



E-commerce Industry

Data Center and Cloud Battle Card

sify

E-commerce – DC and Cloud Battle Card



Industry Overview

India is the fastest growing market for the e-commerce sector. Revenue from the sector is expected to increase to **INR 8.52 Tr** by 2020 from **INR 2.77 Tr** in 2017, growing at an annual rate of **51%**

1 The Indian e-commerce market is expected to **surpass that of the USA by 2034** to become the **second largest e-commerce market** in the world

2 **By 2020, ~85%** of all computing, data management, storage, and **e-commerce will shift to cloud-enabled virtual environments**

3 In India, SaaS is expected to continue as the biggest spend category within public cloud at **INR 185–199 Bn**, followed by IaaS and PaaS, cumulatively accounting for **INR 85.2 Bn by 2020**



The e-commerce industry in India witnessed 21 PE / VC deals, **worth INR 149.1 Bn, in 2017** and 40 deals, **worth INR 80 Bn, in the first half of 2018**

Indian e-commerce firms are spending **~9%*** of **their ICT budget on cloud and data center (DC) services**

In India, the number of online shoppers exceeded **120 Mn in 2018**, and is expected to reach **220 Mn by 2025**

*Ballpark estimation based on primary inputs

Industry Drivers

The e-commerce industry is witnessing **rapid growth in India** due to increased **mobile** and **internet penetration, rising number of digital payment apps**, expansion of **social commerce** and **m-commerce**, and **increasing investment** in the e-commerce sector

Lower IT Infrastructure Cost

1.

Cloud computing spending is expected to **grow 6x the rate of growth in IT spending through 2020**

Using AWS cloud, Alert Logic reduced the cost of its **footprint by over 50%**

Increase in Vibrant SMBs / Start-ups

2.

India's **start-up ecosystem** is growing, supported by government initiatives, such as **Start-up India and Digital India**

SMBs and start-ups are **adopting public clouds** to reduce their hardware / software implementation and maintenance costs

Digital Data Traffic Growth and Increased Cloud Storage Capacity

3.

In 2010, Indian digital data stood at 40,000 petabytes. It is projected to **shoot up to 2.3 Mn petabytes by 2020**

India's data center market will reach **INR 497 Bn by 2020**

Government Policies and Local Data Storage

4.

Government policies, such as MeghRaj – the Government of India's initiative aimed at harnessing **the benefits of Cloud Computing**, support the setting up of cloud-enabled state data centers and national data centers

In 2018, the Indian government introduced an **e-commerce policy** that requires companies to store customer **data in India**

Cloud Adoption

5.

50% of enterprises had adopted cloud-enabled applications, platforms, and services by the end of 2018

Continuing Growth of India's Mobile Market and Internet Penetration

6.

Internet users in India to grow to 829 Mn (59% of population) in 2021 from 373 Mn (28% of population) in 2016

Mobile phone penetration in India is set to rise to **85–90%** by 2020

Key Technology Trends In e-commerce Industry



AI and Robotics

By **2020**, over **80%** of **customer interactions** will be handled by **artificial intelligence (AI) assistants and AI-enabled chatbots globally** (Gartner)



Big Data Analytics

The e-commerce industry contributes **15%** of overall **analytics revenue in India**, which stood at **~INR 21.79 Bn** in 2017



AR / VR

The global augmented reality (AR) / virtual reality (VR) market is forecast to reach **INR 6.7 Tr by 2023** due to an **increase in demand in the retail and e-commerce sectors**



Cyber Security

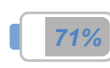
Online Indian e-commerce companies are spending **15–20%** of their revenue on cyber security practices



IoT

70% of retailers are ready to adopt Internet of Things (IoT) to improve consumer experience worldwide. The retail sector's IoT spend is expected to reach **INR 177.5 Bn by 2020**

Key Pain Points in Cloud Adoption



Companies consider **data privacy and security issues** as **extremely significant** concerns



Firms face **vendor lock-in period** related concerns



Firms are **not sure of RoI** if they **invest in cloud computing**



Firms face lack of **mature cloud service providers in the market**



Companies **lack the required ecosystem** to support adoption of cloud computing services



Source: EY - Cloud Computing Adoption In India Survey

E-commerce – DC and Cloud Battle Card



Transformation of e-commerce

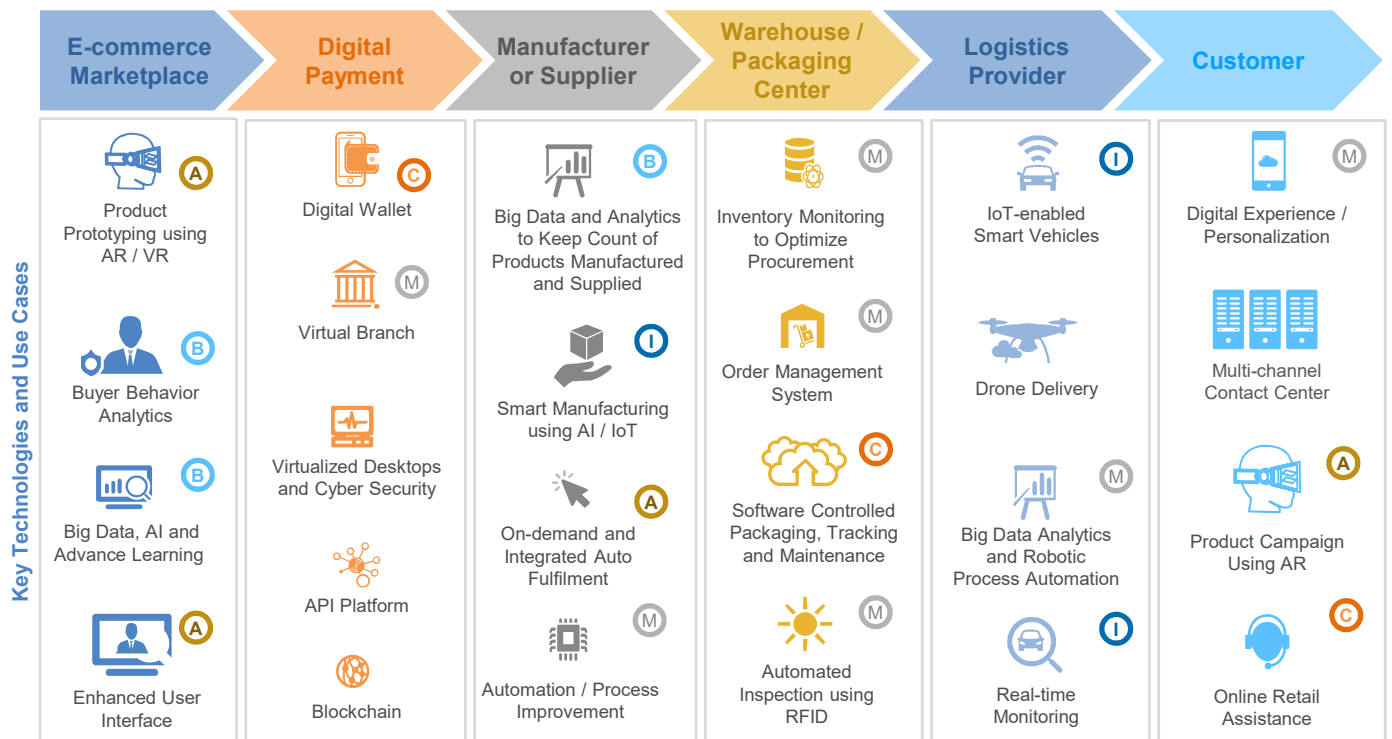
Cloud is empowering the use of **digital technologies**, such as Big Data, AI, and robotics across **marketing, sales, customer engagement, and supply chain operations** in the e-commerce industry

Business Area	Channel Operations	Merchandizing and Marketing	Supply Chain Management	Sales, Services, and Support
Traditional Commerce	<p>Brick and Mortar Stores POS Systems Cashier Managed Checkouts</p>	<p>Paper Coupons Paper-based Ads Paper Labels & Pay Cards</p>	<p>Manual Inventory Tracking Paper-based Documentation On-premises ERP</p>	<p>Sales Assistants Manual Product Delivery Tracking Paper-based Surveys</p>
Digital E-commerce	<p>Online, Social & Mobile Channels Cloud-based POS Retail-as-a-Service</p>	<p>Digital Coupons Virtual Storefronts SaaS-based e-commerce portal</p>	<p>Automated Inventory Management Cloud-based Shipping Solutions Cloud ERP</p>	<p>Virtual Assistants Mobile Tracking Online Surveys and Analytics</p>
Impact	<ul style="list-style-type: none"> Faster delivery to market Lower capex Streamlined operations Real-time reporting 	<ul style="list-style-type: none"> Better understanding of trends in client's shopping habits Access to global markets with limited investment 	<ul style="list-style-type: none"> Simplified supply chain management Cost savings Global capabilities 	<ul style="list-style-type: none"> Reduced IT budget Easier integration Reduced response times



Digital Value Chain

Cloud is the key **technology enabler** for e-commerce players looking to provide **omni-channel communications, digital platforms, and compelling customer experiences**



Key Influencing Technology (B) Big Data and Analytics (M) ML / AI (I) IoT (A) AR / VR (C) Cloud **Many technologies / use cases are applicable for multiple instances*

E-commerce – DC and Cloud Battle Card



Emerging Technologies

The Indian e-commerce companies are investing in technologies, such as **Big Data analytics, cloud, AI, robotics, and IoT** to enhance **operational efficiency**, improve **fraud detection**, and enable real-time **inventory management and goods tracking**



Big Data Analytics

Optimizes stock management and brings in greater efficiencies



- **Big Basket** invested in analytics to reduce overstocking of perishable items by analyzing types of orders and volumes



Cyber Security

Reduces fraud detection and offers a secure and transparent online medium for payment



- **Paytm** invested INR 14.2 Bn in cyber security based start-ups to boost its security portfolio



AI and Robotics

Automates and optimizes the order-fulfillment process across the supply chain



- **Flipkart** invested in AI to build a machine learning model to detect and address frauds as well as reduce operations cost



IOT

Enables real-time tracking and monitoring of goods



- **Snapdeal and Amazon** are planning to leverage IoT to strengthen their logistics infrastructure



AR/VR

Offers digitally interactive and seamless offline experience in store



- **Myntra** created a dressing room app that provides a 360-degree view of a garment on a model

Conversation Triggers

Increasing **website traffic** and **customer queries** during the peak season, growing need for **asset tracking**, and the need to create **personalized offerings** for customers will drive demand for technologies, such as **cloud, IoT, and Big Data**

Impact on Demand

● High ● Medium ○ Low

Infrastructure Enablers

Technology/ Trend	Conversation Triggers	Data Protection	Cloud Services	Transformation	DC/Colo	Migration
<p>Hybrid Cloud</p>	<ul style="list-style-type: none"> • Adoption of hybrid cloud workloads in India will more than triple to 43%, from 13% in 2018, by 2020 • Paytm has developed an AI-based cloud computing platform to store consumers' data on servers located in India 	○	●	●	●	○
<p>IOT</p>	<ul style="list-style-type: none"> • 70% of the e-commerce and retail players are ready to adopt IoT to improve consumer experiences worldwide (2017) • In India, 1.9 Bn devices are expected to be connected by 2020, up from 60 Mn in 2017 	○	○	●	○	○
<p>Seasonal Peak Demand</p>	<ul style="list-style-type: none"> • Myntra has partnered with Netmagic to use its network bandwidth services to manage website traffic during peak sales 	●	○	○	○	○
<p>AI/Big Data</p>	<ul style="list-style-type: none"> • More than 50% of Indian retail companies will be operating on AI by 2020 • In 2018, E-commerce accounted for 15% of the total analytics revenue generated in India 	○	○	○	●	○
<p>Cyber Security</p>	<ul style="list-style-type: none"> • Nearly 67% of Indian businesses were hit by ransomware in 2018 • DDoS remains a prime cyber security concern for e-commerce players 	○	●	○	●	○

Service Comparison: Sify Vs. Competitors

Data Center Infrastructure

	Sify	Netmagic	CtrlS	Airtel	ST Telemedia	RCom
No. of DCs	9	11	6	10 (Nextra Data)	16	9
Uptime	100% since last 10 years	99.990%	99.995%	99.982%	99.990%	-
Experience	18+ Years	~20 Years	~10 Years	12+ Years	~15 Years	~17 Years
Certifications	ISO9001, ISO27001, ISO20000, PCI, HIPPA, TIA942, PCI DSS	ISO27001, ISO9001, ISO20000, TIA942	ISO20000-1, ISO 27001, ISO 22301 (Mumbai DC is LEED certified)	ISO 22301 / 27001 / 20000-1	ISO 27001 / 20000 / 14000, TIA 942	ISO 9001 / 20001 / 27001 / 50001 / ISO 18001

Areas of Offense

Areas of Defense



- STT GDC India does not have managed hosting or cloud services, but partners with Tata Communications to offer managed hosting and cloud to end clients.
- Netmagic's Noida and Chennai data centers operate on leased premises, which make customers vulnerable to security threats
- RCom's Bengaluru data center (in Peenya) has been facing accessibility and theft related problems
- Sify operates a national MPLS network, connecting 47 data centers, including third-party data centers. Through its interconnections with global carriers, Sify can also support Indian MNCs with international hosting and cloud requirements



- ST Telemedia and Airtel have more data centers than Sify Technologies. Further, Airtel is planning to build 10 data centers across India
- CtrlS claims that together, its three datacenters, support power capacity of 58 MW. The company is planning to launch two new DCs in Hyderabad (100 MW facility) and another two in Mumbai (60 MW facility).
- Netmagic leverages its parent company NTT Communications' improved managed and professional services capabilities to win complex projects
- CtrlS' data centers have been rated by 4 by ANSI/TIA-942

Cloud Portfolio Comparison

	Sify	TATA Comm.	Netmagic
Cloud Services Suite	<ul style="list-style-type: none"> • Goinfinit AWS (Public Cloud) • Cloudinfinite ✓ Enterprise Cloud ✓ VPE (Virtual Private Enterprise) 	<ul style="list-style-type: none"> • IZO Private Cloud (Enterprise Cloud) • Managed Services for Azure and AWS • Cloud Containers, Storage, and Analytics under 'As a Service' Model 	<ul style="list-style-type: none"> • Simplificloud (Public Cloud) • Private Cloud (Dedicated Private Cloud, Virtual Private Cloud, Integrated Hybrid Cloud Env.) • Migration as a Service, Managed Storage, Backup as a Service
Compute Environment	<ul style="list-style-type: none"> • Minimum Capacity of 48 vCPUs and 265 GB of vRAM Per Node • Offers a choice between HyperV and VMware hypervisors • BYOL policy for OS and DB (Windows Server, SQL Server, Red Hat, Oracle) 	<ul style="list-style-type: none"> • Hypervisor Support for KVM, VMWare ESXi, and HyperV • OS Support – Windows, Ubuntu, and RHEL • Database – MySQL and MongoDB 	<ul style="list-style-type: none"> • Hypervisor Support for VMware and HyperV • OS Support – Windows, RHEL, Ubuntu, SUSE, Debian • Database – MySQL, Oracle
Storage	Freedom of Choice between Three Tiers <ul style="list-style-type: none"> ✓ High-performance Tier ✓ Standard Tier ✓ Economy Tier Storage Type: NAS, Object, and All flash	<ul style="list-style-type: none"> • NetApp, EMC, and Cloudbyte Powered Storage services 	<i>Info unavailable</i>
Uptime (at infra level)	<ul style="list-style-type: none"> • 99.50% per VPE • 99.90% for VPE – HA • 99.95% VPE – HA + DR 	<i>Doesn't explicitly mention uptime commitment. Claims to offer enterprise-level SLAs</i>	<i>Doesn't explicitly mention uptime commitment. Claims to offer strong SLAs</i>
Connectivity	<ul style="list-style-type: none"> • IP Sec – VPN • SSL VPN Connectivity • Upto 100 Mbps Throughput • Global Cloud Connect (Cloud Connect Service) 	Connectivity through <ul style="list-style-type: none"> • Public Networks (Public IP) • Private Networks (IP Sec Tunnel, MPLS, GDE) • IZO Private and Public Connect (Cloud Connect Service) 	<i>Relies on NTT Communications to provide connectivity</i>

Cloud Portfolio Comparison

	Sify	TATA Comm.	Netmagic
Security	<ul style="list-style-type: none"> Integrated Security Services vFirewall IPS Protection Network DDoS Fortnox SIEM vUTM 	<ul style="list-style-type: none"> SIEM, ATP Cloud WAF, UTM, DDoS (Arbor), IDP, Firewall Audit & Optimization IDaaS, CASB, 2FA GRC Consulting, Vulnerability Assessment 	<ul style="list-style-type: none"> Detection and Mitigation of Targeted Attacks on Critical Applications Application Layer Detection and Mitigation (Powered by Arbor Networks) IPS / IDS SIEM
Reporting and Analytics	<ul style="list-style-type: none"> Dashboards, Online Reports, Alerts, Watermarks, and Help Desk Analytics for Infrastructure, Platform, and Applications 	<ul style="list-style-type: none"> Customized Reporting and Dashboards 	<ul style="list-style-type: none"> Customer Portal that Enables Configuration and Management of Cloud Environment
Backup and Recover	<ul style="list-style-type: none"> Cloudinfint Backup (Of Data to be Protected) DR on Geographically Distant Cloud Site 	<ul style="list-style-type: none"> Secure Cloud Backup Service 	<ul style="list-style-type: none"> Backup and Disaster Recovery Options
Managed Services	<ul style="list-style-type: none"> Integrated Managed IT Services (Single Partner Managing Cloud, Infrastructure, and Environment) 	<ul style="list-style-type: none"> Integrated Managed Services 	<ul style="list-style-type: none"> End-to-end Managed Services

Areas of Offense



- CtrlS has **limited experience in supporting third-party cloud services**, such as AWS and Microsoft Azure
- ST Telemedia and CtrlS **don't have their own network backbone**, and largely depend on partners for connectivity services; Sify has strong network presence in India
- Tata Communications has **discontinued its public cloud service (Instacompute)**, as it was not able to compete with hyperscale cloud providers

Areas of Defense

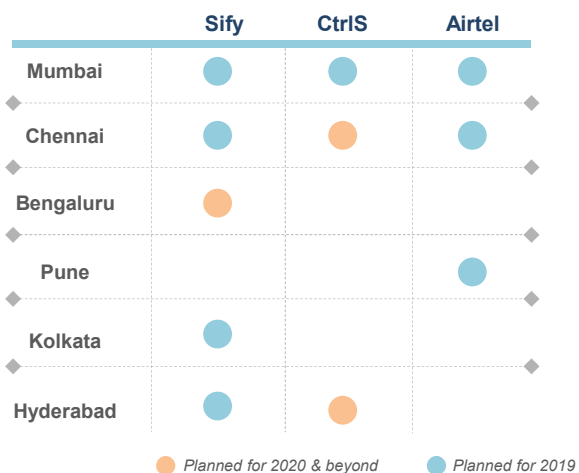


- Netmagic, after its integration with NTT Communications, **provides a comprehensive range of managed services and connectivity to major cloud service providers**
- Companies such as CtrlS, Netmagic, and Airtel **claim to offer uptime of 99.99% for their cloud services**
- Airtel is one of the empaneled partners for India's central government and several state governments' cloud-based projects; it poses serious competition to Sify, when it comes to government deals
- Reliance Jio is likely to adopt an **aggressive pricing approach**, similar to the one it adopted for its consumer services, for its enterprise IT / cloud services

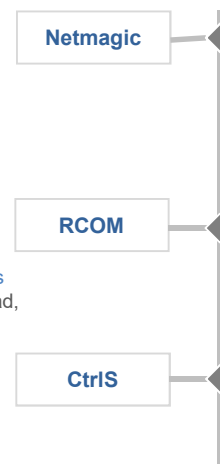
(Source : Primary Interview)

Competitors' Strategic Focus Areas

Sify, CtrlS, and Airtel have announced plans to build new data centers in India. Netmagic, RCom, and other companies opened new facilities in 2018



- Netmagic opened new data centers, **one each in Mumbai and Bengaluru, in late 2018**
- Its Bengaluru data center spans across 250,000 sq. ft., while the Mumbai site spans across 300,000 sq. ft. The company plans to add 150 personnel to its current workforce of 1,270, as it looks to grow further
- RCom **opened a hyperscale data center in Mumbai in mid-2018**
- The company also **plans to build connected data centers in key hubs across India, including Bengaluru, Hyderabad, and Chennai**
- CtrlS is **investing ~INR 2 Bn on infrastructure expansion**, to target the BFSI sector
- The company is **setting up Tier 4 facilities in Hyderabad (~100 MW), Mumbai (60MW), and Chennai**; these will take its data center footprint to 5 million sq. ft. by 2020



Digitization and government initiatives are compelling data center service providers to **invest heavily in building new data centers**

Focus on Cloud Services

Increasing demand in India has led companies, such as Netmagic and CtrlS, to amplify their focus on cloud services

- Netmagic is [planning to target customers who are looking to adopt a multi-cloud environment](#). It plans to offer a one-stop solution for data migration to private, public, and third-party cloud services such as AWS, Google, and Microsoft
- CtrlS is also [investing heavily \(~INR 2 Bn\) in infrastructure](#) to tap the growing cloud market in India

Rise of Reliance Jio

After disrupting the consumer telecom space, [Reliance Jio is planning to step into the enterprise service segment](#), specially cloud, IoT, and network services

- Reliance Jio has [started testing its public and private cloud](#) within Reliance group companies
- It plans to develop a state-of-the-art green field data center in an upcoming 100-acre IT hub in Kolkata, West Bengal

Airtel Bets BIG on Datacenters

Bharti Airtel is preparing to play a bigger role in the enterprise segment through a new cloud and data center strategy, under which it will undertake the following

- Airtel's wholly-owned data center unit, Nextra Data Ltd, [is planning to set up 10 new data centers](#), including four in Pune, Chennai, Mumbai, and Kolkata
- The company's new data centers are being planned to tap the cloud opportunities that have [emerged following the Indian government's regulation on data localization](#)

Sify Technologies' Key USPs for Data Center Services

Build your own SLA

Sify's Golnifinit VPE allows customers to build their IT infrastructure with single or multiple nodes across one cloud site or distant cloud sites. This enables customers to build their private cloud for test / development with 99.50% SLA (single – site) alongside 99.90% SLA for production IT in HA architecture.

Managed Services

Sify offers an integrated managed services portfolio that includes services for captives, AWS, Microsoft Azure, and SAP infra. It extends a wide range of services, including disaster recovery, managed security, database management, and middleware management, and leverages ServiceNow and CA UIM (industry best tool platforms) to offer best-in-class ITSM and automation

Flexible Consumption Model

Sify's Private cloud (VPE) offers a combination of pricing models, as under

- Committed Model: Customers pay for a committed capacity for a minimum contract period, and scale up as their businesses require
- Metered Consumption: Customers' usage is metered on a monthly basis, and they are billed as per usage

Seamless Connect

Sify can provide seamless connectivity to datacenters and hyperscale cloud service providers (through Cleanconnect service), as it operates a national MPLS network that connects 45+ datacenters, including third-party datacenters. Its collaboration with global carriers also allows Sify to support Indian MNCs with their international hosting and cloud requirements

Expertise in Managing Third-party Cloud Environment

Sify has experience in supporting Microsoft environment and VMware; it is SAP-certified for hosting cloud, HANA, and application services, as well as SAP migration

Robust Data Center Infrastructure

- Data Centers are running on 100% uptime since 2008
- 3 to 4 distinct fiber entry paths to the Data Center building provides resiliency on fiber routes
- Truly Carrier Neutral: More than 90% of fiber links are from non Sify Telecom providers
- Power densities from 3 KW to 15 KW per cabinet
- Hyper scale Data centers from 12 to 36 MW in key cities providing ample expansion capabilities
- Multiple Internet Exchange Ecosystem facilitating OTTs and ISPs interconnect in Sify Data Centers
- Services include Prepaid bulk Fiber (as per specifications), single to 10+ cross connects on demand with minimum lead-time

Reach us now

“ We are building a world in which our converged ICT ecosystem and our “bring it on” attitude will be the competitive advantage to our customers”

- Telecom services
- Data center services
- Cloud & managed services
- Application integration services
- Transformation integration services

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