

Sector update

Technology

Infosys (BUY)

Target Price: Rs1,641

TCS (BUY)

Target Price: Rs3,786

Persistent (BUY)

Target Price: Rs5,960

HCL Tech (ADD)

Target Price: Rs1,291

LTIMindtree (ADD)

Target Price: Rs5,637

Happiestminds (ADD)

Target Price: Rs 1,038

Mphasis (HOLD)

Target Price: Rs1,812

Wipro (REDUCE)

Target Price: Rs350

Tech Mahindra (SELL)

Target Price: Rs927

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Technology

Demand tracker: June quarter to be soft, but overall long-term tech demand is resilient

In this note, we track demand indicators relevant for assessing demand for IT services companies. We believe June quarter may be softer than the current consensus expectations based on our discussion with IT companies and Accenture's August quarter guidance ([Link](#)). At the same time, positive demand indicators point towards a resilient tech spend demand over medium-to-long term. We expect revival in H2FY24 based on higher CQGR implied by healthy guidance of global SaaS players, stable or growing deal pipelines for IT companies and commentary of ISG around revival of demand in the last two weeks of June (which was mentioned in the recent IT expert webinar hosted by us ([Link](#))).

Positive demand indicators: Macro demand indicators such as global GDP growth and consensus S&P 500 revenue growth expectations signal revival of demand in CY24/CY25 after a dip in CY23. Forecasts for IT services industry by Gartner and ISG indicate resilient demand in CY23. ISG has cut its as-a-services ACV growth outlook modestly from 17% to 15% YoY in CY23 and maintained its managed services ACV growth forecast at 5% YoY for CY23 in its Apr'23 quarter update. Similarly, commentaries of large US banks and retailers suggest that though they are focusing on reducing costs amidst macro uncertainties, they are committed to their long-term technology transformation programmes. Guidance of global SaaS and technology companies as well as commentaries of most Indian IT services companies suggest recovery in demand from H2FY24.

Negative demand indicators: Demand indicators such as soft guidance by IT companies (Infosys and Wipro) for Q1FY24 or full year FY24, Accenture's Aug quarter guidance implying no sequential improvement, moderation in cloud growth for hyperscalars, muted TCV growth in Q4FY23, declining headcount (down 0.5% QoQ in Q4FY23 for our coverage universe) and further sequential decline or muted headcount growth in Q1FY24 expected by IT companies indicate near-term weakness in demand.

EBIT margins are likely to remain flat in FY24E as benefits from cooling-off attrition and improving utilisation are expected to be offset by higher pricing pressure, increase in travel costs and no incremental benefits from pyramid optimisation.

NIFTY IT is currently trading at 21x one-year forward EPS vs last 15-year average of 18x, a 16% premium over NIFTY 50 P/E of 18.5x (in line with historical average premium of 16%). However, 1-year forward EPS growth of NIFTY IT at 7% is lower compared to NIFTY 50 EPS growth of 12%. Valuations for Indian IT sector are still not attractive and there is scope for further downside due to weak earnings growth in the next 1-2 quarters, but we believe multiples could sustain in the medium term given strong structural demand tailwinds around cloud migration and digitalisation. We assume pick-up in growth in H2FY24 and assign last 5-year average multiple to companies in our coverage universe, which was the beginning of cloud and digitalisation cycle for Indian IT companies. In the existing scenario, we continue to believe stock price returns may be driven by earnings growth rather than multiple expansion.

We maintain BUY on Infosys, Persistent and TCS, upgrade HCLT to ADD (earlier: *Hold*), maintain ADD on Mphasis, downgrade LTIMindtree and Happiest Minds to ADD (earlier: *Buy*), maintain REDUCE on Wipro and downgrade TechM to SELL (earlier: *Reduce*). Our downgrades are due to run-up in stock prices in the last two months with no change in our underlying thesis, our estimates and target prices. There is a risk of our and consensus Q1FY24 and FY24 estimates to be revised downwards. Our top picks are Infosys, Persistent and TCS and bottom pick is TechM.

Downside risks: Any potential negative impact of Generative AI on contract pricing and margins, which is still unknown, 2) delayed macro recovery and tech spending outlook due to persistent high inflation and interest rates, 3) pricing pressure and margin dilution due to higher focus on cost optimisation deals where competition is stiff.

► **HCLT: Upgrade to ADD (earlier: Hold)**

We assign 20x (earlier: 16x) multiple to services business (i.e. IT services and ER&D) because it is growing the fastest amongst tier-1 IT companies. We expect HCL's services business to grow at 7.8% YoY CC in FY24E. Additionally, margins are expected to remain flat or slightly improve in FY24E vs decline in margins for large cap peers (INFY, Wipro, TechM). We value services business at 20x on FY26 EPS of Rs63 (discounting back by 1 year at 12%) to arrive at our TP of Rs1,131.

We assign 16x multiple to software products and platforms business of HCLT – similar to 1-yr forward P/E multiple of global peers (Solidwizard Technology and Webcash (refer Table 2). These global peers have similar revenue growth (mid-single digit) and margin profile (~25% EBIT margin). We value products business at 16x on FY26 EPS of Rs11 (discounting back by 1 year at 12%) to arrive at our TP of Rs161.

We change the valuation methodology for HCLT business from earlier valuing it at 16x multiple on FY26 EPS and then discounting back by 1 year at 12% to now using SoTP method. We arrive at our SoTP-based TP of Rs1,291 (refer Table 1).

Table 1: HCLT's SoTP-based valuation methodology

HCLT Valuation methodology	
Products business EPS share as % of total EPS	15%
Total FY26EPS	75
Products business FY26EPS	11
Services (IT Services + ER&D) FY26EPS	63
TM for products & platforms	16
TP of products and platforms (A)	161
TM for Services business	20
TP for Services business (B)	1,131
TP (A+B)	1,291
CMP	1,170
GAP	10%

Source: Company data, I-Sec research.

Table 2: Comparison with global software peers having mid-single digit revenue growth and 25-30% margins

Company	Last 5 year average P/E	CY22 Revenue (USD mn)	USD Revenue growth						EBIT Margin						ROIC	
			CY20	CY21	CY22	CY23E	CY24E	CY25E	CY20	CY21	CY22	CY23E	CY24E	CY25E	CY21	CY22
Solidwizard technology	16	47	10%	13%	-5%				26%	28%	27%	NA	NA	NA	23.3%	23.3%
Webcash Corp	17	68	18%	16%	-5%	2%	7%	5%	20%	23%	23%	23%	23%	24%	16.3%	16.3%
HCLT Products business			21%	-1%	2%	3%	5%	4%	28%	24%	25%				14.2%	15.5%

Source: Company data, I-Sec research, Bloomberg

► **Top picks - Infosys, Persistent and TCS**

Infosys: We expect INFY's superior digital capability, focus on large cost optimisation / digital transformation / integrated deals and strong management execution to will likely enable it to grow higher than large cap IT peers in FY25E and FY26E when macro economy revives. Infosys has a strong pipeline of large deals with potential to win a mega deal that can improve the visibility of double-digit revenue growth in FY25. We expect margins to be ~20-21% over FY23-FY26E given its focus on large integrated deals where margins are lower in the initial phase of ramp up. We continue to model US\$ revenue / EBIT CAGR of 10.7% / 10% over FY23-FY26E. Our unchanged 12-month target price of Rs1,641 (based on 23x FY26E EPS of Rs80, discounted back by WACC of 12%) implies ~28% potential upside.

Persistent: Persistent has crossed US\$1bn-revenue threshold in FY23. We believe US\$1bn revenue size is a sweet spot for IT vendors to target both small and large sized deals. This, along with strong management execution, is leading Persistent to participate in both digital transformation and cost optimisation agenda of its clients. Persistent has built strong digital capabilities with unique strength around hyperscalers (AWS, Azure, Google Cloud, IBM and Salesforce) as well as multiple SaaS companies either through tuck-in acquisitions or organically. This is providing a fillip to Persistent's digital revenue to grow strongly, in line with growth at these hyperscalers or SaaS companies. We are forecasting 18% US\$ revenue CAGR for Persistent over FY23-FY26E and EBIT margin may expand by 290 bps over FY23-FY26E from ~15% in FY23 vs management's guidance of 200-300bps margin expansion over the next 2-3 years. We continue to value Persistent at 25x FY26E EPS of Rs267 (discounted back 1-yr with WACC of 12%) to arrive at an unchanged 12-month target price of Rs5,960, implying 22% potential upside.

TCS: We believe Tata Consultancy Services (TCS) may be a big beneficiary of vendor consolidation and a proactive participant in the cost optimisation agenda of clients in current macro downcycle, which is expected to last through CY23E. TCS' strong digital capability and ability to work closely with hyperscalers / SaaS vendors would enable it to participate strongly in growth and transformation agenda of its clients once they again take centre stage in FY25E/FY26E on the back of expected favourable macro environment. We continue to value TCS at 25x FY26E EPS of Rs170 (discounted back 1-yr with WACC of 12%) to arrive at an unchanged 12-month target price of Rs3,786, implying ~19% potential upside.

► **Bottom pick – TechM**

TechM: On account of weak digital capability, cut in technology budgets in its top clients and generally weak execution, we expect TechM to report one of the weakest growth (within our coverage) at 3.4% in CC terms in FY24E. Despite top management change, we do not expect material change in the earnings fundamentals of the company in the medium term (2-3 years) and believe that reviving growth fundamentals may be a gradual process. We continue to value TechM at 14x FY26E EPS of Rs73 (discounted back 1-yr with WACC of 12%) to arrive at an unchanged 12-month target price of Rs927, implying ~17% potential downside. **We downgrade the stock to SELL (earlier: Reduce) on ~12% run-up in share price in the last two months.**

- **We downgrade LTIMindtree and Happiest Minds to ADD (earlier: Buy)** due to ~19% run-up in share price in the last two months for both the stocks. However,

there is no change in our investment thesis and target price. We continue to value LTIMindtree at 25x FY26E EPS of Rs253 (discounted back 1-yr with WACC of 12%) to arrive at an unchanged 12-month target price of Rs5,637, implying ~13% potential upside. Similarly, our TP for Happiest Minds is unchanged at Rs1,038, implying ~9% potential upside.

Table 3: Key metrics

Companies	Rating	CMP (Rs)	Market Cap (US\$ bn)	Target Price	Potential Upside	USD Revenue CAGR FY23-FY26E	EPS CAGR FY23-FY26E	P/E		PEG	EV/EBITDA		EV/Sales		ROE (%)	
								FY25E	FY26E	FY25E	FY25E	FY26E	FY25E	FY26E	FY25E	FY26E
LTIMindtree	ADD	5,003	19	5,637	13%	14.4%	19.3%	20.4	17.1	1.1	16.1	13.5	3.2	2.8	35.5	36.2
Infosys	BUY	1,277	66	1,641	28%	10.7%	11.5%	19.4	17.4	1.7	12.2	11.0	2.9	2.5	34.8	36.2
TCS	BUY	3,194	146	3,786	19%	10.0%	13.8%	21.8	19.1	1.6	15.0	13.2	4.1	3.7	50.9	52.2
Mphasis	HOLD	1,832	4	1,812	-1%	11.2%	10.3%	16.3	14.3	1.6	10.4	9.2	1.9	1.7	23.7	24.5
HCL Tech	ADD	1,170	40	1,291	10%	11.1%	10.8%	14.7	13.9	1.4	8.9	8.3	2.1	1.8	24.7	27.6
Wipro	REDUCE	383	26	350	-9%	7.0%	10.6%	15.1	13.6	1.4	9.4	8.5	1.8	1.6	16.0	16.6
Tech M	SELL	1,116	14	927	-17%	8.3%	8.8%	17.1	15.5	1.9	9.4	8.5	1.5	1.4	19.7	21.5
Persistent	BUY	4,890	5	5,960	22%	18.0%	29.2%	23.4	18.3	0.8	16.0	12.9	3.2	2.6	29.7	30.6
Happiestminds	ADD	951	2	1,038	9%	24.2%	24.4%	38.2	31.0	1.6	24.5	19.8	6.1	4.9	31.6	31.8
Sector Average					34%	13%	31%	18.0	15.3	1.1	12.1	10.3	2.8	2.4	37.1	36.0

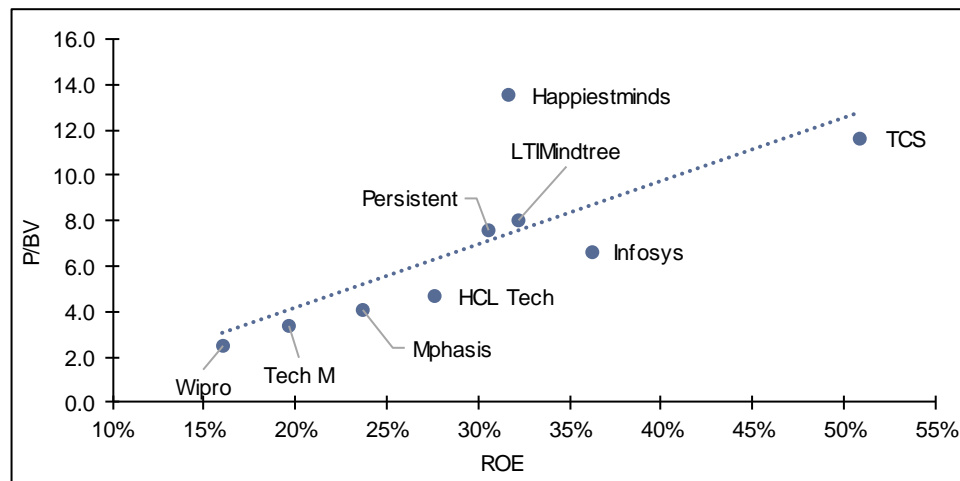
Companies	Rating	CMP (US \$)	Market Cap (US\$ bn)	Target Price	Potential Upside	USD Revenue CAGR FY23-FY26E	EPS CAGR FY23-FY26E	P/E		PEG	EV/EBITDA		EV/Sales		ROE	
								FY25E	FY26E	FY25E	FY25E	FY26E	FY25E	FY26E	FY25E	FY26E
Accenture	Not Rated	297	198	Not Rated	Not Rated	7.7%	8.7%	21.9	20.0	2.5	14.2	14.6	2.7	2.4	27.4	27.1
Cognizant	Not Rated	62	32	Not Rated	Not Rated	3.8%	5.4%	13.5	12.1	2.5	8.5	7.8	1.5	1.4	17.1	17.1
Capgemini	Not Rated	170	30	Not Rated	Not Rated	6.8%	9.0%	12.5	11.3	1.4	8.0	7.3	1.2	1.2	18.5	18.5
Microsoft	Not Rated	329	2,443	Not Rated	Not Rated	12.7%	15.8%	26.0	22.0	1.6	18.3	15.0	9.2	8.0	33.0	31.5
Salesforce	Not Rated	207	202	Not Rated	Not Rated	11.2%	28.3%	23.2	19.9	0.8	13.4	11.5	5.3	4.7	10.6	10.3
ServiceNow	Not Rated	538	110	Not Rated	Not Rated	21.7%	108.5%	45.5	37.1	0.4	30.2	23.9	9.9	8.2	24.9	23.7
Workday	Not Rated	220	57	Not Rated	Not Rated	17.1%	30.4%	34.4	28.0	1.1	22.6	18.2	6.4	5.5	18.4	16.6
SAP	Not Rated	121	149	Not Rated	Not Rated	6.4%	17.5%	18.3	15.5	1.0	13.2	11.8	4.2	3.8	15.0	16.6
Oracle	Not Rated	117	317	Not Rated	Not Rated	8.6%	11.8%	18.9	16.6	1.6	13.4	12.2	6.9	6.3	226.0	108.8

Happiestminds Global peers	Rating	CMP (US \$)	Market Cap (US\$ bn)	Target Price	Potential Upside	USD Revenue CAGR FY23-FY26E	EPS CAGR FY23-FY26E	P/E		PEG	EV/EBITDA		EV/Sales		ROE	
								FY25E	FY26E	FY25E	FY25E	FY26E	FY25E	FY26E	FY25E	FY26E
EPAM	Not Rated	220	13	Not Rated	Not Rated	7.9%	6.5%	19.9	16.8	3.1	14.9	12.2	2.6	2.2	17.1	18.4
Globant	Not Rated	175	7	Not Rated	Not Rated	20.5%	16.4%	26.3	21.8	1.6	14.7	11.5	3.0	2.4	14.1	14.1
Endava	Not Rated	48	3	Not Rated	Not Rated	11.5%	11.4%	16.9	14.1	1.5	11.2	9.2	2.6	2.2	19.3	19.5
Thoughtworks	Not Rated	7	2	Not Rated	Not Rated	11.4%	13.4%	16.1	11.6	1.2	10.8	8.1	1.9	1.5	14.4	16.9
Perficient	Not Rated	79	3	Not Rated	Not Rated	7.7%	7.9%	15.5	14.7	2.0	12.7	11.4	3.0	2.8	27.7	23.7
Grid Dynamics	Not Rated	9	1	Not Rated	Not Rated	14.8%	7.1%	18.2	14.3	2.6	NA	NA	NA	NA	10.3	11.5

Source: I-sec estimates for covered and BBG estimates for uncovered companies. CMP is as on 26th June 2023

Note: Cognizant, Capgemini, ServiceNow, SAP financial year ending is in Dec and Accenture's financial year ending is in Aug, Microsoft is June year end, Salesforce and Workday is Jan year end, Oracle is May year end

Chart 1: Based on P/BV vs ROE correlation, TCS and INFY are in top quartile in terms of RE and valuations



Source: Company data, I-Sec research

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Leading demand indicators suggest pick-up in tech spend demand in CY24E/CY25E

US real GDP growth is likely to be resilient in CY23; UK and Europe GDP growth may pick up from CY24

Global real GDP growth fell from 3.4% in CY22 to 2.8% in CY23 and may rise to 3.0% in CY24, as per IMF's Apr'23 update. IMF increased its US GDP growth estimate by 0.2% for CY23 in its Apr'23 vs Jan'23 update owing to carry-over effects from domestic demand resilience in CY22. IMF attributed the resilient demand in US economy to better than expected consumer spending, near historically low unemployment levels at 3.7% in May'23 though it increased from 3.4% in Apr'23.

IMF also revised its Euro area growth estimates upwards by 0.1% to 0.8% YoY and UK GDP growth estimate by 0.3% to -0.3% YoY for CY23 in its Apr'23 vs Jan'23 update. Real GDP growth in the UK and Europe may bottom out in CY23 and pick up gradually from CY24, as per IMF.

Table 4: Global real GDP growth to pick up pace in CY24, inflation to start easing in CY23, as per IMF

Real GDP growth %	CY18	CY19	CY20	CY21	CY22	CY23	CY24	CY25	CY26	CY27
US	2.9	2.3	-2.8	5.9	2.1	1.6	1.1	1.8	2.1	2.1
UK	1.7	1.6	-11	7.6	4	-0.3	1.0	2.2	2.0	1.8
Euro Area	1.8	1.6	-6.1	5.4	3.5	0.8	1.4	1.9	1.7	1.5
World	3.6	2.8	-2.8	6.3	3.4	2.8	3.0	3.2	3.2	3.1
Inflation	CY18	CY19	CY20	CY21	CY22	CY23	CY24	CY25	CY26	CY27
US	2.4	1.8	1.3	4.7	8.0	4.5	2.3	2.1	2.0	2.0
UK	1.8	0.9	2.6	9.1	6.8	3.0	1.8	2.0	2.0	2.0
Euro Area	1.8	1.2	0.3	2.6	8.4	5.3	2.9	2.2	2.0	1.9
World	3.6	3.5	3.2	4.7	8.7	7.0	4.9	3.9	3.6	3.5
Nominal GDP growth	CY18	CY19	CY20	CY21	CY22	CY23	CY24	CY25	CY26	CY27
US	5.4	4.1	-1.5	10.9	10.3	6.2	3.4	3.9	4.1	4.1
UK	3.5	2.5	-8.7	17.4	11.1	2.7	2.8	4.2	4.0	3.8
Euro Area	3.6	2.8	-5.8	8.1	12.2	6.1	4.3	4.1	3.7	3.4
World	7.3	6.4	0.3	11.3	12.4	10.0	8.0	7.2	6.9	6.7

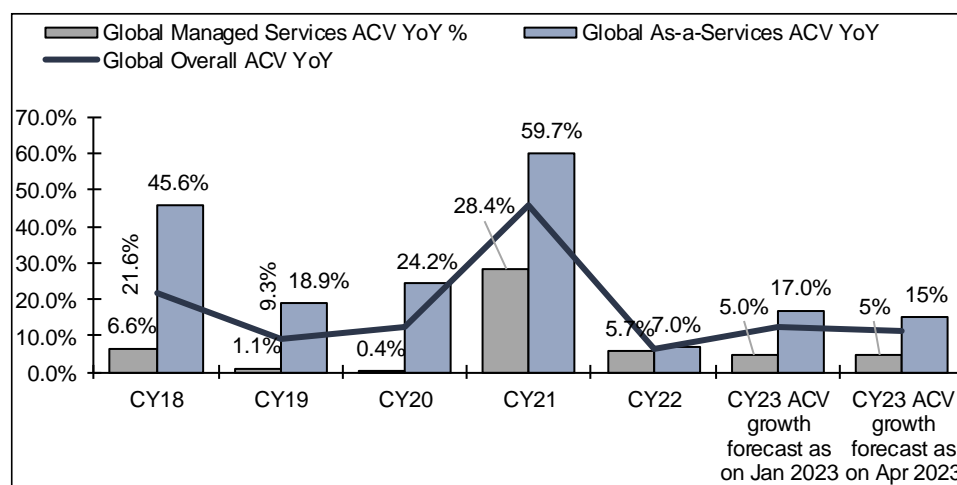
Source: IMF, I-Sec research

ISG cuts As-A-Services ACV growth outlook modestly, maintains managed services growth forecast in Apr'23 update

For Q1CY23, overall ACV (annual contract value of ordering activity) came in at US\$24.1bn, up 0.8% QoQ and down 7.7% YoY, wherein strength in managed services (at US\$9.8bn, + 2.1% QoQ and 1% YoY) was offset by weakness in As-A-Services ACV (at US\$14.3bn, flat QoQ and down 7.7% YoY). Importantly, for CY23, ISG has lowered its As-A-Services ACV growth forecast from 17% to 15% due to slowdown in discretionary spending in BFSI vertical. It expects the decline in booking to continue in Q2CY23 followed by a sharp pick up in H2CY23. It, however, maintained its managed services growth outlook at 5%, given its high focus on cost optimisation agenda of clients.

Globally, As-A-Services ACV declined 7.7% YoY wherein the ACV of three hyperscalers (AWS, Azure and GCP) experienced its first ever decline YoY, down 12% YoY. Clients have slowed down their cloud migration journeys and are optimising workloads on cloud.

Chart 2: Managed services growth forecast retained; As-A-Service growth forecast reduced to 15% from 17%



Source: ISG, I-Sec research

Gartner upgraded its IT services growth forecast for CY23

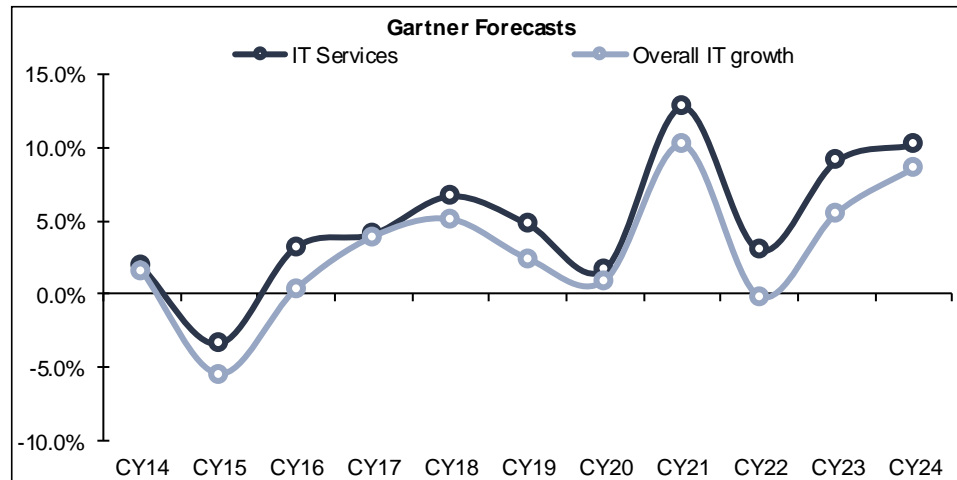
Gartner provided a very optimistic growth forecast of 8.5% YoY CC and 9.1% YoY US\$ growth for CY23 driven by cloud (21.8% YoY), build (6.2% YoY), design (9.7% YoY), run (4.5% YoY). IT support services may decline by -0.8% YoY. Gartner believes that over medium term, demand in IT is skewed towards cloud. It expects growth in IaaS to be 30.2% in CY23 with 24.2% CAGR over CY21-26.

Gartner's optimistic forecasts for CY23 are based on its view that there is no significant correlation between IT services growth and global GDP growth because reliance on technology has increased. Clients are not only focusing on saving costs but also increasing their revenue leveraging technology. We believe there is a risk to Gartner's forecasts being revised downwards in subsequent quarters given the caution among clients around IT spends. We expect Indian IT services to grow in mid-single digit in FY24E.

Table 5: Gartner upgraded its CY23 growth forecast by 3.6% to 9.1% YoY

	Gartner's CY23 growth forecast in USD terms (%)						
	Oct-21	Jan-22	Apr-22	Jul-22	Oct-22	Jan-23	Apr-23
IT Services	8.6	8.8	8.5	8.3	7.9	5.5	9.1
Overall IT	5.5	5.0	5.5	6.1	5.1	2.4	5.5

Source: Gartner, I-Sec Research

Chart 3: Gartner estimates IT services growth to be strong in CY23/24 at 9.1%/10.2% YoY

Source: Gartner, I-Sec research, Forecasts in YoY USD terms

IT services deal activity muted in Q4FY23, but deal pipeline continues to grow

IT companies are witnessing slowing decision-making cycles as deals undergo higher scrutiny with focus on near-term RoI. TCS and Wipro reported healthy sequential growth in TCV, while for the rest of IT pack, deal TCV declined QoQ. TCS' management mentioned that deal pipelines have not dipped but have been replenished. Discretionary spends have been postponed, but demand for large cost optimisation and digital transformation deals is stable. Similarly, INFY's deal TCV in Q4FY23 was muted but its large deal pipeline is seeing increased traction in automation, cost efficiency and vendor consolidation programmes. It also has a healthy mega deal pipeline with a few deals in advanced stages.

Table 6: Muted deal activity for IT services companies

QoQ TCV	Q2FY19	Q3FY19	Q4FY19	Q1FY20	Q2FY20	Q3FY20	Q4FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	Q1FY22	Q2FY22	Q3FY22	Q4FY22	Q1FY23	Q2FY23	Q3FY23	Q4FY23
TCS	0%	20%	5%	-8%	12%	-6%	48%	-22%	25%	-21%	35%	-12%	-6%	0%	49%	-27%	-1%	-4%	28%
Infosys	82%	-23%	0%	73%	5%	-36%	-9%	6%	81%	126%	-70%	22%	-16%	17%	-11%	-25%	62%	20%	-36%
Wipro											17%	-49%	-19%	3%	-33%	172%	-34%	38%	10%
HCLT								-43%	33%	-19%	138%	-46%	35%	-5%	6%	-9%	16%	-2%	-12%
TechM					214%	-18%	-58%	-43%	45%	8%	129%	-22%	-8%	-6%	44%	-21%	-11%	11%	-26%
LTIMindtree																			8%
Mphasis	37%	-43%	20%	7%	12%	8%	3%	33%	39%	-31%	-1%	106%	-52%	39%	4%	-13%	0%	33%	-23%
Persistent											-18%	-1%	15%	18%	8%	9%	-7%	20%	-4%
YoY TCV																			
TCS						2%	44%	21%	34%	13%	3%	17%	-12%	12%	23%	1%	7%	3%	-12%
Infosys				143%	40%	15%	5%	-36%	11%	293%	28%	47%	-32%	-65%	7%	-34%	28%	31%	-7%
Wipro														-50%	-71%	54%	25%	67%	172%
HCLT											48%	39%	40%	64%	-27%	23%	6%	10%	-8%
TechM								-39%	-72%	-63%	103%	181%	78%	55%	-3%	-2%	-5%	13%	-41%
Mphasis				-1%	-19%	55%	34%	66%	106%	31%	26%	95%	-33%	36%	42%	-40%	25%	20%	-11%
Persistent														11%	46%	61%	30%	32%	17%

Source: Company, I-Sec research

Muted hiring indicates near-term slowdown in demand

Headcount addition has been muted for the past two quarters due to focus on improving utilisation following the aggressive hiring done over the past one year and also reflects near-term uncertainty in demand. However, fresher hiring is consistent for TCS. It hired ~44K freshers in FY23 and has rolled out offers to 46K freshers for FY24.

Table 7: Net headcount declined 0.5% QoQ in Q4FY23 for our coverage universe

QoQ Headcount	Q2FY19	Q3FY19	Q4FY19	Q1FY20	Q2FY20	Q3FY20	Q4FY20	Q1FY21	Q2FY21	Q3FY21	Q4FY21	Q1FY22	Q2FY22	Q3FY22	Q4FY22	Q1FY23	Q2FY23	Q3FY23	Q4FY23
TCS	2.6%	1.7%	1.5%	2.9%	3.2%	-0.9%	0.4%	-1.1%	2.2%	3.5%	4.1%	4.2%	3.9%	5.3%	6.3%	2.4%	1.6%	-0.4%	0.1%
Infosys	3.7%	3.6%	1.2%	0.4%	3.3%	2.9%	-0.4%	-1.3%	0.4%	3.8%	4.1%	3.2%	4.4%	4.5%	7.5%	6.7%	3.0%	0.5%	-1.0%
Wipro	6.6%	0.5%	-0.6%	2.0%	3.8%	3.2%	-2.4%	-0.6%	1.9%	2.7%	3.9%	6.2%	5.5%	4.7%	4.9%	6.4%	0.2%	-0.2%	-0.7%
HCLT	3.0%	3.5%	4.3%	4.3%	2.2%	1.4%	0.8%	-0.1%	1.9%	4.4%	5.7%	4.4%	6.3%	5.4%	5.6%	1.0%	4.0%	1.3%	1.7%
TechM	4.3%	2.9%	-0.6%	3.9%	4.6%	-0.5%	-4.3%	-1.5%	0.7%	-1.9%	-0.7%	4.3%	11.8%	2.7%	4.2%	4.5%	3.7%	-4.2%	-3.0%
LTIMindtree	3.8%	3.5%	2.0%	3.9%	3.9%	1.4%	0.8%	0.0%	1.6%	3.5%	6.5%	6.5%	10.1%	5.8%	7.3%	5.6%	3.5%	-0.5%	-2.2%
Mphasis	4.0%	3.1%	1.1%	4.1%	5.7%	1.2%	-3.3%	-1.0%	3.8%	3.6%	4.8%	6.7%	2.7%	8.1%	4.6%	1.0%	-0.1%	-3.9%	-4.0%
Persistent	4.5%	2.5%	4.5%	2.1%	3.7%	-0.1%	0.9%	1.9%	-0.1%	15.0%	10.0%	8.9%	6.5%	7.0%	9.5%	16.3%	3.9%	0.5%	1.3%
Happiestminds								-0.3%	2.4%	6.0%	11.9%	9.6%	7.3%	5.9%	3.7%	0.5%	9.4%	0.7%	6.6%
Total								-0.9%	1.6%	3.1%	4.0%	4.5%	5.5%	4.9%	6.1%	4.1%	2.3%	-0.4%	-0.5%

Source: Company, I-Sec Research

BFS tech spend growth rate moderating, but large technology transformation programmes continue

For Citi, Bank of America, Wells Fargo and Goldman Sachs, growth in technology expenses moderated in Q1CY23, while it continues to decline for JP Morgan. However, their commentaries during earnings call suggest overall technology capex investments continue to be healthy. For example, Citi's ongoing technology investments include (refer Table 8) consolidation of platforms, modernising IT infrastructure, improving data and IT security, and investing in data to create advanced decision-making and risk management capabilities. Citi is also leveraging cloud-based solutions to modernise its systems and eliminate manual processes and operating costs over time.

Banks are investing in technology for efficiency gains. For example, Wells Fargo has been investing in technology for improving efficiencies in its consumer banking business for the last 1.5 years. These efficiency initiatives have led to headcount reduction by 9% YoY and branch reduction by 4% YoY in Q1CY23. However, there is still considerable scope for further efficiency gains, as per Wells Fargo management.

Though US banks expect recession to start in H2CY23, their commentaries suggest they are willing to continue with their ongoing technology investments.

Table 8: Tech spend growth rate moderated for Citi, Bank of America, Goldman Sachs, Wells Fargo and continues to decline for JP Morgan

Tech Spend YoY Growth (%)	Q1CY19	Q2CY19	Q3CY19	Q4CY19	Q1CY20	Q2CY20	Q3CY20	Q4CY20	Q1CY21	Q2CY21	Q3CY21	Q4CY21	Q1CY22	Q2CY22	Q3CY22	Q4CY22	Q1CY23
CITI	-2.2%	-4.1%	-1.3%	1.0%	0.2%	1.0%	6.1%	9.6%	7.5%	8.8%	5.6%	2.8%	8.9%	9.1%	7.4%	13.1%	5.5%
J.P. Morgan Chase & Co.	15.1%	9.7%	12.4%	9.5%	9.1%	8.9%	2.8%	0.8%	-2.3%	-3.9%	-3.5%	-5.6%	-6.3%	-4.5%	-4.3%	-8.3%	-7.5%
Bank of America		3.2%	4.5%	0.5%	3.9%	9.3%	14.6%	21.8%	17.9%	14.5%	6.2%	4.6%	8.1%	6.0%	9.2%	12.0%	10.2%
Goldman Sachs	13.9%	11.5%	13.2%	17.6%	12.2%	19.0%	20.1%	10.7%	16.8%	7.5%	16.8%	26.1%	13.1%	19.7%	15.6%	11.9%	9.9%
Morgan Stanley	11.3%	8.5%	8.6%	7.2%	5.8%	9.5%	10.6%	22.9%	30.2%	29.9%	27.9%	19.5%	13.1%	12.0%	10.9%	12.0%	10.4%
Wells Fargo									5.8%	21.3%	-6.3%	-1.3%	3.8%	-2.0%	7.7%	9.1%	5.3%

Source: Company, I-Sec research

Table 8: US banks' commentaries indicate their focus on technology investments is intact

	Market Cap (US\$ bn)	CY22 Revenue (US\$ bn)	Earnings commentary
JP Morgan	407	155	JP Morgan mentioned that expenses of US\$1.3bn were up 16% YoY in Q1CY23 largely driven by higher compensation expense, including front-office hiring and technology investments as well as higher volume-related expense.
Citigroup	96	75	<p>For Citi, technology-related expenses grew 12% YoY in Q1CY23 as mentioned in its earnings concall transcript. Citi management acknowledged that these investments have driven a significant increase in expenses, but believes they are crucial to modernise the firm and position Citi for success in years to come.</p> <p>Ongoing technology initiatives at Citi</p> <ul style="list-style-type: none"> * Citi is retiring and consolidating 20 cash equity platforms to 1 single modern platform, eliminating costs over time. * It has consolidated 11 platforms to 1 global sanction-screening platform, reducing false alerts, improving client experience and eliminating costs. * Citi is also modernising its infrastructure and improving the security of its data, infrastructure and devices, leading to fewer operating losses. * It is leveraging industry-leading cloud-based solutions to modernise and streamline the connectivity between its front-office systems and the general ledger, eliminating manual processes and operating costs over time. Citi launched its cloud-based instant payments platform for e-commerce clients in TTS. * Citi is also deploying CitiDirect Commercial Banking, mobile and digital interface for commercial clients. * It is also investing in data to create advanced decision-making, client-targeting and risk-management capabilities, which allowed it to enhance returns through greater RWA efficiency. <p>Citi expects many of these investments to generate efficiencies that will allow it to self-fund future investments over time.</p>
Wells Fargo	150	74	Wells Fargo management mentioned that customers expect increasingly digitised and seamless banking experiences across all channels. It is investing in new tools and capabilities to provide better and more personalised advice to customers. It continues to enhance its mobile app. Mobile active users were up 4% YoY. Wells Fargo's efficiency initiatives have led to headcount reduction by 9% YoY and branch reduction by 4% YoY. Wells Fargo has been investing in technology for improving efficiencies in its consumer banking business and the bank has made some progress over the past 1.5 years, but there is still considerable scope for further efficiency gains, as per Wells Fargo management.
PNC Financial Services	49	21	PNC Financial Services has a goal to reduce costs by US\$400mn in CY23 through its continuous improvement programme, which funds a significant portion of its ongoing business and technology investments.

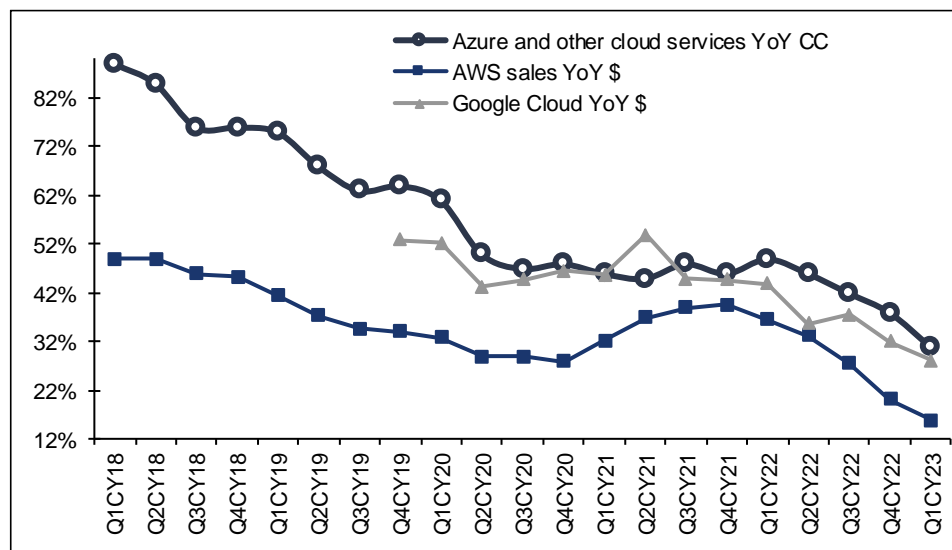
Source: Company, I-Sec research, Note: Market Cap is as on 14-04-2023

Hyperscalars' cloud revenue growth moderating every quarter

Cloud revenue growth moderated for Azure and other cloud services by 7pps to 31% YoY in Mar'23 quarter, and Microsoft expects further moderation in growth with 26-27% YoY growth guidance for Jun'23 quarter. Similarly, for AWS, revenue growth moderated by 4pps to 16% YoY in Mar'23 quarter. In Q1CY23, Google continued to see slower growth in cloud consumption as customers optimised GCP (Google cloud platform) costs, reflecting the macro backdrop, which remains uncertain.

AWS management mentioned customers continue to evaluate ways to optimise their cloud spending in response to the ongoing tough economic condition. It believes these optimisations may continue in second quarter with Apr'23 revenue growth rates about 500 bps lower vs Mar'23 quarter. IT services companies are also helping clients optimise their operating costs on cloud.

Solutions like generative AI and large language models require high computing capabilities that can be addressed through these cloud platforms. Therefore, though there may be a temporary slowdown in cloud migration, over longer term, enterprises will continue to migrate to cloud to reap benefits of highly scalable large computing capacity of cloud.

Chart 4: Azure, AWS and GCP cloud growth moderating

Source: Company, I-Sec research

SaaS and digital companies' guidance imply revival of demand in H2CY23/H2FY24

SaaS and digital companies guided for lower revenue growth in FY24/CY23 vs FY23/CY22 at the start of the year. However, the guidance has not deteriorated further for most companies despite banking crisis in Mar'23. On the contrary, ServiceNow, Salesforce, Intuit, Workday, Atlassian, Datadog and Hubspot have either retained or slightly upgraded their full-year (FY24/CY23) guidance. These companies have guided for weak growth in Jun'23 quarter, but expect demand to revive in H2FY24/H2CY23 as full-year guidance for most companies imply relatively higher CQGR in the second half vs first half of the year.

Deal pipelines for SaaS companies are healthy and growing despite higher scrutiny and lengthening of sales cycle. Therefore, SaaS and digital companies believe digital transformation demand is sustainable. Clients are also focusing on cost optimisation and reduction of total cost of ownership (can be achieved by consolidating SaaS platforms). This may be a net positive for Indian IT services providers, as many of them have built integration capabilities around large SaaS vendors who are likely to benefit from consolidation. Financial services growth was largely resilient for most SaaS companies, but sub-segments exposed to regional banks exhibited softness.

Generative AI is likely to increase net TAM (total addressable market) and enhance revenue as per SaaS and digital players. ServiceNow and Salesforce have already introduced generative AI on their platforms while other companies are working with clients on various generative AI use cases.

Table 9: Revenue growth for global SaaS and digital companies may be better in H2CY23/H2FY24 vs H1 as implied by their full-year guidance.

Company	Year end	Recent Reporting Date	CY23/FY24 guidance provided prior to March banking crisis	CQGR implied by the previous guidance for four quarters of CY23/FY24	Guidance retained/raised	CY23/FY24 guidance provided post March banking crisis (YoY USD/CC)	CQGR implied by latest guidance for H2FY24 /H2CY23	Revenue growth QoQ in March/April quarter	Guidance for June/July quarter
SaaS Companies									
ServiceNow	Dec	26th April 2023	22.5-23.5% YoY USD	5.3% CQGR for CY23	Raised mid-point of guidance by 25bps	23-23.5% YoY USD	5.5% CQGR in H2CY23	8.8% QoQ in Q1CY23	0.9% QoQ for Q2CY23 (June end)
Salesforce	Jan	31st May 2023	10% YoY USD	3.1% CQGR for FY24	Retained guidance	10% YoY USD	2.8% CQGR in H2FY24	-1.2% QoQ in Q1FY24	3.3% QoQ for Q2FY23 (July end)
Intuit	July	23rd May 2023	10-12% YoY USD	24.4% CQGR in H2FY23 (Q3FY23 - April) quarter is seasonally strong quarter	Raised mid-point of guidance by 150bps	12-13% YoY USD	-56% QoQ, 9.4% YoY (Q4 is seasonally weak quarter)	98% QoQ in Q3FY23	-56% QoQ, 9.4% YoY (Q4 is seasonally weak quarter) in Q4FY23 (July end)
Workday	Jan	24th May 2023	17-18% YoY USD	3.5% CQGR for FY24	Raised mid-point of guidance by 50bps	18% YoY USD	4.2% CQGR in H2FY24	2% QoQ growth in Q1FY24	5.4% QoQ growth in Q2FY23 (July end)
Snowflake	Jan	24th May 2023	40% YoY USD	8.2% CQGR for FY24	Downgraded guidance by 600bps YoY	34% YoY USD	7.3% CQGR in H2FY24	6.3% QoQ growth in Q1FY24	5.5% QoQ growth in Q2FY23 (July end)
Atlassian	June	4th May 2023	25% YoY USD	3% CQGR in H2FY23	Retained guidance	25% YoY USD	-0.8% QoQ in Q4FY23	4.9% QoQ growth in Q3FY23 (Apr-end)	-0.8% QoQ growth in Q4FY23 (June end)
Datadog	Dec	4th May 2023	24% YoY USD	4.1% CQGR in CY23	Raised guidance by ~100bps	25% YoY USD	7.1% CQGR in H2CY23	2.6% QoQ growth in Q1CY23	3.8% QoQ in Q2CY23 (June end)
Hubspot	Dec	3rd May 2023	20% YoY USD	3.6% CQGR in CY23	Raised guidance by ~100bps	20% YoY USD	4.6% CQGR in H2CY23	6.8% QoQ growth in Q1CY23	0.5% QoQ growth for Q2CY23 (June end)
Digital Engineering companies									
EPAM	Dec	5th June 2023	2.6-3.6% YoY	0.4% CQGR in CY23	Downgraded mid-point of guidance guidance by ~450bps YoY	-2% YoY	0.6% CQGR in H2CY23	-1.7% QoQ growth in Q1CY23	-3.8% QoQ growth for Q2CY23 (June end)
Globant	Dec	10th May 2023	16% YoY	2% CQGR in CY23	Raised guidance by 50bps	16.5% YoY	7.4% CQGR in H2CY23	-3.7% QoQ growth in Q1CY23	5% QoQ growth for Q2CY23 (June end)
Endava	June	23rd May 2023	19-20% YoY CC / 24% YoY USD in FY23	0.1% CQGR in H2FY23	Downgraded mid-point of guidance guidance by ~325bps YoY	16-16.5% YoY CC / 21% YoY USD in FY23	-7.6% QoQ growth in Q4FY23	-0.8% QoQ growth in Q3FY23	-7.6% QoQ growth in Q4FY23 (June end)

Source: Company, I-Sec research

Table 10: SaaS and digital companies' commentary

Company	Year end	Reporting Date	Commentary
SaaS Companies			
ServiceNow	Dec	26th April 2023	Management mentioned demand is strong across the board in key geos and verticals. Pipeline looks robust for rest of CY23. With increased focus on cost takeout, ITAM (IT asset management) had a very strong quarter in 14 of top 20 deals with three deals over US\$1mn for ServiceNow. Financial services' net new ACV also continued to grow despite tough competition and volatility in banking sector. New customer ACV growth remained an area of strength, and the average deal size was up significantly YoY. Renewal rate was also best-in-class at 98% in Q1CY23.
Salesforce	Jan	31st May 2023	Salesforce management mentioned customers still continue to scrutinise every deal and it is experiencing elongated deal cycles and deal compression particularly more in small and medium business, create-and-close and self-serve. Salesforce is looking to automate the selling process on the low end of the market and make its salespeople more productive. Professional-services business started to see less demand for multi-year transformations, and in some cases delayed projects as customers focus on quick wins and fast time to value. Annual recurring revenue grew 40% for fast time to value efficiency-focus products.
Intuit	July	23rd May 2023	Company continues to see strong growth in small business and self-employed group, which grew 21% in the April quarter. Intuit began investing in generative AI two years ago to accelerate its ability to fuel the success of consumers and small businesses. It deployed large language models, which recognise, summarise, and generate text, in virtual expert platform to automatically summarise calls, reduce call times by hundreds of thousands of hours per year and reduce work for experts while improving efficiency.
Workday	Jan	24th May 2023	Economic environment is uncertain which leads to increased scrutiny, lengthening of sales cycles, but even if net new opportunities get pushed out, management believes these opportunities do not go away but just get pushed out by a quarter or two. Macro environment continues to be unpredictable, but company remains positive on future growth prospects because of strong revenue growth in Q1FY24 (April quarter) and a healthy pipeline of opportunities, which gives it better visibility into the rest of FY24. In financial services, company had several wins and expansions, including Absa Bank and First American. 24-month subscription revenue backlog was up 23% at the end of Q1FY24, resulting from strong new ACV bookings and renewals.
Snowflake	Jan	24th May 2023	Snowflake benefitted from strong consumption in Feb-Mar'23. Starting Apr'23, consumption slowed after Easter holidays. Majority of this underperformance was driven by older customers, although company expects this to reverse. A few large customers have scrutinised Snowflake costs as they face headwinds in their own businesses. For example, some have re-evaluated their data retention policies to delete stale and less valuable data. This lowers their storage bill and reduces compute costs. Customers remain hesitant to sign large multi-year deals. There is increased level of scrutiny and cost rationalisation. As AWS optimisations begin to normalise within a few quarters Snowflake's consumption patterns and sequential growth rates should pick up around the same time because AWS is a large percentage of Snowflake's overall deployments. Generative AI and large language models require highly accurate and optimised data and since Snowflake is in the business of managing data, this can increase demand for its products.
Atlassian	June	4th May 2023	Guidance assumes macro trends are expected to worsen in Jun'23 quarter. The moderating growth rate of cloud revenue continues to be impacted by worsening macroeconomic headwinds on paid seat expansion from existing customers, free-to-paid conversions, and modest seat count reductions in some customers that have announced layoffs. Despite the challenging macroeconomic environment, Atlassian management mentioned that monthly active users and customer retention remain healthy.
Microsoft (SaaS components)	June	25th April 2023	No specific commentary on SaaS part of the business. Demand is likely to be driven by Microsoft cloud business unit and differentiated solutions including AI in June quarter
Datadog	Dec	4th May 2023	In Q1CY23, user's growth from existing customers came in roughly as expected by the company. Existing customer user's growth in Q1CY23 improved vs Q4CY22, but remained a bit lower than the levels experienced in Q2CY22 and Q3CY22. In recent quarters, Datadog continues to see customers optimise their cloud spend, particularly those further along in their cloud migration and hosting a larger portion of their infrastructure in the cloud. Despite a more cost-conscious demand environment, Datadog continued to land new customers and expand the existing ones.
Digital Engineering companies			
EPAM	Dec	5th June 2023	Clients become even more cautious with spending specifically in the 'build' segment of the global IT services market. Build for EPAM is very significant % of their revenue exposure and includes modernisation to cloud data projects, new platforms, etc. Pipeline conversions are occurring at slower rates than previously assumed and the company is also seeing some reduction in the total pipeline. It does not expect pipeline to improve in CY23. It expects to return to its historical growth rate from 2-4 quarters from now.
Globant	Dec	10th May 2023	Management mentioned current macroeconomic climate may influence client spending, potentially causing reduced visibility compared to past cycles. However, it remains steadfast in its belief in the lasting demand for digital transformation. Media and entertainment, consumer retail, banks, financial services, healthcare are expected to recover from Q2CY23, while technology sector may be stable or slightly negative, as per the company. Since the beginning of the year, company has observed a slight improvement in underlying revenue indicators with better booking and backlog creation trends in Q1CY23 compared to the final months of CY22. Although the level of business closed is still below full potential, growing pipeline and client opportunities are encouraging. Overall, company has not witnessed significant project roadmap cancellations or shifts in clients' long-term digital adoption strategies.
Endava	June	23rd May 2023	Company mentioned near-term outlook is challenging. It witnessed slowing commencement of new projects and slowing existing spends. There was lower demand due to banking failures in Mar'23 especially from P/E portfolio clients. The main reason for drop in guidance was slowdown in demand in P/E clients. Management believes pent-up demand is expected to recover when economy recovers. Management mentioned it saw a small dip in demand in Apr'23, flat in May'23, and expects small uptick in Jun'23. It expects demand to pick up from Q2FY24 (Dec quarter).

Source: Company, I-Sec research

Table 11: Revenue growth to pick up in CY24E and CY25E

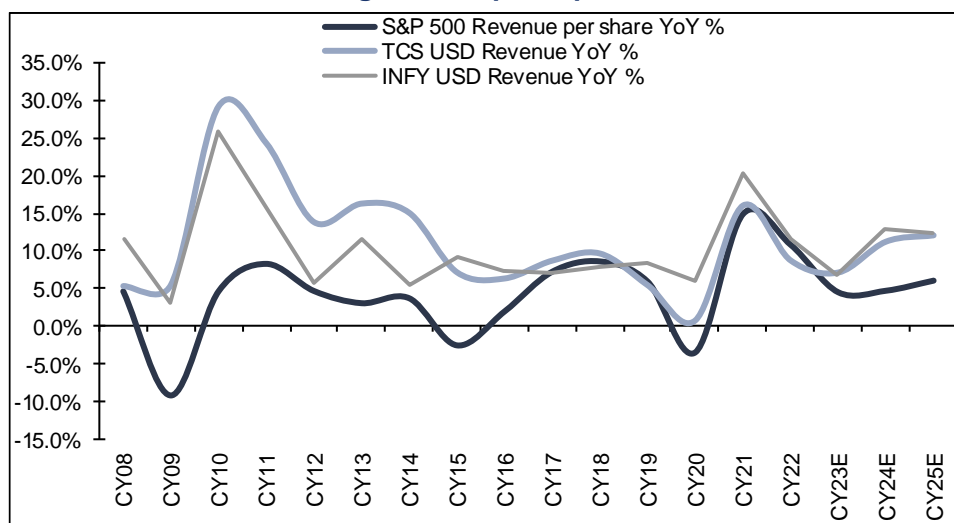
	Market Cap (USD mn)	Revenue in CY22/FY23 (USD mn)	Revenue growth YoY US\$						
			CY20/FY21	CY21/FY22	CY22/FY23	CY23E/FY24E	CY24E/FY25E	CY25E/FY26E	
SaaS companies									
Adobe	1,98,567	17,606	15%	23%	12%	10%	12%	11%	
Servicenow	1,13,239	7,245	31%	30%	23%	22%	22%	21%	
Salesforce	2,07,316	31,352	24%	25%	18%	11%	11%	12%	
Intuit	1,25,604	14,302	25%	32%	12%	11%	13%	14%	
Workday	56,115	6,216	19%	19%	21%	16%	17%	18%	
Snowflake	59,385	2,066	124%	106%	69%	34%	32%	32%	
Atlassian	47,289	3,512	29%	34%	25%	20%	23%	29%	
Datadog	32,783	1,675	66%	70%	63%	25%	27%	31%	
Hubspot	26,323	1,731	31%	47%	33%	21%	22%	25%	
MongoDB	27,359	1,284	40%	48%	47%	20%	21%	27%	
Total						13%	15%	16%	
Hyperscaler and software product companies									
Microsoft	24,81,073	87,670	24%	25%	17%	16%	17%	17%	
Intelligent cloud*									
SAP									
Oracle									
Google Cloud*									
Amazon AWS*	16,20,244	26,280	46%	47%	37%	24%	23%	21%	
Amazon AWS*	12,40,000	80,096	30%	37%	29%	12%	17%	18%	
Total						12%	15%	16%	
Digital engineering companies									
EPAM	12,089	4,825	16%	41%	28%	-2%	11%	21%	
Globant	7,396	1,780	23%	59%	37%	16%	22%	22%	
Endava	2,694	987	36%	45%	13%	6%	18%	NA	
Perficient	2,613	905	8%	24%	19%	6%	8%	9%	
Thoughtworks	2,471	1,296	4%	33%	21%	-2%	14%	24%	
Grid Dynamics	674	310	NA	90%	47%	3%	20%	21%	
Total						3%	14%	21%	

Source: Bloomberg, I-Sec Research, Market cap as on 31-05-2023, *Market cap is for the overall company and not cloud business unit. Revenue is mentioned for cloud business unit.

S&P 500 revenue growth may pick up pace from CY24E

Chart 5 suggests IT companies' revenue is correlated to S&P 500 revenue (proxy for customer organisations of IT companies). Bloomberg consensus estimates an uptick in S&P 500 revenue growth in CY24/FY25 and this is likely to translate into pick-up in demand for IT companies as customer organisations move forward with their multi-year technology transformation agendas.

Chart 5: S&P 500 revenue growth to pick up in CY24 and CY25



Source: Company, I-Sec research

IT spends of retail vertical to remain soft in CY23; technology is a core part of long-term capex initiatives

Persistent sticky inflation continues to impact discretionary demand for US and European retailers. Several US and European retailers have highlighted that they are seeing consumer spending being impacted in discretionary categories. Despite slowdown in discretionary demand, technology remains a core part of retailer's long-term transformation agendas. For example, Walmart expects 90% of its capex investments in next 5 years in high return areas such as e-commerce, supply chain and store investments. Online sales channels are growing well for some retailers, leading to technology investments in supply-chain automation, seamless customer experience across channels.

Table 12: Retailers' commentaries indicate their focus on technology investments is intact

	Market Cap (USD mn)	CY22/FY23 Revenue (USD mn)	Earnings call date	Earnings commentary
US Retailers				
Walmart	388,986	611,289	18th May 2023	<p>Commentary on inflation and consumer demand Globally, customers continue to seek value given the impact of inflation. In Q1FY24 (Apr'23 end), Walmart saw nearly 360bps shift in US sales mix from general merchandise (more discretionary in nature) to grocery and health & wellness. To benchmark, the magnitude of this shift exceeds the 330bps of category mix shift Walmart experienced in all of CY22. Headline inflation in food and consumables came down over 400bps from the start of Q1FY24 to the end of the quarter, but on a two-year basis, food inflation remains over 20% and continues to pressure discretionary wallets.</p> <p>Commentary on tech investments Walmart reported 26% YoY growth in e-commerce sales. Walmart is focused on getting merchandise costs and retails down to fight inflation led by efficient pickup and delivery execution, expense management and inventory management by item and category. For the same, Walmart is building a more connected, intelligent and automated network. It is adding market fulfilment centres, or MFCs, which utilise automated storage and retrieval systems. Walmart stated in its investor day on Apr 5, '23 that its earlier announced capex plan for FY24 i.e. capex of 2.5-3.5% of sales, flat to slightly up YoY, is now expected in the upper end of the range. Management mentioned that over the next 5 years, it expects 90% of capex in high return areas such as e-comm, supply chain, store investments. Walmart is building a scaled system of supply-chain capabilities that requires a combination of data, software, and robotics. The investments in automation are already far exceeding the company's productivity targets, in some cases they have exceeded by 30%. By the end of FY26, Walmart believes ~65% of its stores will be serviced by automation and estimates ~55% of its fulfilment centre volume to move through automated facilities, with unit cost averages improving by ~20%.</p>
Home Depot	301,985	157,403	16th May 2023	<p>Commentary on inflation and consumer demand Sales for the quarter were below the company's expectations, primarily driven by lumber deflation and unfavourable weather. After a couple of years of unprecedented demand in home improvement market, Home Depot continues to see softness in big ticket discretionary that likely reflects deferral of these single item purchases and pull forward. In addition, it has seen demand soften across other parts of the business including flooring, kitchen, and bath. This softer demand may reflect consumers are moving away from larger to smaller projects.</p> <p>Commentary on tech investments Home Depot continues to focus on simplification. It is leveraging its 'Sidekick' application to help associates prioritise the highest value tasks more effectively. Powered by machine learning, Sidekick directs associates to key bays where on-shelf availability is low. Since the rollout of Sidekick last year, there has been improvement in the availability of high velocity SKUs and 300bps increase in on-shelf availability customer service score. While this app is helping the company be more efficient with its tasking activity and improving customer experience in the process, Sidekick is just getting started.</p>

	Market Cap (USD mn)	CY22/FY23 Revenue (USD mn)	Earnings call date	Earnings commentary
Target	70,290	1,09,120	17th May 2023	<p>Commentary on inflation and consumer demand Pressure from inflation and rising interest rates affected the mix of retail spending in Q1FY24 with a further softening in discretionary categories in Mar-Apr'23 timeframe. This coincided with deterioration in consumer confidence, reflecting the recent events such as the banking crisis that emerged in Mar'23. The fear of a looming recession weighs heavily on many American families, as per the management. However, consumers are still spending on affordable and high frequency categories such as food and beverage, household essentials and beauty.</p> <p>Commentary on tech investments Target is engaged in a multi-year journey to modernise supply chain. In upstream distribution centres, Target has implemented technology and capabilities that improve product sorting and distribution to stores. It continues to focus on reducing the overall cost of store replenishment by implementing automation along with other improvements. Target's management stressed that automation is only one way to deliver value to its business.</p>
European Retailers				
Carrefour	13,318	88,429	25th April 2023	<p>Commentary on inflation and consumer demand High levels of food inflation continued to put customer purchasing power under strong pressure. Consequently, volumes kept decreasing by low to mid-single digits across Carrefour's key markets - Europe and LAT-Am.</p> <p>Commentary on cost savings, online sales etc. Company is on track with regards to its target of EUR4bn cost savings over FY23-26 with EUR1bn cost savings annually led by structural initiatives. E-commerce performed well with GMV up 26% in Q1CY23, driven by a sharp increase in Brazil and double-digit growth in France.</p>
Sainsbury	6,587	38,184	27th April 2023	<p>Commentary on inflation and consumer demand Consumers have been cutting back spending on discretionary categories. Management believes unexpected inflation may start to come off this year. As not all supply chains are equal, it will take time for very high inflation to subside across categories over a period of time.</p> <p>Commentary on digital initiatives Online grocery sales were down YoY. Online grocery sales are 81% higher than pre-pandemic levels and have stabilised at around 14% of Sainsbury's sales. Sainsbury has been building digital customer base and it was the first company to launch personalised prices in Sept'21. And now, with the recent launch of Nectar Prices, Sainsbury has a unique loyalty proposition in the UK market. More than 2mn SmartShop customers are taking advantage of personalised prices through YourNectar prices, lower prices on products that matter most to them.</p>
H&M	2,35,881	22,437	30th March 2023	<p>Commentary on tech investments H&M's investments in tech, AI and supply chain, have led to an improved precision and faster response times. The company sees continued improvement in inventory situation, supporting its cashflow and in line with its sustainability ambition. It is also continuing with efforts to enhance customer experience with seamless shopping in physical stores and digital channels. The H&M group is continuing to fully integrate the channels in an omni-channel model. An important part of this is the group's logistics systems and investments in tech and AI. Highly automated logistics centres with focus on innovation are in progress globally. This will create additional capacity, flexibility and speed between sales channels and improved availability.</p>
Tesco	19,496	79,903	13th April 2023	<p>Sales decline across H2FY23 (Feb-end) was due to softening of demand in more discretionary areas. Capital expenditure in the year was GBP1.1bn. The ~9% YoY increase in cash capex relates to the ongoing investment in simplifying stores and new store openings across the markets. Online business still remains significantly larger than pre-pandemic levels and online participation has stabilised at around 13% of sales.</p>
Metro AG	2,708	31,202	12th May 2023	<p>Metro management commentary: "In others segment, reported sales grew by EUR26mn to EUR47mn, and this sales growth was mainly due to the expected growth in digital business with Metro Markets. The adjusted EBITDA in the others segment decreased to minus EUR10mn due to the expiry of post-transaction effects and further investments in digitalisation."</p>

Source: Company, I-Sec Research, Note: Market Cap is as on 23-02-2023

Table 13: US retailers' revenue growth to pick-up in CY24 and CY25

	Revenue growth YoY US\$					
	CY20/FY21	CY21/FY22	CY22/FY23	CY23E/FY24E	CY24E/FY25E	CY25E/FY26E
Walmart	6.7%	2.4%	6.7%	4.0%	3.6%	3.5%
Target Corp	19.8%	13.3%	2.9%	0.4%	2.2%	3.7%
Costco Wholesale	17.5%	15.8%	6.7%	5.3%	6.5%	7.8%
Home Depot	19.9%	14.4%	4.1%	-2.8%	2.5%	2.9%
Walgreens Boots Alliance	8.6%	0.1%	3.1%	4.6%	4.9%	10.8%
Lowe'S Cos	24.2%	7.4%	0.8%	-9.2%	2.0%	3.2%
Kroger Co	8.4%	4.1%	7.5%	2.6%	0.3%	1.7%
US Retailers growth	11.7%	6.6%	5.5%	2.3%	3.6%	4.7%
Tesco Plc	1.0%	12.3%	-5.1%	6.6%	2.2%	1.9%
Carrefour Sa	-0.7%	3.1%	3.0%	7.9%	4.2%	3.4%
Hennes & Mauritz	-18.4%	15.9%	-4.0%	-0.3%	3.4%	3.0%
Marks & Spencer Group	-7.4%	24.0%	-1.5%	2.8%	2.6%	4.2%
Sainsbury	1.7%	8.8%	-6.9%	4.7%	1.5%	2.4%
Metro AG	-6.0%	3.1%	5.4%	7.0%	3.9%	6.4%
Europe Retailers growth	-2.5%	8.6%	-1.5%	6.0%	3.1%	3.2%
Total growth	9.1%	6.9%	4.4%	2.9%	3.5%	4.4%

Source: Company, I-Sec Research, Bloomberg

Macro demand indicators such as global GDP growth and S&P 500 revenue growth expectations signal revival of demand in CY24 and CY25 after a dip in CY23. Forecasts for IT services industry by Gartner and ISG indicate resilient demand in CY23. ISG cut its As-A-Services ACV growth outlook modestly from 17% to 15% YoY growth in CY23, maintained its managed services ACV growth forecast at 5% YoY for CY23 in its Apr'23 quarter update. Similarly, commentaries of large US banks and retailers suggest that though they are focusing on reducing costs amidst macro uncertainties, they are committed to their long term technology transformation programmes. Guidance of global SaaS and technology companies as well as commentaries of most Indian IT services companies suggest recovery in demand from H2FY24.

Demand indicators such as soft guidance by IT companies (Infosys and Wipro), Accenture's Aug quarter guidance implying no sequential improvement, moderation of cloud growth for hyperscalars, muted TCV growth in Q4FY23, declining headcount (down 0.5% QoQ in Q4FY23 for our coverage universe) and further sequential decline or muted headcount growth in Q1FY24 expected by IT companies indicate near-term weakness in demand.

EBIT margins are likely to remain flat in FY24E as benefits from cooling-off attrition and improving utilisation are expected to be offset by pricing pressure, increase in travel and no incremental benefits from pyramid optimisation.

Table 14: We expect revenue growth to bottom out in FY24E and pickup from FY25E. EBIT margins are expected to remain flat in FY24E and improve moderately in FY25E-26E for a few companies

	FY20	FY21	FY22	FY23	FY24E	FY25E	FY26E
Revenue YoY CC							
TCS	7.1%	-0.8%	15.4%	13.7%	6.6%	11.1%	12.0%
Infosys	9.8%	5.0%	19.7%	15.4%	6.4%	13.0%	12.4%
Wipro	3.9%	-2.3%	16.7%	10.1%	2.9%	9.4%	8.6%
HCLT	16.7%	1.1%	12.7%	13.7%	7.9%	12.5%	12.6%
TechM	5.6%	-2.2%	16.7%	14.5%	4.0%	11.2%	10.0%
LTIMindtree	11.2%	5.1%	27.5%	17.2%	10.7%	16.3%	16.2%
Mphasis	11.7%	4.9%	21.2%	9.7%	3.5%	17.2%	13.0%
Persistent	4.3%	12.8%	35.2%	35.3%	15.8%	17.7%	20.6%
Happiestminds			40.9%	23.7%	22.8%	26.3%	24.1%
EBIT margin							
TCS	24.6%	25.9%	25.3%	24.1%	24.4%	25.3%	25.8%
Infosys	21.3%	24.5%	23.0%	21.1%	21.1%	20.5%	20.2%
Wipro	16.6%	19.4%	17.2%	14.9%	15.5%	15.5%	15.8%
HCLT	19.6%	21.4%	18.9%	18.2%	18.5%	19.1%	18.0%
TechM	11.6%	14.2%	14.6%	11.4%	12.2%	12.3%	12.3%
LTIMindtree	13.6%	18.6%	17.8%	16.2%	16.9%	18.0%	18.5%
Mphasis	15.9%	15.8%	14.6%	15.6%	16.1%	16.1%	16.1%
Persistent	9.2%	12.1%	13.9%	14.9%	16.1%	17.0%	17.8%
Happiestminds			20.6%	22.0%	21.2%	21.3%	21.3%

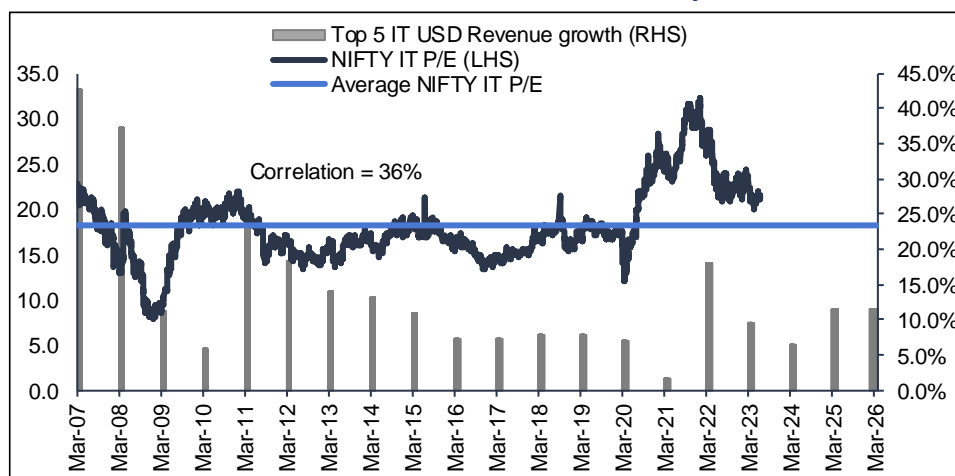
Source: Company data, I-Sec research.

Valuations are not attractive but can sustain

NIFTY IT P/E has correlation of 36% with 1-year forward US\$ revenue growth. Based on Chart 7, we expect NIFTY IT to bottom out over the next three months and then start picking up ahead of revival in FY25E revenue growth.

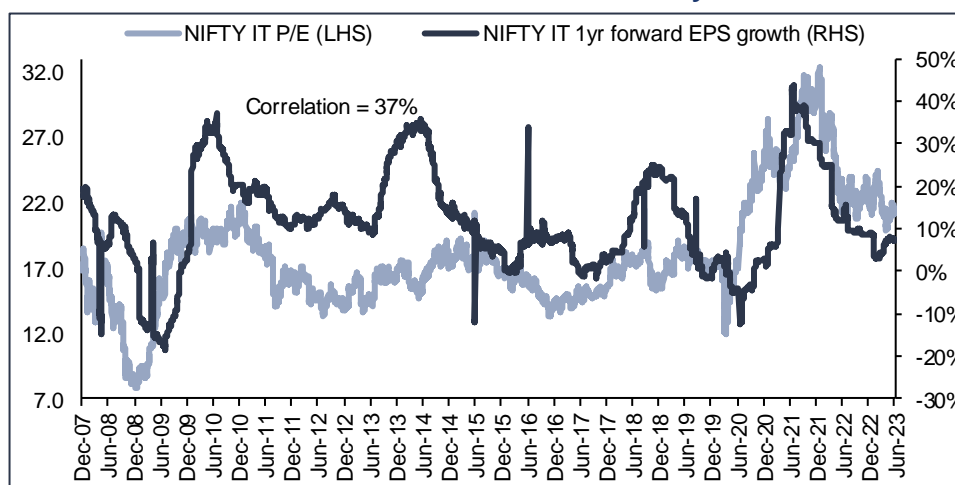
NIFTY IT P/E has negative correlation with India government 10-year bond yield, which seems to have peaked out and is trending downwards (Chart 8), thus, supporting NIFTY IT P/E multiples.

Chart 6: NIFTY IT P/E has correlation of 36% with 1-yr fwd US\$ revenue growth



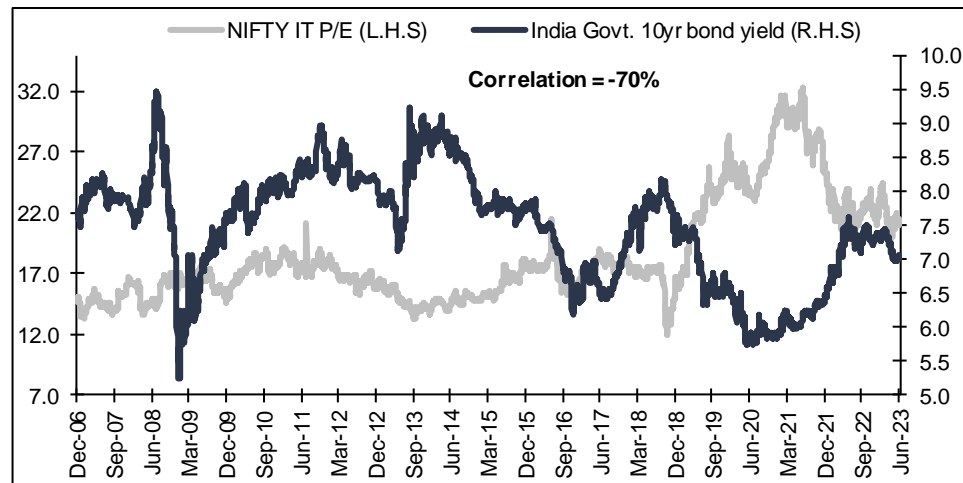
Source: Bloomberg, I-Sec research

Chart 7: NIFTY IT P/E has correlation of 37% with 1-year forward NIFTY IT EPS



Source: Bloomberg, I-Sec research

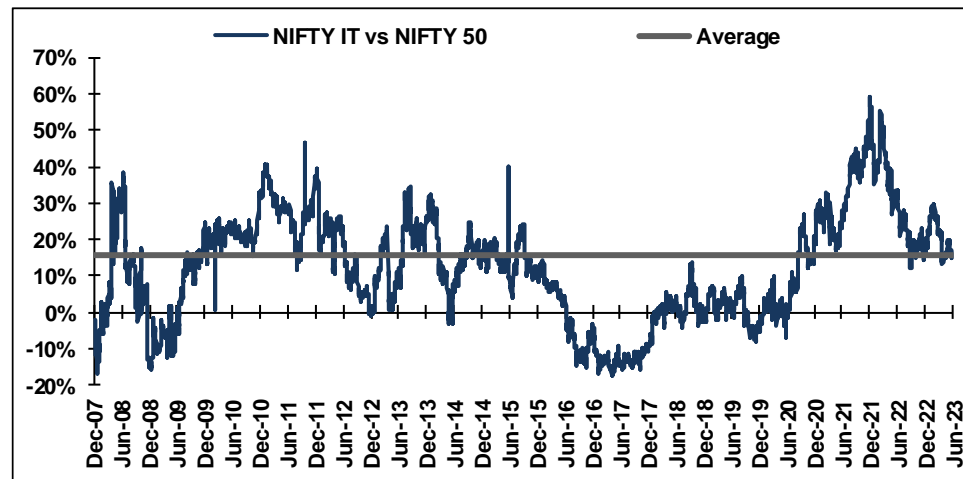
Chart 8: NIFTY IT P/E has negative correlation of 70% with India government 10-yr bond yield



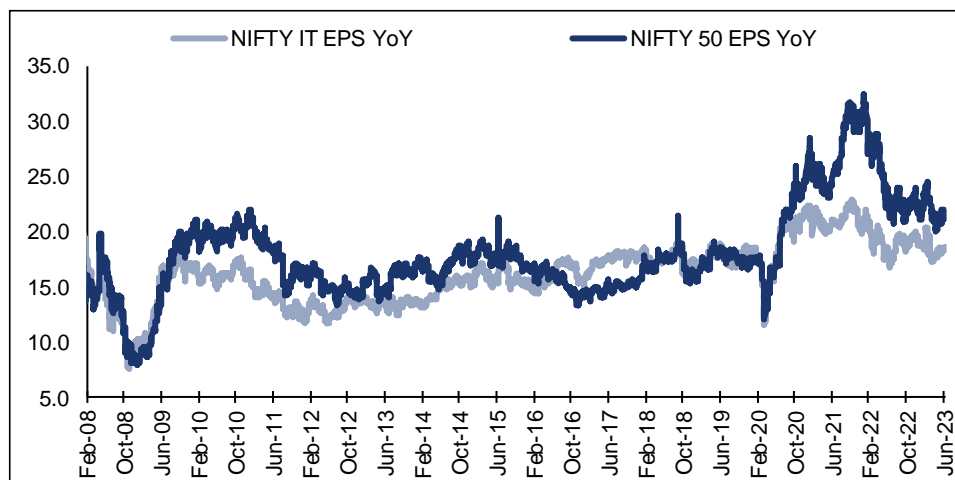
Source: Bloomberg, I-Sec research

NIFTY IT is currently trading at 21x one-year forward EPS vs last 15-year average of 18x, a 16% premium over NIFTY 50 P/E of 18.5x (in line with historical average premium of 16%). However, 1-year forward EPS growth of NIFTY IT at 7% is lower compared to NIFTY 50 EPS growth of 12%. Valuations for Indian IT sector are still not attractive and there is scope for further downside due to weak earnings growth in the next 1-2 quarters, but we believe multiples could sustain in the medium term given strong structural demand tailwinds around cloud migration and digitalisation. In the existing scenario, we continue to believe stock price returns may be driven by earnings growth rather than multiple expansion.

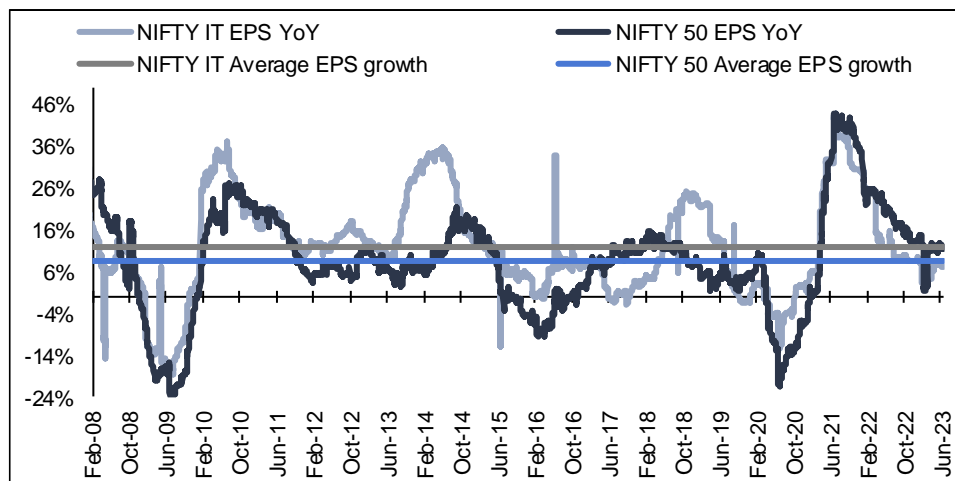
Chart 9: NIFTY IT P/E is currently trading at 16% premium to broader market (NIFTY 50) – in line with historical average premium



Source: Bloomberg, I-Sec research

Chart 10: NIFTY IT P/E has remained at a premium to NIFTY 50 in the past 1 year

Source: Bloomberg, I-Sec research

Chart 11: NIFTY IT 1-yr fwd EPS growth is currently at 7% (vs historical average of 12%) – lower than 1-yr fwd EPS growth of broader market (NIFTY 50) at 12%

Source: Bloomberg, I-Sec research

Table 15: I-Sec vs consensus estimates

Company	INR Revenue (mn)								
	FY24E			FY25E			FY26E		
	I-Sec	Cons	Difference	I-Sec	Cons	Difference	I-Sec	Cons	Difference
TCS	24,67,027	24,70,322	-0.1%	27,41,670	27,13,515	1.0%	30,70,131	29,64,695	3.6%
Infosys	16,06,193	15,80,862	1.6%	18,15,234	17,40,639	4.3%	20,40,030	19,09,885	6.8%
Wipro	9,67,905	9,55,681	1.3%	10,53,927	10,36,970	1.6%	11,45,054	11,21,606	2.1%
HCLT	11,09,852	11,11,699	-0.2%	12,44,735	12,16,951	2.3%	14,01,892	13,38,968	4.7%
TechM	5,70,553	5,69,034	0.3%	6,34,547	6,22,310	2.0%	6,98,282	6,78,979	2.8%
LTIMindtree	3,75,829	3,72,778	0.8%	4,37,156	4,24,055	3.1%	5,07,979	4,58,826	10.7%
Mphasis	1,51,372	1,42,973	5.9%	1,74,657	1,61,142	8.4%	1,97,238	1,79,079	10.1%
Persistent	99,267	98,262	1.0%	1,16,795	1,14,396	2.1%	1,40,879	1,31,941	6.8%
Happiestminds	17,974	17,751	1.3%	22,708	22,013	3.2%	28,178	NA	NA

Company	EBIT (INR mn)								
	FY24E			FY25E			FY26E		
	I-Sec	Cons	Difference	I-Sec	Cons	Difference	I-Sec	Cons	Difference
TCS	6,05,437	6,11,382	-1.0%	7,04,097	6,83,451	3.0%	7,95,418	7,39,683	7.5%
Infosys	3,38,782	3,39,518	-0.2%	3,71,501	3,81,869	-2.7%	4,11,811	4,18,882	-1.7%
Wipro	1,48,027	1,52,011	-2.6%	1,65,511	1,68,566	-1.8%	1,86,110	1,80,598	3.1%
HCLT	2,03,194	2,05,374	-1.1%	2,45,140	2,29,384	6.9%	2,60,756	2,53,244	3.0%
TechM	69,300	70,394	-1.6%	78,914	82,211	-4.0%	87,418	90,005	-2.9%
LTIMindtree	63,525	61,973	2.5%	78,960	73,286	7.7%	94,292	84,376	11.8%
Mphasis	24,406	22,372	9.1%	28,176	25,628	9.9%	31,813	28,422	11.9%
Persistent	15,994	15,406	3.8%	19,843	18,452	7.5%	25,054	21,616	15.9%
Happiestminds	3,813	3,784	0.8%	4,844	4,788	1.2%	6,012	5,906	1.8%

Company	EPS								
	FY24E			FY25E			FY26E		
	I-Sec	Cons	Difference	I-Sec	Cons	Difference	I-Sec	Cons	Difference
TCS	131	129	1.0%	151	144	4.8%	171	159	7.6%
Infosys	65	64	1.5%	72	72	-0.5%	80	79	1.8%
Wipro	23	23	-2.0%	25	26	-1.8%	28	29	-1.0%
HCLT	62	60	3.4%	74	66	11.2%	79	73	7.1%
TechM	59	63	-5.3%	68	73	-7.2%	75	81	-7.7%
LTIMindtree	170	171	-0.9%	211	204	3.5%	252	241	4.5%
Mphasis	97	92	4.8%	113	106	5.7%	128	118	8.7%
Persistent	166	155	6.6%	209	187	11.9%	267	225	18.7%
Happiestminds	20	19	1.5%	25	24	1.9%	31	NA	NA

Source: Company data, I-Sec research

Digital capability assessment

We did a comprehensive digital capability assessment wherein we noted capabilities of IT companies across cloud (AWS, Azure, google Cloud) and SaaS products (Salesforce, ServiceNow, SAP, Adobe). Accenture ranked number 1 in AWS, Azure, Salesforce, ServiceNow, SAP, Adobe and Snowflake expertise, while TCS ranked number 1 in Google Cloud. Infosys stood amongst top 4 across majority of digital capabilities considered in our assessment. We conclude that Accenture, Infosys and TCS are better placed compared to peers in digital competencies.

Table 16: Digital capability ranking

Digital Capability ranking	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Capgemini	Happiest Minds
AWS	3	2	7	9	8	4	10	12	11	1	5	6	13
Microsoft Azure and other services	3	1	3	8	9	7	10	NA	11	1	3	6	11
Google Cloud	1	3	2	3	10	9	10	NA	6	5	7	7	12
Salesforce	8	6	7	1	10	9	13	11	5	2	4	3	12
ServiceNow	7	3	6	5	9	8	NA	10	NA	1	2	4	11
SAP	6	3	5	4	10	7	9	NA	NA	1	8	1	10
Adobe	2	4	9	6	8	10	10	7	NA	1	5	3	10
Snowflake	6	8	5	7	9	2	NA	11	10	1	3	4	12

Source: I-Sec Research

Table 17: Digital capability summary

Digital Capabilities summary	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Capgemini	Happiest Minds
AWS													
AWS Competencies	12	13	6	10	5	9	6	3	5	25	10	10	0
AWS Partner Programs	7	6	6	6	4	6	2	3	4	9	7	8	0
AWS Service Validations	13	13	9	3	11	16	8	0	2	8	5	4	0
AWS Certifications as % of total employees	0.3%	0.6%	0.9%	0.8%	1.3%	1.2%	1.1%	0.5%	2.2%	0.3%	0.6%	0.6%	0.4%
Total	32	33	22	20	21	32	17	6	13	42	23	23	0
Microsoft Azure and other services													
Specializations	16	18	16	12	6	11	5	NA	NA	17	16	14	NA
Solutions partner designation	6	5	6	4	6	6	4	1	4	6	6	6	4
Total	22	23	22	16	12	17	9	NA	4	23	22	20	4
Google Cloud													
Google Cloud Specialization	12	4	5	6	1	NA	NA	NA	3	8	4	2	NA
Product/Technology Expertise	23	16	21	14	1	7	2	NA	12	9	10	12	NA
Total	35	20	26	20	2	7	2	NA	15	17	14	14	0
Salesforce													
Salesforce expertise	21	22	22	28	11	19	1	6	15	25	23	25	NA
Certified experts as % of total employees	0.9%	1.5%	0.7%	1.5%	1.8%	1.7%	0.5%	0.8%	9.1%	2.7%	2.6%	1.6%	1.5%
Total	22	23	23	29	13	21	1	7	24	28	26	27	2
ServiceNow													
ServiceNow Certifications	479	933	534	741	189	304	NA	29	NA	4924	1876	856	8
SAP													
SAP Competencies and specializations	4	18	10	15	NA	NA	NA	NA	NA	18	NA	18	NA
SAP Solutions	10	9	10	10	1	10	5	NA	NA	12	9	12	1
Total	14	27	20	25	1	10	5	NA	NA	30	9	30	1
Adobe													
Adobe credentials as % of total employees	0.5%	0.4%	0.1%	0.3%	0.2%	0.0%	0.0%	0.3%	NA	0.9%	0.4%	0.4%	0.0%
Snowflake													
Snowflake competencies	143	103	147	140	40	227	NA	14	16	579	197	174	2

Source: I-Sec Research

Table 18: AWS competencies

AWS Competencies	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Capgemini	Happiest Minds
SAP Consulting Competency	✓	✓	✓	✓		✓				✓	✓	✓	
Data & Analytics Consulting Competency		✓		✓		✓			✓	✓			
Networking Consulting Competency					✓					✓			
Supply Chain Services Competency		✓								✓			
Level 1 MSSP Consulting Competency		✓		✓	✓					✓		✓	
Security Consulting Competency	✓	✓		✓			✓			✓			
Public Safety and Disaster Response Consulting Competency										✓			
Mainframe Modernization Consulting Competency	✓	✓	✓	✓						✓	✓	✓	
Travel and Hospitality Consulting Competency	✓						✓	✓		✓	✓	✓	
Government Consulting Competency										✓			
Life Sciences Consulting Competency		✓								✓	✓		
Machine Learning Consulting Competency						✓				✓	✓		
Industrial Software Consulting Competency	✓			✓						✓		✓	
Manufacturing and Industrial Services Competency										✓			
Retail Consulting Competency		✓								✓			
Financial Services Consulting Competency	✓	✓		✓		✓	✓		✓	✓	✓	✓	
IoT Consulting Competency	✓					✓			✓	✓		✓	
Storage Consulting Competency	✓		✓							✓			
Migration Consulting Competency	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	
Digital Customer Experience Consulting Competency		✓								✓			
DevOps Consulting Competency	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Microsoft Workloads Consulting Competency						✓				✓			
Energy Consulting Competency				✓		✓				✓			
SaaS Consulting Competency									✓			✓	
Healthcare Consulting Competency											✓		
Cloud Operations Services Competency	✓	✓	✓		✓		✓			✓	✓		
Conversational AI Software Competency										✓			
High Performance Computing ISV Competency											✓		
Total competencies	11	13	6	10	5	9	6	3	5	25	10	9	0

Source: AWS, I-Sec Research

Table 19: AWS certifications

AWS Certifications	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Capgemini	Happiest Minds
AWS Certified SysOps Administrator - Associate	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
AWS Certified Solutions Architect - Associate	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AWS Certified Solutions Architect - Professional	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
AWS Certified Cloud Practitioner	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
AWS Certified Developer - Associate	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
AWS Certified DevOps Engineer - Professional	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
AWS Certified Big Data - Specialty	✓	✓		✓					✓	✓	✓	✓	
AWS Certified Machine Learning - Specialty					✓	✓			✓	✓	✓	✓	
AWS Certified Security - Specialty				✓	✓	✓	✓		✓	✓	✓	✓	
AWS Certified Alexa Skill Builder - Specialty									✓	✓		✓	
AWS Certified Advanced Networking - Specialty				✓	✓				✓	✓		✓	
AWS Certified Database - Specialty					✓				✓				
AWS Certified Data Analytics - Specialty					✓	✓			✓				
Total certification	7	6	6	9	11	9	7	5	12	11	8	9	2

Source: AWS, I-Sec Research

Table 20: Microsoft specialisations

Microsoft specializations	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Capgemini	Happiest Minds
Azure specializations													
AI and Machine Learning in Microsoft Azure	✓					✓				✓		✓	
Analytics on Microsoft Azure	✓			✓		✓						✓	
Data Warehouse Migration to Microsoft Azure	✓	✓		✓		✓						✓	
DevOps with GitHub on Microsoft Azure	✓	✓										✓	
Infra and Database migration to Microsoft Azure	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	
Kubernetes on Microsoft Azure	✓	✓	✓	✓	✓	✓				✓	✓	✓	
Microsoft Azure VMware Solution	✓	✓	✓										
Microsoft Windows Virtual Desktop	✓	✓	✓	✓	✓	✓	✓			✓	✓		
Modernization of Web App to Microsoft Azure	✓	✓	✓	✓	✓	✓				✓	✓	✓	
Networking Services in Microsoft Azure	✓	✓	✓		✓		✓						
SAP on Microsoft Azure	✓	✓	✓	✓		✓				✓	✓	✓	
Modern Work													
Adoption and Change management	✓									✓	✓		
Calling for Microsoft Teams	✓	✓	✓								✓	✓	
Custom Solutions for Microsoft Teams	✓	✓									✓		
Modernize Endpoints	✓	✓	✓							✓	✓		
Teamwork Deployment		✓	✓								✓		
Meetings and Meeting Rooms for Microsoft Teams		✓	✓								✓	✓	
Business Applications													
Finance													
Sales										✓			
Service										✓			
Supply chain										✓			
Small and Midsize Business Development										✓			
Low Code Application Development	✓	✓	✓	✓		✓				✓	✓	✓	
Security													
Cloud Security		✓	✓	✓	✓	✓	✓			✓	✓	✓	
Id & Access Management		✓	✓	✓						✓	✓	✓	
Information Protection & Governance			✓	✓						✓	✓		
Threat Protection		✓	✓	✓		✓	✓			✓	✓	✓	
Aggregate Specializations	16	18	16	12	6	11	5	NA	NA	17	16	14	0

Source: Microsoft, I-Sec Research

Table 21: Microsoft solutions partner designation

Microsoft solutions partner designation	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Capgemini	Happiest Minds
Data & AI (Azure)	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Infrastructure (Azure)	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Security	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Digital & App Innovation (Azure)	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Modern Work	✓	✓	✓		✓	✓		✓		✓	✓	✓	✓
Business applications	✓		✓		✓	✓				✓	✓	✓	✓
Total	6	5	6	4	6	6	4	1	4	6	6	6	4

Source: Microsoft, I-Sec Research

Table 22: Google cloud specialisations

Google Cloud specializations	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Cappgemini	Happiest Minds
Application Development - Services	✓	✓		✓					✓	✓	✓		
Infrastructure - Services	✓	✓	✓	✓					✓	✓	✓		
Work Transformation - Enterprise	✓									✓		✓	
Data Analytics - Services	✓	✓	✓	✓	✓				✓		✓	✓	
Machine Learning - Services	✓		✓							✓			
Cloud Migration - Services	✓	✓	✓	✓						✓			
Data Management - Services	✓										✓		
Marketing Analytics - Services	✓												
Security - Services	✓			✓						✓			
IoT - Services	✓												
SAP on Google Cloud - Services	✓		✓							✓			
Data Center Modernization - Services	✓			✓						✓			
Total Google cloud specializations	12	4	5	6	1	NA	NA	NA	3	8	4	2	0

Source: Company, I-Sec Research

Table 23: Google product technology expertise

Google Product/Technology Expertise	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Cappgemini	Happiest Minds
Apigee	✓	✓		✓			✓				✓	✓	
Google Cloud Analytics	✓	✓	✓	✓		✓	✓		✓		✓	✓	
Google Cloud App Dev & Monitoring	✓	✓		✓		✓			✓	✓	✓	✓	
Google Cloud Compute	✓	✓	✓	✓		✓			✓	✓		✓	
Google Cloud Databases	✓	✓	✓	✓		✓			✓		✓	✓	
Google Cloud Identity & Security	✓	✓	✓	✓					✓	✓		✓	
Google Cloud ML & ML APIs	✓		✓	✓						✓			
Google Cloud Networking	✓	✓	✓	✓					✓	✓	✓	✓	
Google Cloud Onboarding	✓		✓	✓						✓			
Google Cloud Productivity	✓	✓	✓		✓					✓		✓	
Google Cloud Storage & Delivery	✓	✓	✓	✓							✓		
Google Meet	✓		✓							✓			
Open Source Technology	✓	✓		✓		✓			✓		✓	✓	
Cisco	✓		✓										
HashiCorp	✓	✓	✓						✓				
Oracle	✓			✓								✓	
SAP	✓			✓		✓				✓	✓		
Amazon AWS	✓	✓	✓						✓		✓		
Microsoft Azure	✓		✓	✓					✓				
Oracle Cloud	✓		✓										
Oracle Data Warehouse	✓		✓			✓						✓	
Teradata	✓	✓	✓								✓	✓	
VMware	✓	✓	✓										
Google Backup & DR (Actifio)									✓				
Looker Delivery Verification Training		✓											
Netezza		✓											
Google Cloud OS & Hardware (Chrome)			✓										
NetApp			✓										
Cloudera			✓										
Google Maps Platform									✓				
Aggregate Product/Technology Expertise	23	16	21	14	1	7	2	NA	12	9	10	12	0

Source: Company, I-Sec Research

Table 24: Salesforce certified experts

Salesforce expertise	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Capgemini	Happiest Minds
B2C Commerce	Level 1		Level 2			Level 1						Level 1	
Commerce	Level 1		Level 1	Expert		Level 1			Level 1	Level 2	Level 1	Level 1	
Customer 360 platform	Level 2	Expert	Expert	Expert	Expert	Level 2			Level 2	Expert	Expert	Level 2	
Education cloud		Level 1		Level 1									
Einstein	Level 1	Level 2	Level 1	Level 1		Level 1			Level 1	Level 2	Level 2	Expert	
Experience Cloud	Level 2	Expert	Level 2	Expert	Level 2	Level 2		Level 1	Level 1	Expert	Expert	Expert	
Industry Products	Level 1	Level 1	Level 1	Level 1		Level 1				Level 2	Level 2	Level 2	
Integration	Expert	Level 1	Expert	Expert	Level 1	Expert		Expert	Level 1	Expert	Expert	Expert	
Managed Services	Level 2	Level 1		Expert									
Marketing Cloud	Level 2	Level 2	Level 2	Expert	Level 1	Level 2			Level 2	Expert	Expert	Level 2	
Multi-cloud Integration		Level 1	Level 1			Level 1			Level 1				
Non profit Cloud		Level 1		Level 1					Level 1				
Revenue Cloud	Level 2	Level 2	Level 1	Level 2					Level 1	Level 2	Level 2	Level 2	
Sales Cloud	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 1	Level 1	Level 2	Level 2	Level 2	Expert	
Service Cloud	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2		Level 1	Level 2	Expert	Level 2	Expert	
PDO/AppExchange			Level 1			Level 1							
Total Expertise	21	22	22	28	11	19	1	6	15	25	23	25	0

Source: Company, I-Sec Research

Note: **Level 1 specialist** have proven to Salesforce that they possess the knowledge to deliver customer success in the specific cloud or industry vertical, **Level 2 specialist** have proven to Salesforce that they have the knowledge and experience to deliver on complex projects in this cloud or industry vertical, while managing high levels of customer success. **Experts** have proven to Salesforce that they are thought leaders in this cloud or industry vertical. They can handle the most complex projects and achieve the highest standards of customer success

Table 25: Salesforce certified experts

Salesforce Certified Experts	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Capgemini	Happiest Minds
Certified Experts	5,524	4,985	1,492	3,852	1,553	1,416	170	168	2,092	19,965	9,188	5,915	71
Total Employees	6,14,795	3,43,234	2,25,944	2,58,744	84,874	84,546	35,450	21,153	22,889	7,37,719	3,49,400	3,59,600	4,611
As % of total employees	0.9%	1.5%	0.7%	1.5%	1.8%	1.7%	0.5%	0.8%	9.1%	2.7%	2.6%	1.6%	1.5%
Projects completed	289	2325	251	877	328	659	32	81	480	1539	783	770	22

Source: Company, I-Sec Research

Table 26: ServiceNow certifications

ServiceNow certifications	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Capgemini	Happiest Minds
Customer Service Management													
Certified Implementation Specialist – Field Service Management	6	8	10	9	10		2		0		23	2	6
Certified Implementation Specialist – Customer Service Management	15	42	16	25	12		8				200	37	44
Suite Certification - CSM Professional	7	13	5	12	7		3		0		108	15	31
Governance, Risk and Compliance													
Certified Implementation Specialist – Risk and Compliance	9	15	11	20			3				90	15	33
Certified Implementation Specialist – Vendor Risk Management	4	6	5	7			1				50	4	4
HR Service Delivery													
Certified Implementation Specialist – Human Resources	29	171	23	61	5		21		3		392	102	77
Suite Certification - HR Professional	6	46	10	17	3		4		1		172	28	41
IT Asset Management													
Certified Implementation Specialist – Hardware Asset Management	4	28	15	4			6				47	5	6
Certified Implementation Specialist – Software Asset Management	18	35	18	10	3		10				91	40	27
IT Operations Management													
Certified Implementation Specialist – Cloud Provisioning and Governance	2	3	2	3	1		2				26	8	2
Certified Implementation Specialist – Event Management	36	50	39	30	8		15		4		146	77	42
Certified Implementation Specialist – Service Mapping	10	20	26	6	10		9				57	28	14
Certified Implementation Specialist – Discovery	49	80	59	52	27		48		5		267	172	64
IT Service Management													
Certified Implementation Specialist – IT Service Management	71	179	110	130	31		44		6		1020	316	167
Suite Certification - ITSM Professional	26	63	25	44	13		18		1		396	85	89
Now Platform App Engine													
ServiceNow Certified Application Developer	126	106	115	223	49		73		5		1341	718	134
Certified Implementation Specialist – Service Provider	5	3	3	5	0		2		1		19	6	2
Security Operations													
Certified Implementation Specialist – Security Incident Response	14	10	4	10	2		8				66	21	9
Certified Implementation Specialist – Vulnerability Response	15	6	9	14	1		5				79	25	14
Strategic Portfolio Management													
Certified Implementation Specialist – Application Portfolio Management	16	19	12	29	1		10		2		103	91	18
Certified Implementation Specialist – Project Portfolio Management	10	21	15	25	5		10		1		156	72	27
Certified Technical Architect	1	5	1	5	1		1				59	6	4
Certified Master Architect	0	4	1	0	0		1	0	0		16	3	1
Total certifications	479	933	534	741	189	304	NA	29	NA	4924	1876	856	8

Source: Company, I-Sec Research

Table 27: SAP competencies and specialisations

SAP Competencies and specializations	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Capgemini	Happiest Minds
Enterprise Resource Planning													
SAP S/4 HANA Cloud private edition		✓	✓	✓						✓		✓	
SAP S/4 HANA Cloud public edition		✓		✓						✓		✓	
Human capital management													
Compensation and commission		✓		✓						✓		✓	
Core HR and Payroll	✓	✓	✓	✓						✓		✓	
Learning	✓	✓		✓						✓		✓	
Talent Management	✓	✓	✓	✓						✓		✓	
Customer Relationship management													
Commerce		✓		✓						✓		✓	
Sales and Service	✓	✓	✓	✓						✓		✓	
Customer Data platform		✓								✓		✓	
Spend management													
Procurement		✓	✓	✓						✓		✓	
Strategic Sourcing		✓	✓	✓						✓		✓	
Business Network		✓	✓	✓						✓		✓	
Supplier Chain Collaboration		✓								✓		✓	
Supplier Management		✓		✓						✓		✓	
Business Technology Platform													
Application Development and integration		✓	✓	✓						✓		✓	
Analytics and Planning		✓	✓	✓						✓		✓	
Database and data management												✓	
Supply chain management													
Field Service Management		✓								✓			
Supply chain planning		✓	✓	✓						✓		✓	
Total	4	18	10	15	NA	0	NA	NA	NA	18	NA	18	0

Source: Company, I-Sec Research

Table 28: SAP solutions expertise

SAP Solutions	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Capgemini	Happiest Minds
Analytics	✓	✓	✓	✓		✓	✓			✓	✓	✓	
Application Development & Integration	✓	✓	✓	✓		✓	✓			✓	✓	✓	
Customer Experience	✓	✓	✓	✓		✓				✓	✓	✓	✓
Database and Data Management	✓	✓	✓	✓		✓	✓			✓	✓	✓	
Digital supply Chain	✓	✓	✓	✓		✓				✓	✓	✓	
ERP and SAP S/4 HANA	✓	✓	✓	✓		✓	✓			✓	✓	✓	
Human Resources	✓	✓	✓	✓		✓				✓	✓	✓	
Procurement	✓	✓	✓	✓		✓				✓		✓	
Small and mid-enterprise										✓		✓	
Intelligent Technologies				✓		✓	✓			✓	✓	✓	
Education	✓		✓							✓		✓	
Others	✓	✓	✓	✓	✓	✓				✓	✓	✓	
Total	10	9	10	10	1	10	5	NA	NA	12	9	12	1

Source: Company, I-Sec Research

Table 29: Adobe expertise

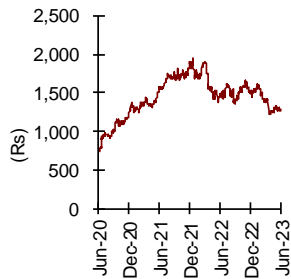
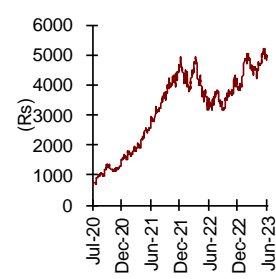
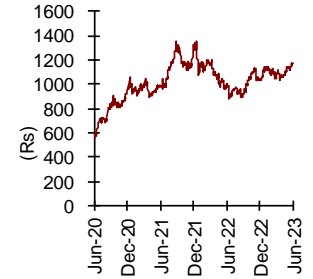
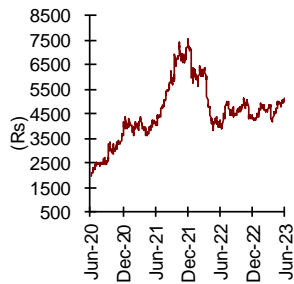
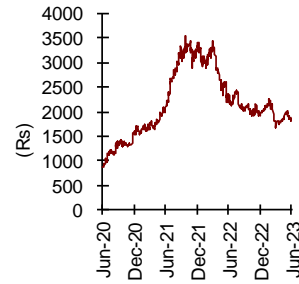
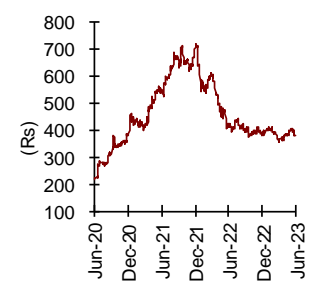
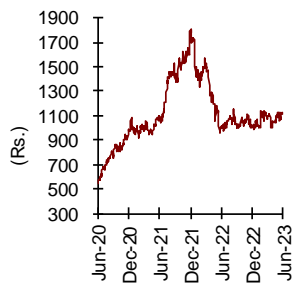
Adobe Expertises (No. of credentials)	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Capgemini	Happiest Minds
Advertising Cloud	13	4	8	3	2	4				436	7	16	
Advertising Cloud - Display		1				0							
Analytics	216	83	29	59	20	45				416	86	138	
Audience Manager	22	7	5	4	1	2				137	26	33	
Campaign	28	14	7	12	5	14				57	33	50	
Campaign - Classic	51	15	6	2	7	12				161	159	38	
Campaign - Standard	167	51	32	65	11	32				312	96	126	
Commerce	47	28	8	15	10	32				616	32	30	
Customer Journey Analytics	19	2	1	4	1	8				36	5	22	
Digital Experience		4	2	3		3				24	11	8	
Experience Manager						0					3		
Experience Manager - Assets	20	11	6	13	5	11				119	21	76	
Experience Manager - Forms	14	20	3	16	2	19				56	21	53	
Experience Manager - Managed Services	1	1	1	2	2	6				16	9	7	
Experience Manager - Run and Operate	318	187	11	113	22	30		2		63	13	35	
Experienter Manager - Sites	1724	950	125	435	149	497		55		1377	663	584	
Experience Platform	52	11	11	6	6	31				602	19	91	
Journey Optimizer	17	8	4	4	2	12				544	19	60	
Marketo Engage	40	8	13	8	4	19				407	31	19	
Primetime	1	2	1	2	1	0						2	
Real Time CDP	35	12	4	7	1	26				560	70	68	
Social	1	2	1	2	1	0							
Target	82	19	32	17	6	23				240	46	68	
Workfront	34	1	9	3		4				115	12	62	
Total Adobe Expertise	2902	1441	319	795	258	830	0	57	NA	6294	1382	1586	NA
Number of employees	6,14,795	3,43,234	2,25,944	2,58,744	1,57,068	86,462	35,450	21,153	22,889	7,37,719	3,49,400	3,58,400	4,611
as % of total employees	0.5%	0.4%	0.1%	0.3%	0.2%	1.0%	0.0%	0.3%	NA	0.9%	0.4%	0.4%	

Source: Company, I-Sec Research

Table 30: Snowflake expertise

	TCS	Infosys	HCLT	Wipro	TechM	LTIMindtree	Mphasis	Coforge	Persistent	Accenture	Cognizant	Capgemini	Happiest Minds
Global Certifications	143	103	147	140	40	227	NA	14	16	579	197	174	2
Program Tier	Elite	Elite	Elite	Elite	Select	Elite	NA	Select	Select	Elite	Elite	Elite	Select
Certifications	143/5	103/2	147/10	140/4	40/3	227/26	NA	14	16/1	579/29	197/8	174/11	2

Source: Company, I-Sec Research

Price charts**Infosys****TCS****Persistent****HCL Tech****LTIMindtree****Happiestminds****Mphasis****Wipro****Tech Mahindra**

Source: Bloomberg

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