



INFORMATION TECHNOLOGY

The global IT services industry continues to be a highly fragmented one, with even the largest provider having a mid single digit market share

- ▶ Globally, rising IT investment, along with the industry's increasing use of cloud-based services and the broad adoption of software as a service, show how much demand there is for IT services.
- ▶ IT services that are offered are probably going to be impacted by trends like 5G, Blockchain, AR, and AI; The next 5G technology will probably make it possible for businesses to install networks on their property.
- ▶ The need for IT services is always expanding globally due to the growing acceptance of cloud-based software and the growing worry about automating company processes.

Global Market Trends

- **Artificial Intelligence and Machine Learning**

A lot of businesses nowadays integrate AI & ML technologies in their operations, reaping huge benefits of enhanced performance, better customer service & data analytics, reduced production problems & more profits.

- **Edge Computing and Quantum Computing**

Encryption is used by edge computing to safeguard any data traveling across the network on its way back to the data center or cloud.; Complex computer simulations and problem solving can be accelerated by quantum computing.

- **Blockchain**

The main benefit of using Blockchain is that it makes digital content catalog able & circulating but not editable or altered.

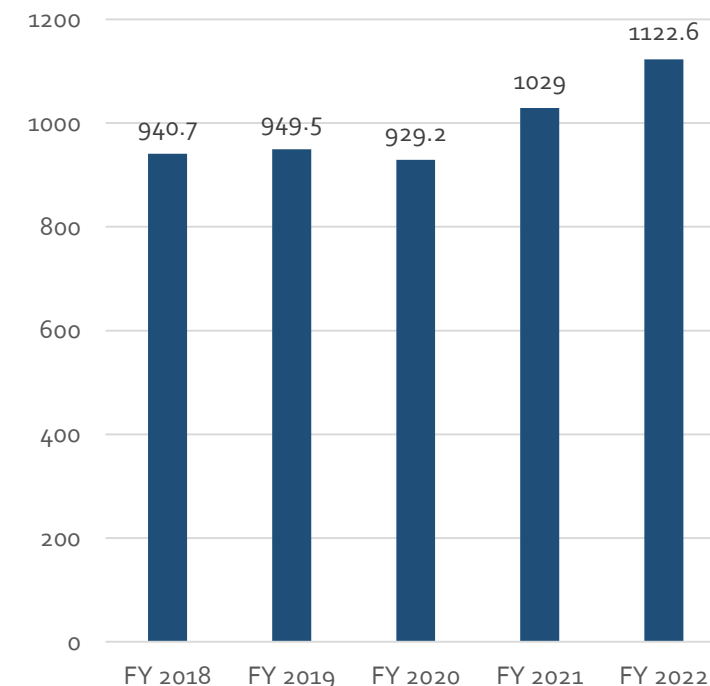
- **Virtual Reality and Augmented Reality**

Augmented reality, or AR, uses a smartphone's camera to add digital features to an already-existing live scene; virtual reality (VR) experience is one in which a simulated environment takes the place of the actual world.

Highlights

- ▶ The market leader in 2022 was the reactive IT services category. Reactive IT services are in greater demand as a result of various factors, including the adoption of new technologies, software updates, and cybersecurity risks.
- ▶ In 2022, the on-premises division had the highest revenue share. Higher levels of control and protection over data and apps are available with on-premises solutions.
- ▶ Due to reasons such the increasing complexity of enterprise applications, the need for increased IT agility and efficiency, and the growing demand for mobile applications, the application management category retained the greatest market share in 2022.

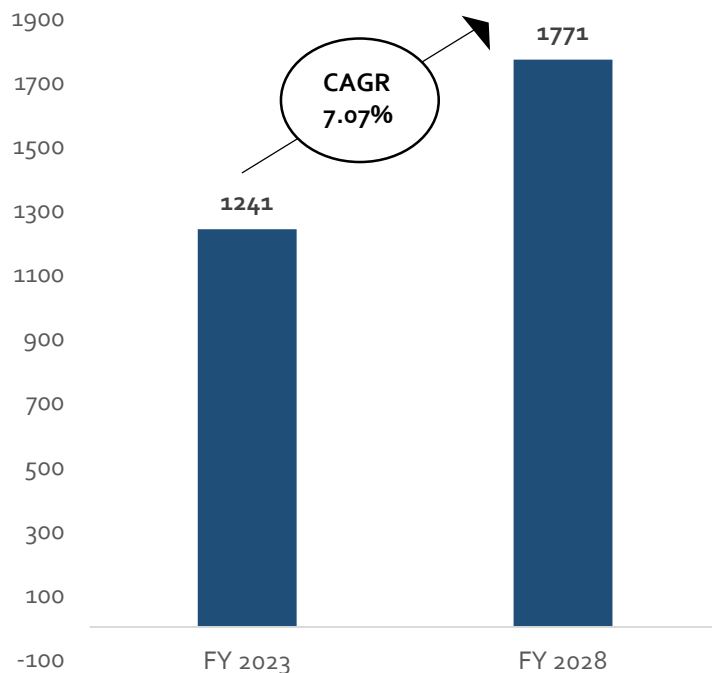
Revenue of the Industry-Global(In Bn)



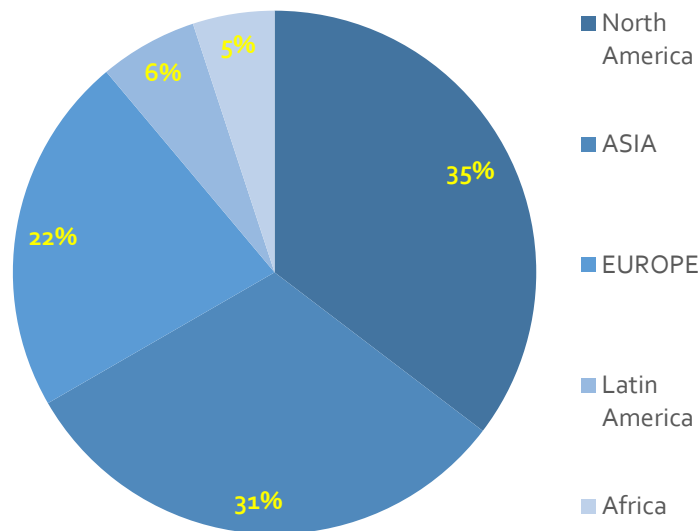
Industry Market Size

The size of the global IT services market is anticipated to increase from \$1241 billion in 2023 to \$1771 billion by 2028 at a CAGR of 7.37% during 2023-2028

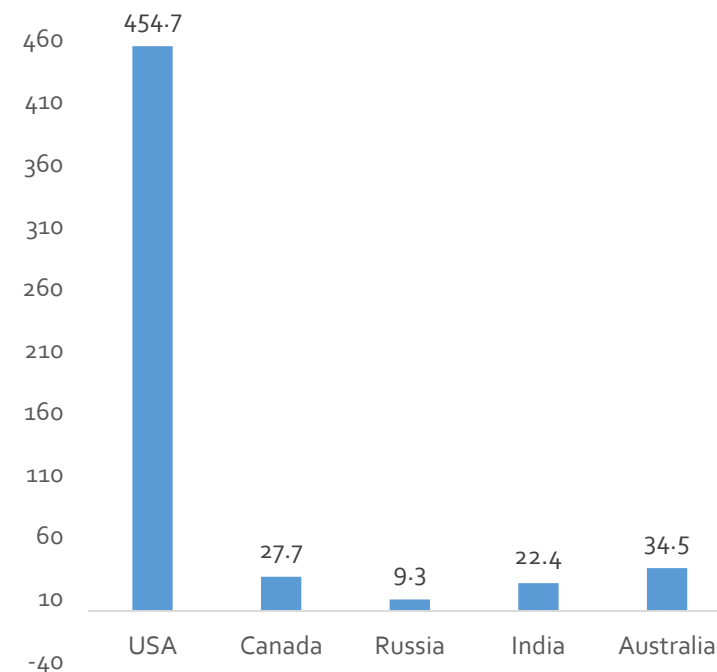
IT Market Size(In Billions)-Global



IT Industry Market Share-Regional



Regional Revenue(In Billions)-2022



- ▶ One of the markets in the technology sector that is expanding the fastest is the IT sector, which is constantly evolving and generating new trends every year.
- ▶ The need for IT services that support business resilience against future interruption and guarantee business continuity has been steadily rising.
- ▶ The worldwide IT services industry is projected to reach over US\$1,771 billion in 2028 as a result of continuous digital transformation and automated business processes.
- ▶ Cloud computing will keep developing and eventually serve as the basis for digital transformation; the need for IT services that support business resilience against future interruption and guarantee business continuity has been steadily rising.
- ▶ The need for managed IT services is rising sharply in the emerging market due to the growing demand for cloud services and infrastructure upgrades.

IT Industry Market Segmentation

By Type:

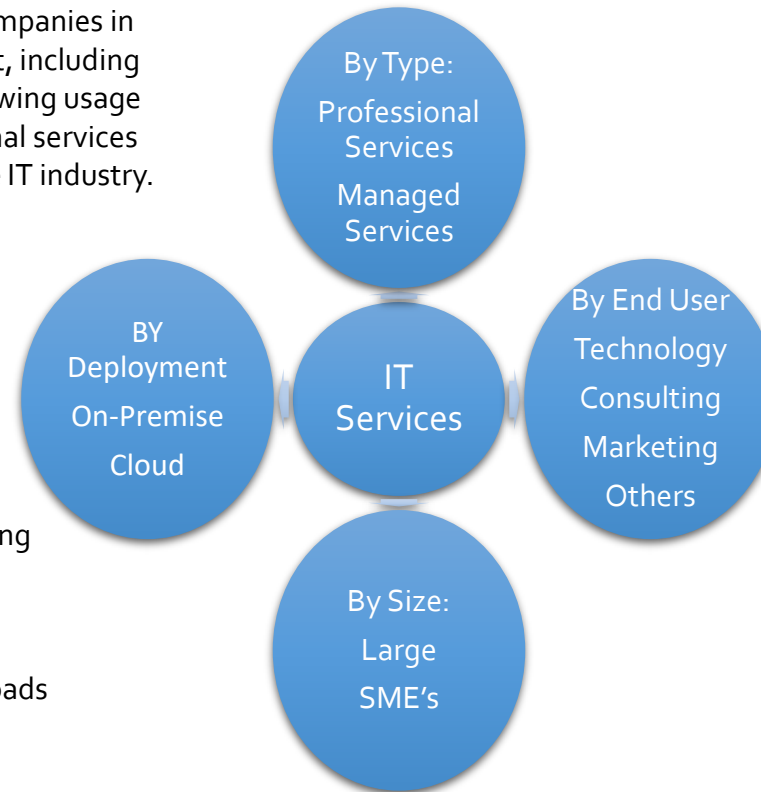
Based on Type market is segmented into two categories:

- **Managed services :** Managed IT services assists companies with ongoing daily operations, maintenance , and provide support for IT requirements.
- **Professional services :**Professional IT services assists companies in overcoming certain obstacles by way of a focused project, including the installation of new gear or a cloud migration: the growing usage of project management services by SME's the professional services might hold a dominant market position in the worldwide IT industry.

By Deployment:

The market is divided into two categories based on deployment:

- **Cloud-based:** Process of implementing an application using one or more cloud-based hosting models, such as infrastructure as a service (IaaS), platform as a service (PaaS), and/or software as a service (SaaS);including architecting, planning. Implementing & operating workloads on cloud.
- **On-Premise:** The software is installed and deployed on customer's premises, typically within their own business; The on-premise software system may be virtual or real and must be managed & maintained by the customer.



By End User:

- Nowadays, the majority of businesses struggle to keep their IT infrastructure affordable and operational. As a result, an increasing number of suppliers are entering this sector to offer managed IT services.
- The market for IT infrastructure services has expanded due in part to the emergence of new technologies like big data. By 2025, the big data market is projected to grow to a value of about \$318 billion.

By Size:

Based on size market is divided into two categories:

- **Small and Medium Enterprises:** SME;s are the businesses that produce items or provide services in small quantities and have limited capital and labor resources ; increase in operational efficiency , mobility, productivity & reach is witnessed with IT intervention.
- **Large Enterprises:** Large Enterprises are type of businesses that operates at a scale that is above normal, has extensive activities & enjoys significant economies of scale; induction of IT has allowed to adopt innovative processes & improve customer experience.

Tech companies have invested in analytics tools to increase visibility into the supply chain and pick up early warning signs to mitigate risks and prioritize expenses.

Opportunities & Implications

Execution of M&A plan more quickly to improve growth profile

For tech companies, an active M&A strategy could be very profitable. Tech firms may expand into new markets or related verticals, such as FinTech or HealthTech, through large, transformative acquisitions.

- A company's portfolio could be strengthened by acquisitive acquisitions of cutting-edge technologies like edge computing, Blockchain, and artificial intelligence

Utilization of analytics software to maximize profits

Analytics techniques can be used to determine how various strategies will perform in various risk scenarios, including inflation and geopolitical unpredictability

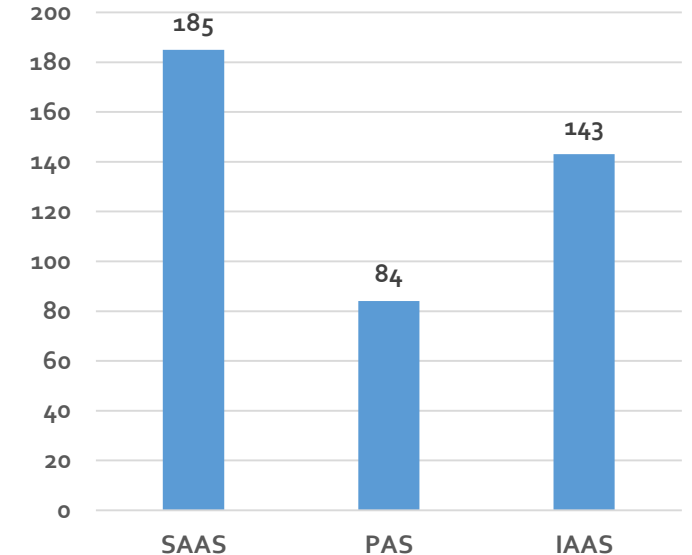
- This will provide assistance to businesses in determining costs for a wide range of various business models

Investment in the edge ecosystem to enhance user experiences and operations.

Businesses must handle growing volumes of data from the Internet of Things (IoT), such as contactless payments, robotic manufacturing, smart home sensors, and self-driving cars .

- Businesses require intelligence in their network at the local, edge level, where data is being collected. Edge computing modifies local operations and speeds up reaction times.

Global market spending on cloud services(In Bn)



- One of the three main levels of cloud computing are platform as a service (PaaS), infrastructure as a service (IaaS) & software as a service (SaaS).
- Enables businesses to reallocate resources from IT hardware, software, and staff expenses to other business needs.
- PaaS solutions are typically utilized for DevOps tools, cross-platform application development.

Risks and Mitigation Strategies

Risks in the Industry

► **Security hazards:**

Malware, phishing, viruses, and other forms of cybersecurity risks are examples of external IT risks brought on by criminal activity.

► **Physical threats:**

In order to accomplish their objectives, IT departments make use of servers, PCs, networks, and other physical resources. Since they are material objects, they are vulnerable to calamities like floods.

► **Technical failures**

Among other things, technical failures include the malfunction of IT components such hardware malfunctions, software bugs, and coding errors.

► **Human error**

Employees may make blunders like inadvertently wiping off data from a system, disregarding cybersecurity guidelines, or breaking hardware

► **Phishing, spam, and scams**

unsolicited communications that trick individuals into purchasing phony items or divulging personal information.

► **Denial-of-service attacks**

This stops authorized users from accessing websites

Mitigation Strategies

► **Implement Safety Measures**

This is an avoidance approach in which the business commits to minimizing risk & allocates significant resources to that goal; danger to the infrastructure is eliminated

► **Shift the Risk**

When a business assigns risk to another organization, it's using a transference technique; redistribution may be applied to insurance policy, or outsourcing company.

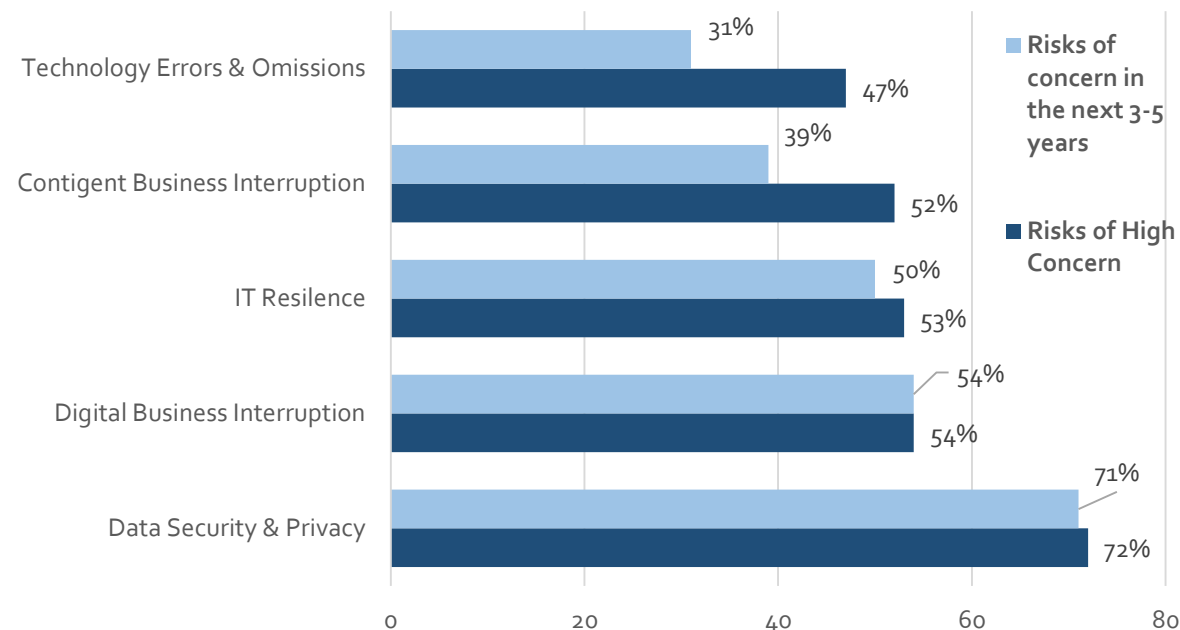
► **Improvising with Automation**

Information technology staff members have opportunity to learn about new technologies through the automation of processes. The possibility for increased security in IT operations stems from these automation advancements.

► **Acceptance of Risk**

This methodology is effective in addressing identified risks that have surf Information technology staff members have opportunity to learn about new technologies through the automation of processes.

Risks of concern in the Industry



Trends in the IT Industry

Technological Trends

- ▶ **The use of generative AI, the heightened emphasis on explainable AI, and ethical issues**
 - Modern technology called "generative AI" has completely changed a number of sectors by allowing machines to produce content that seems like it was created by humans.
 - It may be used for many different things, such as creating text, creating images, and even creating music.
- ▶ **The use of IoT devices is expanding throughout a number of industries**
 - This increase is mostly due to the higher bandwidths that 5G is bringing about; there is a need for greater cybersecurity in tandem with that expansion.
- ▶ **Automated machine learning (AutoML) development continuing**
 - Although machine learning has provided with a plethora of applications recently, automated machine learning is going to be a breakthrough in machine learning..
 - To ease the strain on technical personnel, many repetitive and tedious operations, such parameter selection and data cleansing, can be automated with AutoML.
 - AutoML also improves the usability of the technology for non-technical individuals by using algorithms instead of humans to create learning models.
- ▶ **Growth of edge computing across a range of sectors, such as manufacturing and healthcare**
 - Users would experience very low latency and lengthy wait times for data analysis and insights if all that data had to go across a network and be processed in a data center.
 - In order to reduce latency and boost throughput, edge computing enables this data to be processed closer to the point of creation.
- ▶ **Use of AI & IOT to create more Intelligent and responsive environments**
 - Smart spaces monitor a space, give information about it, and boost productivity in it by utilizing cutting-edge, networked technologies.
 - A range of networked sensors will be used in "smart spaces" to automate many aspects of space management, including temperature and lighting control.

Sustainable Trends

▶ Bid Management System (BMS)

It is made to promote sustainability and expedite the procurement process. This software solution lowers the environmental impact of purchase decisions & promotes environmentally friendly purchasing practices by automating procurement and decreasing paper waste.

▶ Optical Character Recognition (OCR)

Reduces paper waste, deforestation, and greenhouse gas emissions, all of which contribute to sustainability initiatives. By converting paper documents into digital format and minimizing the need for excessive printing and raw material consumption, OCR technology helps to stop deforestation.

▶ Building infrastructure that uses less energy

Usage of LED lighting and HVAC systems with high efficiency, to cut down on energy use and carbon gas emissions. These programs allow for more efficient cooling and lighting systems in addition to making the environment greener.

Mega Trends

▶ Augmented Reality and Virtual Reality

While AR adds computer-generated pictures to a person's vision of the real world, VR produces a computer-generated environment that a person can experience as if they were there.

▶ Robotics Process Automation

RPA is intended to increase productivity, decrease errors, and free up human labor for more difficult and valuable jobs. Business process outsourcing is one sector where RPA may see expansion (BPO).

▶ Digital Twin Technology

Digital twins are models of real-world systems, processes, or objects that can be used for analysis, optimization & stimulation.

▶ Datafication

Making graphs, charts, and other visualizations to make data-driven decisions.

Integration with Cutting-Edge Technologies to Support Market Growth: Blockchain, AI, & IoT

Demand Drivers

► Increasing Enterprise Demand for IT Infrastructure

The worldwide market for IT services is anticipated to expand due to the increasing need for IT infrastructure among businesses. When it comes to consumption-based pricing structures, the trend that began with software has moved to hardware and is becoming more and more popular across many industries. This shift from capital to operating minimum spending and capital reduces risk and allows for flexibility.

► Growing Uptake of Cloud-Based Implementations

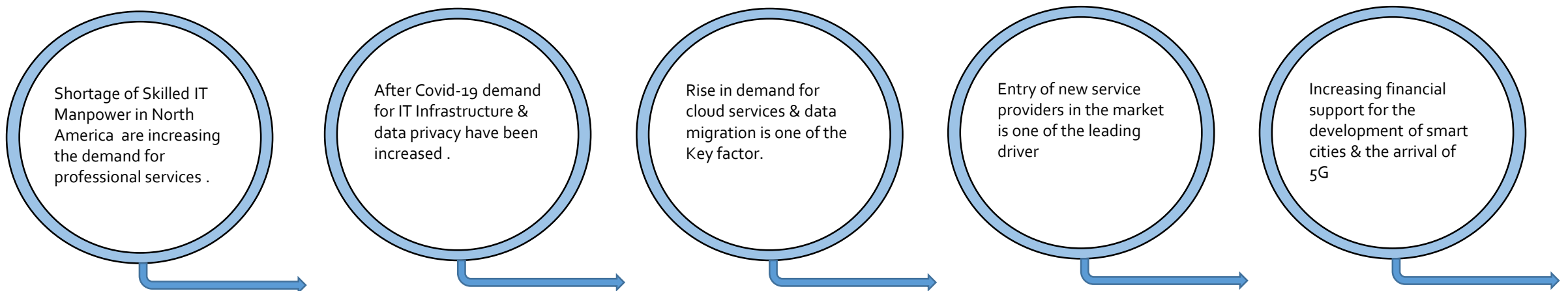
Because cloud-based deployments are becoming more widely used, IT services will increase faster due to factors including improved scalability, lower IT expenses, and automated update availability. The need for cloud deployments has led to the adoption of cloud services by several verticals. Furthermore, compared to an on-premises setup, the data holding capacity is enormous. Despite employing traditional deployments, businesses are evolving to meet the needs of their clients.

► New developments in big data technologies

Due to the rise of industrial automation, high-speed internet connections, and the growing ubiquity of mobile devices, data consumption has dramatically increased since 2017. The volume of data is increasing, which is presenting huge opportunities for IT service management. Similar to this, colocation data centers are in great demand due to the rise in data volumes. Businesses in this industry are depending more and more on IT services as a result of digitizing their operations and services.

► Increase usage in financial services and supply chain management

New use cases for blockchain are being created by the growth in supply chain problems and the more digitization of money. Blockchain is assisting in providing real-time visibility into the tracking of commodities from creation to distribution, reducing some of the supply chain bottlenecks caused by its irreversible transaction history.



98% of SaaS organizations saw favorable outcomes from changing their basic pricing policies; with 84% of them organizing their pricing from low to high

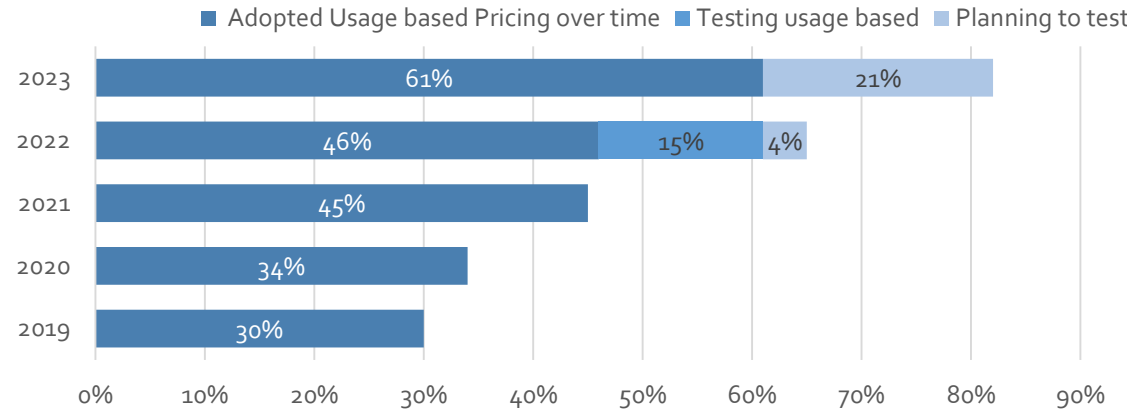
Pricing Models in the Industry

- ▶ **Per user**
Costs associated with each unique product user. Per named user, per active user, and per concurrent use are examples of variations.
- ▶ **Freemium**
charges nothing for a commodity that is limited in quantity ; Frequently employed as an acquisition strategy to quicken client adoption
- ▶ **Flat-Rate Subscription**
Charges a fixed fee regardless of usage. Variants include a fixed monetary value (e.g., \$99 per month) or a fixed percentage (e.g., 10% of total contract value)
- ▶ **Outcome Based**
Fees determined on the worth or business benefit of the item, like as an economical measure or an rise in revenue .
- ▶ **Consumption Based**
Fees determined by actual use, such as per minute or per request, per gigabyte. Differentials incorporate the use bundles membership + averages, as well as credit for consumption
- ▶ **Per Device**
Fees for every gadget, such as a laptop or a "subscription unit" (A general unit of measure so as to combine several gadgets combined into a single unit)
- ▶ **Tiered**
Fees distinguished bundles (such as silver, gold, and bronze), thus Clients are able to choose the features and cost that what functions best for them.
- ▶ **Enterprise License Agreement**
Not so much a pricing model as a "all you can eat" one usually employed by big sellers with intricate worldwide clients.

Macro-events to shape future pricing model trends

- ▶ **Higher Value, Higher Prices**
Vendors' investments in and use of AI to improve their products are probably going to increase the product's worth ; Although the number of client user licenses may theoretically fail: software providers might reasonably raise pricing to correspond with the rise in value .
- ▶ **Reduction in Role Based Pricing**
AI poses the greatest threat to role-based pricing (such as per-HR-agent). There is less risk to per-employee pricing because there isn't much software that could result in such significant increases in productivity.
- ▶ **Per-Bot Pricing**
Anticipation of more vendors to adopt the per-bot pricing model, when clients are utilizing techniques to Steer clear of certain price models.

The Rise of Consumption-based Pricing



Recent Developments of the IT Industry

In the recent past, the IT industry has emerged as a major contributor to the industry revenue as well as employment opportunity provider globally

Emerging Advancements in the Industry

TCS ties up with AWS to launch GenAI Practice

According to an official statement, the practice will concentrate on using its "Paceport innovation hubs" and responsible AI frameworks to develop a comprehensive range of services and solutions for every industry area.

Metaverse spur revenue growth in 3 to 5 years.

Within the next three years, Metaverse is expected to grow into a "big force" and assist Indian IT companies with tasks like employee onboarding and training. Krishnan Ramanujam, Tata Consultancy Services' (TCS) President and Head of Business & Technology Services,

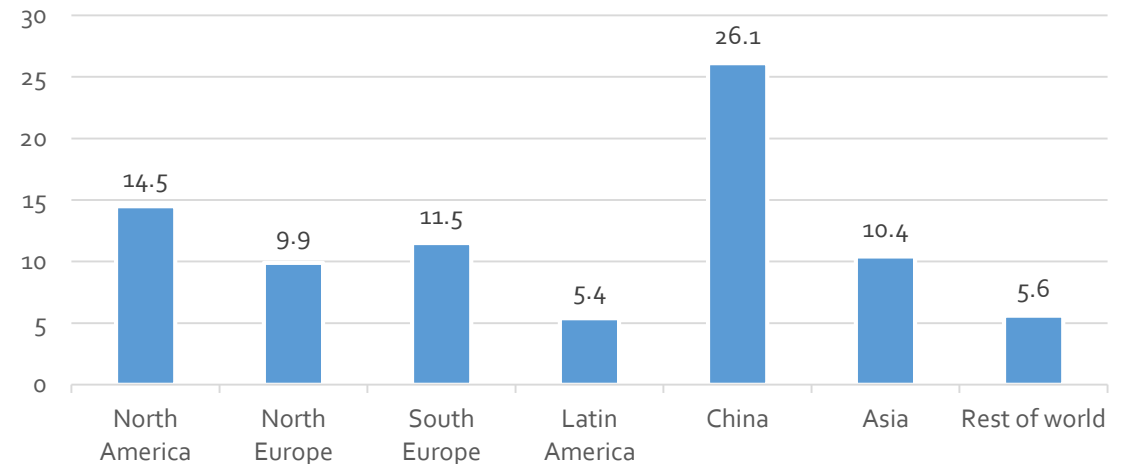
Microsoft will bring its Copilot chatbot to windows 10

In contrast to the Bing search engine, Edge browser, and Dynamics business software, where it has moved faster quickly, Microsoft is taking a cautious approach to implementing Copilot on Windows, which is still a significant and profitable component of their range.

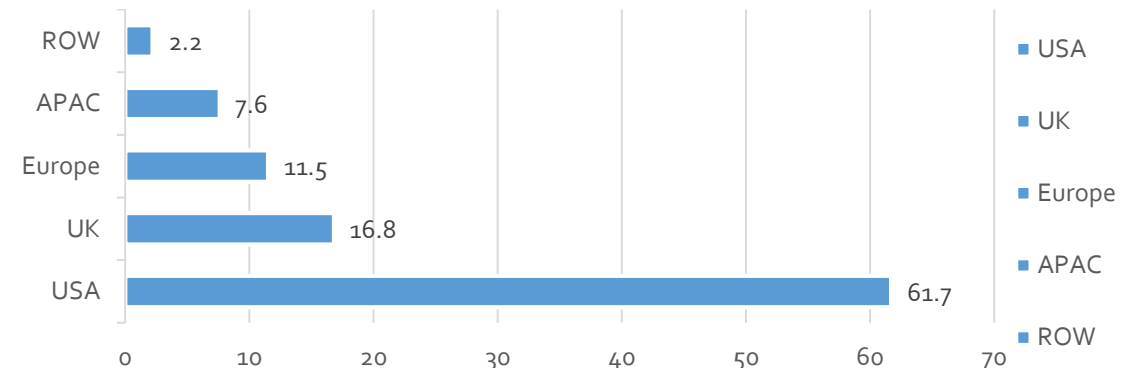
Cisco acquisitions expand company's cybersecurity portfolio

Cisco and Armorblox, a leader in the use of natural language and large language models to cybersecurity, reached an acquisition agreement in May.





Impact of AI on GDP by 2030 (in %)



Geographic break up of Export Revenue(in %)



Competitive Landscape

Company Name	Products & Services	Clientele	Revenue(In Billions)	News Room
	<ul style="list-style-type: none"> ▪ Analytics & Supply Chain ▪ Application Integration ▪ Blockchain & Machine Learning ▪ Quantum Technologies ▪ Security , Identity & Compliance 	1 million+	80	<ul style="list-style-type: none"> • AWS introduce Amazon One Enterprises a palm-based identity service for comprehensive & easy-to-use authentication. • AWS Announces Three Serverless Innovations to Help Customers Analyze and Manage Data at Any Scale
	<ul style="list-style-type: none"> ▪ Analytics & Cloud ▪ Quantum Computing ▪ IT Infrastructure ▪ Application Development ▪ Cybersecurity & Data Storage 	3000+	60.5	<ul style="list-style-type: none"> • IBM Unveils watsonx.governance to Help Businesses & Governments Govern and Build Trust in Generative AI • IBM Unleashes the Potential of Data & AI with its Next-Generation IBM Storage Scale System 6000
	<ul style="list-style-type: none"> ▪ Data & Analytics ▪ Cloud & Cybersecurity ▪ IT Consulting ▪ Network solutions & Services ▪ IOT Digital Engineering 	200 million +	27.9	<ul style="list-style-type: none"> • TCS launches New-Gen AI Powered Cyber Insights Platform on Amazon Security Lake • TCS Helps VIAVI Build O-RAN Test Solutions to Accelerate Launch of Innovative New 5G Products
	<ul style="list-style-type: none"> ▪ Application Services ▪ Business Strategy ▪ Data & Analytics ▪ Finance Consulting ▪ Artificial Intelligence 	9000+	64.1	<ul style="list-style-type: none"> • Accenture Completes Acquisition of Solnet to Expand Cloud First Capabilities in Aotearoa New Zealand • Accenture Invests in Vū Technologies to Help Companies Use Virtual Production to Create New, Immersive Experience.

Tata Consultancy Services is an IT services, consulting & business solutions organization partnering with world's major businesses in their transformation journeys for over 55 years

Innovate, Adapt, Thrive: Theme for the year that reflects the agility that enterprises require to thrive in this fast changing Uncertain business; tcs with its full service capabilities help clients to move to cloud , accelerate their innovation , adopt new business models and drive competitive differentiation.

Key Highlights

Founded
1968

Headquarters
Mumbai , India

Employees
600000+

Revenue (2023)
\$27.9 Billion

Website
[LINK](#)

Strategy for sustainable growth

- TCS's **customer-centric approach** to business enables it to identify trends early, seize chances for growth through wise investment decisions, reduce risks, and fulfil its ethical and environmental obligations.
- Proactive investments to take advantage of those opportunities by retraining employees, developing new skills, and introducing services, platforms, and solutions.
- Applying **TCS Integrated Business Model** involving Value Creation Model using Five Capitals namely Financial, Social, Intellectual, Natural and Human Capital.

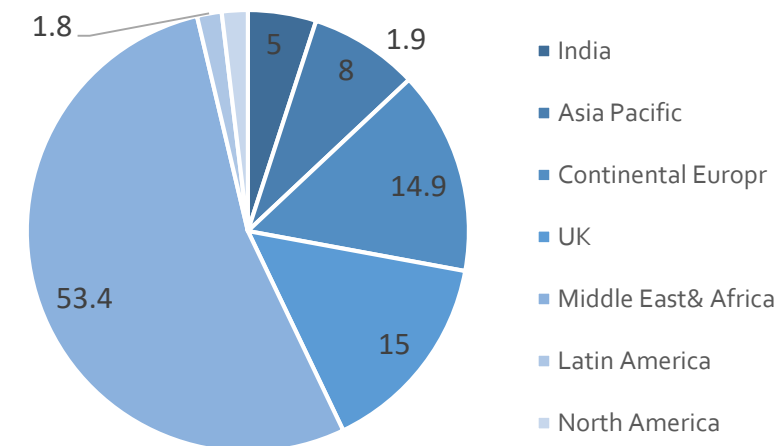
TCS Approach

- Proactive pitching of business operating model and IT changes that improve corporate resilience, agility, and throughput in addition to increasing efficiency.
- Specialized business units on each hyperscaler platform with full end-to-end capabilities
- Concentrated on acquiring contextual knowledge and using it to implement changes from the inside out.

Outcomes

- Gains in market share through vendor consolidation
- Robust revenue growth for cloud transformation
- Growth is aided by the G&T business's expanding stake.
- Robust SaaS sales growth & stronger win-win partnerships.

Revenue by Geography(in %)



Awards & Accolades

- Ranked **#1** by revenue in the UK for the second year in a row throughout the whole technology ecosystem according to the 2022 TechMarketView UK Software and IT Services Supplier Rankings
- Won **#3** awards at the India Risk Management Awards (IRMA)2022 by ICIC Lombard & CNBC TV18 Masters of Risk in IT-ITES , Cybersecurity and Risk Compliance.

Accenture is a top global provider of professional services, assisting governments & corporations in developing digital infrastructure and streamlining their business processes

Technology is the driving force behind change today, and Accenture with robust ecosystem partnerships are among the global leaders in facilitating that progress; because of extensive portfolio of services, products, & resources in the areas of strategy & consulting, technology, operations, & industry, accenture is able to produce distinct tangible results.

Key Highlights

Founded
1989

Headquarters
Dublin, Ireland

Employees
700000+

Revenue (2023)
\$64 Billion

Website
[Link](#)

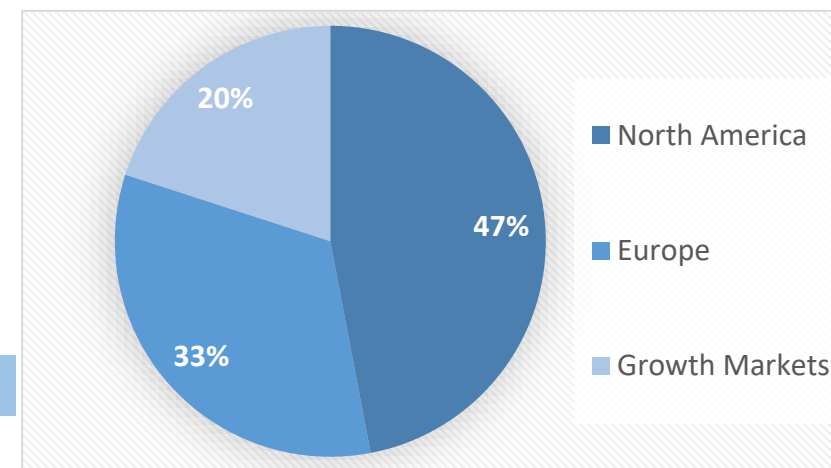
Strategy for growth

- **Net Zero Transitions** :Getting all firms to transition to net-zero is becoming more & more important; Accenture provides solutions to lower carbon emissions while promoting social & economic advantages across cities.
- **Sustainable Value Chain**: Businesses are under increasing pressure to reinvent their value chains in order to maximize profits . Accenture creates value chains that are reliable, net-zero, and circular by assisting businesses in integrating sustainability into each step of the value chain.
- **Sustainability Measurement & Analytics**: Accenture offers the instruments, technology & approaches enables companies to assess economic value.

Key Enablers of Growth Strategy

- **People**: Being a talent- and innovation-driven firm, people of Accenture are highly specialized in their capabilities that's what make it unique & competitive across the board. Accenture genuinely care about their employees, dedicated in creating a culture where everyone succeeds
- **Commitment**: As a purpose-driven organization, Accenture is dedicated in realizing the potential of technology and human inventiveness by consistently generating cutting-edge concepts, utilizing cutting-edge technologies, and anticipating the needs of clients.
- **Foundation**: The growth approach allows to be close to the clients, people, & partners while scaling effectively. It does by using worldwide sales, client expertise & innovation, and organizing around geographic markets.

Revenue by Geography



Awards & Accolades

- Refinitiv Global Diversity & Inclusion Index No. 1 for the 4th time in 6 years, 8 consecutive years on list.
- BrandZ Most Valuable Global Brands No. 22 with a brand value of \$73.6B; marking 18 consecutive years on list
- FORTUNE Global 500 No. 220, marking 22 consecutive years on list
- Brand Finance Most Valuable IT Services Brands No. 1 for the 5th consecutive year with a brand value of \$39.9B

SWOT Analysis of IT Industry



The IT industry has been crown jewel in the global economic growth story for past 2 decades



The threat of new entrants is low because :

- ▶ IT industry is highly capital intensive
- ▶ Skill and knowledge intensive
- ▶ Presence of already established players
- ▶ Prolonged strong client relationship with existing players
- ▶ High ticket size for projects



The bargaining power of suppliers is low because

- ▶ Nature of services provided by the firms
- ▶ Adequate presence of service providers
- ▶ Requires trained and specialized labor
- ▶ Standardized supplier side
- ▶ Challenging terms of contract



The competitive rivalry is high in this industry because

- ▶ Presence of ample number of companies
- ▶ High competition towards same number of clients
- ▶ Constant urge of differentiation among the players
- ▶ Changing price wars among the competitors



The bargaining power of buyers is moderate in this industry

- ▶ Presence of ample amount of suppliers
- ▶ High scope and magnitude of projects
- ▶ Efficiency of customers the power to partially dictate the terms of the contract



The threat of substitutes is low in this industry because

- ▶ No easy alternatives to be found



Company Segmentation of IT Industry

Tier 1

Revenue > 10 bn



Tier 2

Revenue > 1 bn



Tier 3

Revenue < 1 bn



Regional(WB)

