel partners & alliances must be built to take products to market</p> <p>Fully Loaded Websites: Cloud players' & partner websites must have product documents, contact details, demo videos, whitepapers, success stories, etc.</p> <ul style="list-style-type: none"> • Regional Content Marketing: There are instances where owner driven businesses might prefer communication in the vernacular languages • Regional digital media (Affiliate Marketing): Blogs & portals in regional languages (with very good reach & ranking) can be very cost-effective in reaching SMBs • Email marketing: Spamming wouldn't work; players must target buyer persona with focus on challenges & benefits for context-based email marketing • Video marketing: Leverage this media to convey the message and connect with the target audience. Have videos uploaded on YouTube, Vimeo, etc. • <i>COVID-19: Enable remote sales and customer engagement; communication and collaboration tools than enable remote work must be in place</i>
Marketing & Sales: Offline	<ul style="list-style-type: none"> • Plan major communication activities around IT industry specific magazines, apart from optimizing brand website • Industry conferences and events are still one of the most efficient ways to generate interest • Campaigns to enhance brand awareness must be conducted throughout the country - a series of multi-city customer roadshows can be planned • Leverage existing customers as brand ambassadors to provide references at events / workshops / conferences, etc. • Cloud players must build a community of Consultants & subject matter experts - influencers for potential customers via omni-channel medium • Build marketing & sales teams around high growth geographies/verticals

Distribution, Marketing and Pricing (3/3): Offer Flexible Pricing Models

Strategic Pillar 4 > How to position?

Models	Cloud Service Provider (X-as-a-Service Provider) and IT Service Provider (MSP/SI)
<p>BETA</p> <p>Market Test</p>	<p>Proof of Concept</p> <ul style="list-style-type: none"> To dispel apprehensions surrounding cloud computing, players should set up test labs which customers can access on an experimental basis. <p>Cloud players have to ensure that potential customer must realize the benefits during the pilot to have a better chance of conversions.</p> <ul style="list-style-type: none"> It will also allow challenges in the field, the challenges affecting your partners, and the best practices that will lead to effective growth. Providers must solve the problems for the partners and build trust before launch, which can bolster loyalty and sales out of the gate.
<p>Pricing options</p>	<p>Develop flexible pricing models</p> <ul style="list-style-type: none"> Discounts or tiered pricing model with pay-as-you-go options will suit SMBs. Develop consumption based and freemium models Wide range of pricing models based on transactions executed, by number of different configurations of integration, by number of workflow process, by number of endpoints can be created for the price sensitive SMB customers Must conduct an independent multi-vendor or sole-source evaluation based on real market data. Proposal should include special rates for SMBs by geography, assigned resources and estimated timeline/hours for project completion by phase. Fixed charges on monthly basis could an offer to target SMBs <i>COVID-19: Free trials; lower pricing of product; free training modules; periodic free subscription (monthly, quarterly), etc. can be offered for onboarding customers</i> <p>Price Benchmarking</p> <ul style="list-style-type: none"> Timely market updates on spending propensity must also be conducted to optimize pricing models for customers

Recommendations: Stakeholders need to Focus on Growing Awareness & Training

POLICY & ENABLEMENT

- Enable **Champions Platform for MSMEs** to become a technology resource center for MSMEs and enable them to adopt digital technologies and cloud
- Accelerate implementation of **Digital MSME scheme** and create awareness on benefits of cloud adoption and related subsidies
- Special schemes to boost tech SMEs that build innovative solutions for MSME sector. Define **high impact use cases** and grants for tech SMEs that build these solutions
- Recognize and reward **Top 100 MSMEs** every year that have pivoted to Digital MSME

RESEARCH

- **Opportunity segments** and whitespaces for Cloud Adoption and Innovation
- Best Practices guides
- Directory of Tech SMEs

AWARENESS & CAPACITY BUILDING

- Structured **multi-lingual training** programs for SMBs that define the business use case of cloud and ease of use of technology
- Publish **Do it Yourself (DIY) Guides** that enable SMBs to get complete understanding of how to migrate to cloud and the associated costs
- **Peer learning** sessions wherein SMBs can understand how their peers leveraged cloud and ROI experienced
- Collaboration with academia for **upskilling programs** on cloud and new technologies

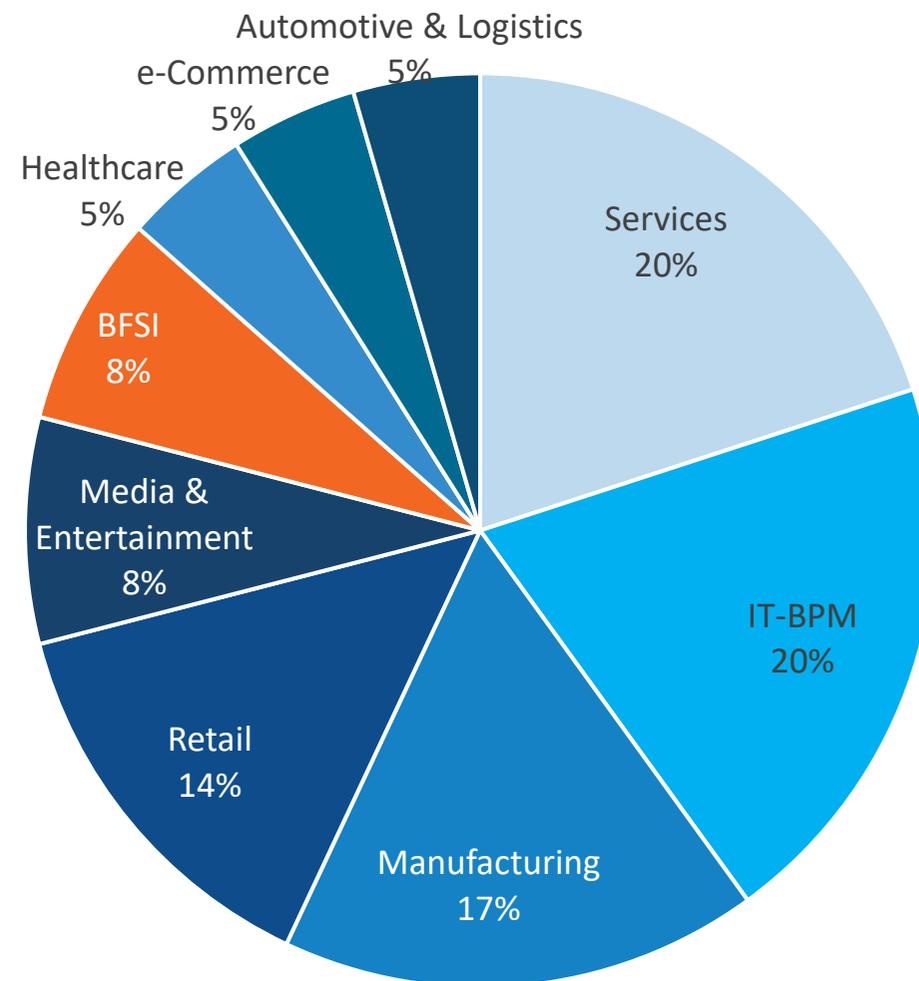
MENTORING

- **Tech SMEs:** Mentorship programs that enable them to build GTM Strategies, Fund raising, Product Roadmap & collaboration
- **Demand side (SMBs):** For leaders on cloud benefits, vendor selection, product selection, SLAs & KPIs, TCO vs. ROI, etc.

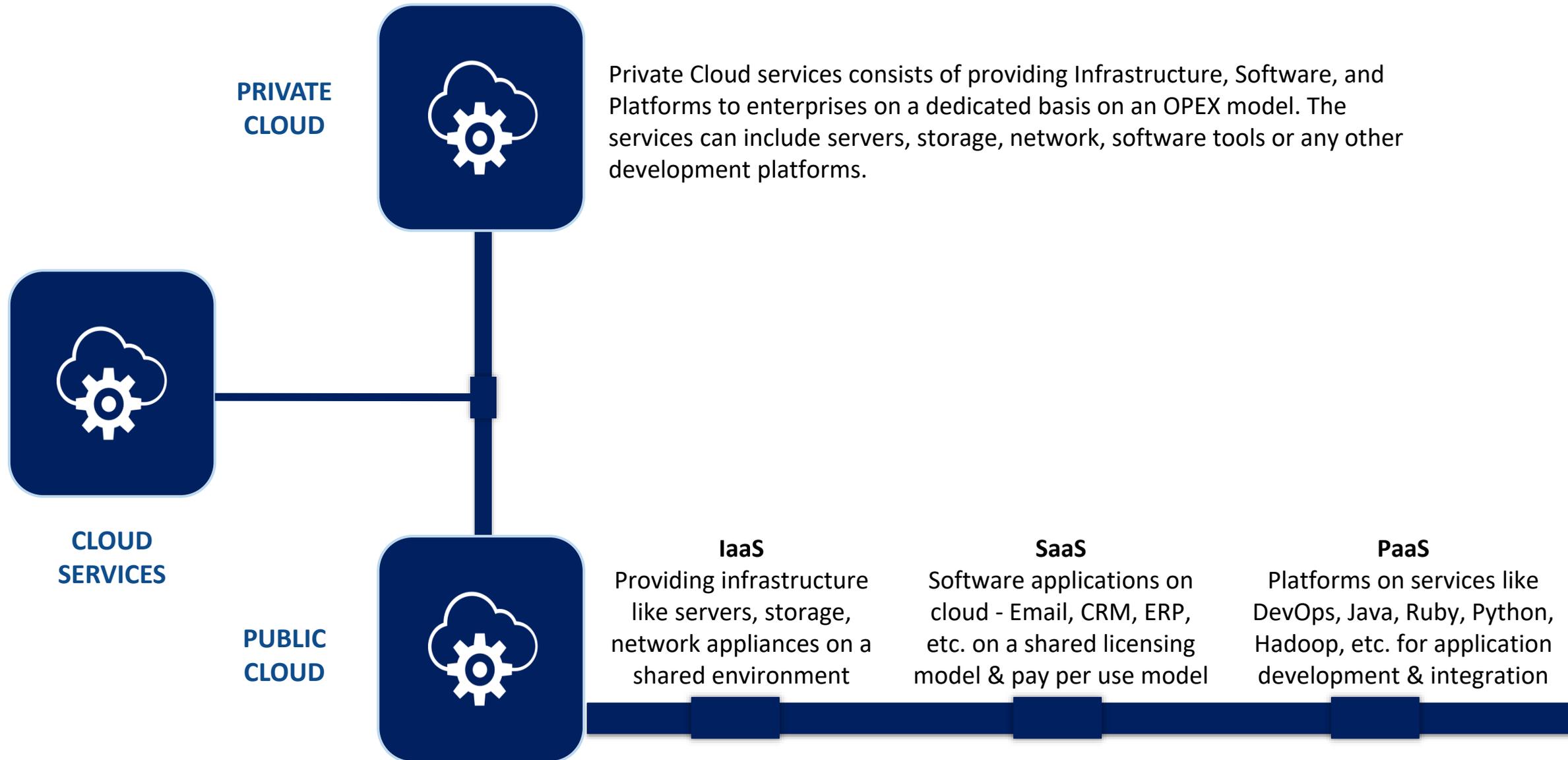


APPENDIX

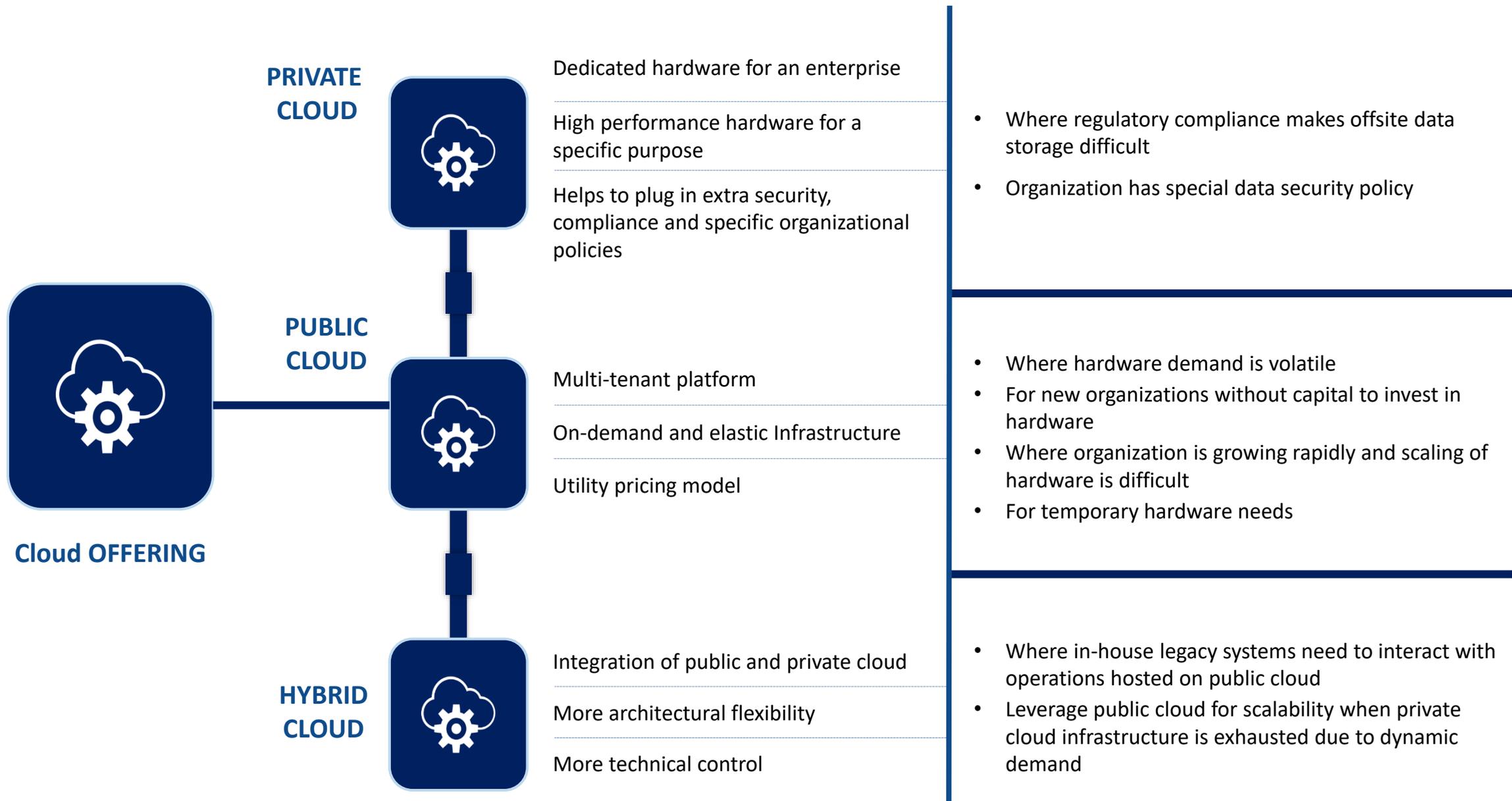
Sample Distribution



Definitions: Cloud services



Definitions: Cloud deployment models



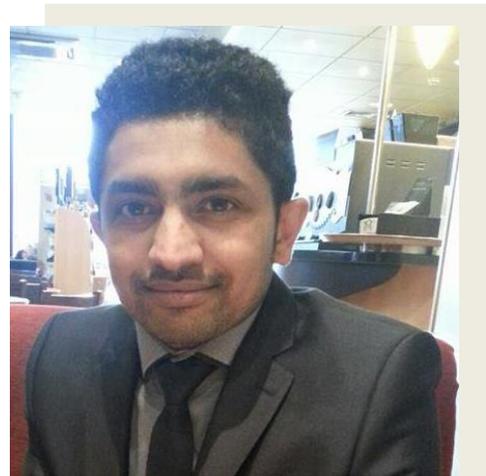
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