

07 May 2020

Persistent Systems

Reducing dependence on top client and IP, key positives; Buy

Rating: **Buy**

Target Price: ₹630

Share Price: ₹503

In services Persistent's Q4 was strong (\$106m, up 4.2% q/q), driven by new smaller assignments (in India) as \$1m+ clients slipped by three q/q. The top client declined 12% q/q; it now brings 19% to business (24% two quarters back). Weak IP (\$20.7m, down 19% y/y) brought just 16% to revenue, down from 22% a year ago. This should ease growth volatility. The EBIT margin (9.2%, up 51bps q/q, down 144bps y/y) has started reflecting trends in the services margins, as IP contribution shrinks. The cut in our estimates is 12%/7%, and we lower our target to ₹630 (from ₹670) at 13.5x FY22 EPS.

Top client, IP drags are retreating. Persistent's dependence on its top client has contracted from 28% (in FY17) to 19% now. It has started working with RedHat (an IBM subsidiary), which should help it keep revenue from its top client stable to a mite up. Weakness in top client was also reflected in IP revenues; positives here are reduced investments in IP development and no fresh acquisition of/allocation to end-of-life products. On the other hand, Services is likely to maintain growth momentum as the unit is more aligned to digital. Europe (9% of Rev) declined 18.5% q/q.

EBIT margin at 9.2%, up 51bps q/q, down 144bps y/y. Margin expansion sequentially was supported by the rupee depreciation (50bp benefit, q/q) but adjusted for that, it was resilient (absorbing the decline in IP revenues in Q4 FY20), thereby reflecting underlying services business margins. The company announced pay-cuts (short term, till the growth recovers) for senior management and believes cost-containment programs can give it a tailwind of ~100bps in FY21 to help absorb the margin impact of Covid-19 shock.

Estimates revised down; retaining a Buy on valuation. Taking into account potential weakness in contract renewals and smaller accounts, we cut our FY21e and FY22e respectively ~12% and 7%. However, we believe that current valuations factor in the risks and, on an FCF basis, the stock can generate 14% yield. We expect growth of -2% and +7% for FY21 and FY22.

Risk: Declines in the top client.

Key financials (YE Mar)	FY18	FY19	FY20	FY21e	FY22e
Sales (₹m)	30,337	33,659	35,658	36,239	38,922
Net profit (₹m)	3,231	3,517	3,409	3,079	3,666
EPS (₹)	40.4	44.1	44.6	40.3	48.0
PE (x)	11.9	10.9	11.3	12.5	10.5
EV / EBITDA (x)	5.0	4.0	4.7	5.0	4.3
PBV (x)	1.8	1.6	1.6	1.5	1.4
RoE (%)	16.0	15.7	14.4	12.5	14.1
RoCE (%)	13.8	16.0	11.6	10.3	11.7
Dividend yield (%)	2.4	8.2	4.4	4.4	5.7
Net debt / equity (x)	-0.4	-0.4	-0.4	-0.4	-0.5

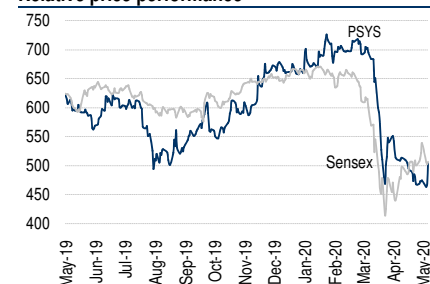
Source: Company, Anand Rathi Research

Key data	PSYS IN / PERS.BO
52-week high / low	₹740 / 420
Sensex / Nifty	31686 / 9271
3-m average volume	\$0.7m
Market cap	₹39bn / \$509m
Shares outstanding	76m

Shareholding pattern (%)	Mar'20	Dec'19	Sep'19
Promoters	31.4	31.9	31.9
- of which, Pledged			
Free float	68.6	68.1	68.1
- Foreign institutions	20.0	19.5	19.4
- Domestic institutions	24.8	23.5	21.7
- Public	23.8	25.1	27.0

Estimates revision (%)	FY21e	FY22e
Sales (\$)	(6.1)	(4.8)
EBITDA	(12.9)	(9.1)
PAT	(12.4)	(7.4)

Relative price performance



Source: Bloomberg

Mohit Jain
Research Analyst

Princy Bhansali
Research Associate

Anand Rathi Share and Stock Brokers Limited (hereinafter "ARSSBL") is a full-service brokerage and equities-research firm and the views expressed therein are solely of ARSSBL and not of the companies which have been covered in the Research Report. This report is intended for the sole use of the Recipient. Disclosures and analyst certifications are present in the Appendix.

Quick Glance – Financials and Valuations

Fig 1 – Income statement (₹m)

Year-end: Mar	FY18	FY19	FY20	FY21e	FY22e
Revenues (\$ m)	470.6	481.0	501.6	493.7	530.3
Growth (%)	10	2	4	-2	7
Net revenues (₹ m)	30,337	33,659	35,658	36,239	38,922
Employee & direct costs	18,748	19,874	21,934	23,330	24,546
Gross profit	11,589	13,785	13,724	12,909	14,376
Gross margins (%)	38.2	41.0	38.5	35.6	36.9
SG&A	6,901	7,980	8,795	8,238	8,914
EBITDA	4,687	5,805	4,930	4,671	5,463
EBITDA margins (%)	15.5	17.2	13.8	12.9	14.0
- Depreciation	1,585	1,573	1,660	1,548	1,624
Other income	1,190	631	1,259	948	1,039
Interest expenses					
PBT	4,293	4,863	4,529	4,070	4,878
Effective tax rate (%)	25	28	25	24	25
+ Associates / (Minorities)					
Net income	3,231	3,517	3,409	3,079	3,666
WANS	80	80	76	76	76
FDEPS (₹/ sh)	40.4	44.1	44.6	40.3	48.0

Fig 3 – Cash-flow statement (₹m)

Year-end: Mar	FY18	FY19	FY20	FY21e	FY22e
PBT	4,293	4,863	4,529	4,070	4,878
+ Non-cash items	1,077	1,155	1,396	778	763
Oper. prof. before WC	5,370	6,018	5,925	4,849	5,641
- Incr./(Decr.) in WC	-56	290	1,369	571	265
Others incl. taxes	-1,214	-1,405	-1,328	-991	-1,212
Operating cash-flow	4,212	4,323	3,228	3,286	4,163
- Capex (tang. +intang.)	651	374	746	834	918
Free cash-flow	3,560	3,949	2,482	2,452	3,245
Acquisitions	-	148	435	-	-
- Div.(incl. buyback & taxes)	950	1,588	2,978	1,694	2,200
+ Equity raised	-	-	-	-	-
+ Debt raised	-6	-5	38	-	-
- Fin investments	3,095	2,245	-515	1,549	2,014
- Misc. (CFI + CFF)	-1,396	-4,350	1,710	-770	-861
Net cash-flow	906	4,610	-2,088	-22	-107

Source: Company, AnandRathi Research

Fig 5 – Price movement



Source: Bloomberg

Fig 2 – Balance sheet (₹ m)

Year-end: Mar	FY18	FY19	FY20	FY21e	FY22e
Share capital	800	791	764	764	764
Net worth	21,272	23,447	23,858	25,243	26,709
Debt	17	12	46	46	46
Minority interest					
DTL/(Assets)	-642	-405	-960	-960	-960
Capital employed	20,647	23,054	22,944	24,329	25,796
Net tangible assets	2,581	2,331	2,791	2,817	2,861
Net intangible assets	2,464	1,595	1,434	695	-56
Goodwill	77	81	90	90	90
CWIP (tang. &intang.)	52	316	303	303	303
Investments (strategic)	2,881	4,346	4,621	4,621	4,621
Investments (financial)	5,916	3,296	5,165	6,714	8,728
Current assets (ex cash)	9,561	9,462	10,985	11,620	12,474
Cash	2,414	6,724	4,572	4,551	4,444
Current liabilities	5,300	5,098	7,018	7,082	7,670
Working capital	4,261	4,365	3,967	4,539	4,804
Capital deployed	20,647	23,054	22,944	24,329	25,796
Contingent liabilities	52	-	-	-	-

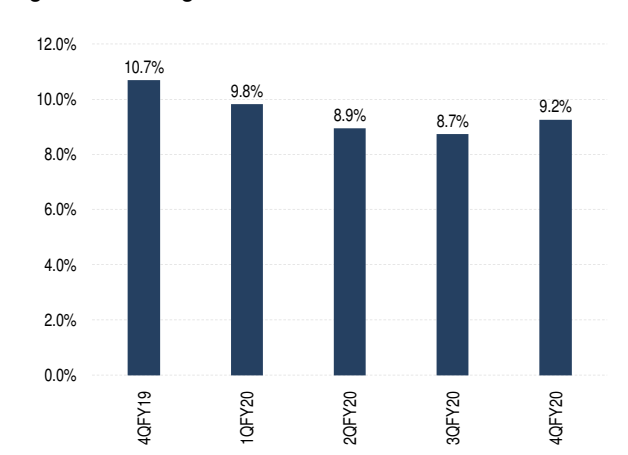
Fig 4 – Ratio analysis

Year-end: Mar	FY18	FY19	FY20	FY21e	FY22e
P/E (x)	11.9	10.9	11.3	12.5	10.5
EV / EBITDA (x)	5.0	4.0	4.7	5.0	4.3
EV / Sales (x)	1.0	0.8	0.8	0.8	0.7
P/B (x)	1.8	1.6	1.6	1.5	1.4
RoE (%)	16.0	15.7	14.4	12.5	14.1
RoCE (%) - after tax	13.8	16.0	11.6	10.3	11.7
RoIC (%) - after tax	22.7	30.8	25.3	23.6	29.7
DPS (₹ / sh) *	11.9	41.4	22.3	22.2	28.8
Dividend yield (%)	2.4	8.2	4.4	4.4	5.7
Dividend payout (%) - incl. DDT	29.4	93.9	50.0	55.0	60.0
Net debt / equity (x)	-0.4	-0.4	-0.4	-0.4	-0.5
Receivables (days)	79	73	84	86	86
Inventory (days)					
Payables (days)	24	20	22	21	20
CFO : PAT%	130.4	122.9	94.7	106.7	113.6

Source: Company, AnandRathi Research

*Includes buyback for calculation purposes

Fig 6 – EBIT margins



Source: Company

Result Highlights

Q4FY20 Results at a Glance

Fig 7 – Segment-wise results

	Q4FY19	Q1 FY20	Q2 FY20	Q3 FY20	Q4 FY20	Q/Q %	Y/Y%
Revenues (\$m)	118	120	126	129	127	-1.8	7.4
Growth Y/Y %	1.2	-3.2	6.2	7.1	7.4	29 bps	624 bps
Volume growth %	5.4	6.6	7.6	11.3	14.1	274 bps	869 bps
Revenues (₹ m)	8,319	8,321	8,846	9,227	9,264	0.4	11.4
Eff. exchange rate	70.3	69.6	70.5	71.3	72.9	2.3	3.7
Employees (EoP)	9,185	9,363	9,726	9,729	9,835	1.1	7.1
Revenue productivity (\$'000/employee)	12.9	12.8	12.9	13.3	12.9	-2.9	0.3
Gross utilisation (IT services)	79.7	77.9	77.6	79.8	78.7	-110 bps	-100 bps
Attrition	16.7	17.1	15.7	14.9	14.3	-60 bps	-240 bps
CoR (excl. D&A)	(5,255)	(5,434)	(5,773)	(6,157)	(6,130)	-0.5	16.7
As % of revenue	-63	-65	-65	-67	-66	56 bps	-300 bps
SG&A	(1,798)	(1,685)	(1,856)	(1,836)	(1,857)	1.2	3.3
As % of revenue	-22	-20	-21	-20	-20	-16 bps	157 bps
EBITDA	1,266	1,202	1,216	1,234	1,277	3.4	0.9
EBITDA margins %	15.2	14.4	13.8	13.4	13.8	41 bps	-143 bps
EBIT	889	816	792	806	857	6.3	-3.6
EBIT margins %	10.7	9.8	8.9	8.7	9.2	51 bps	-144 bps
Other income	283	202	226	232	229	-1.0	-18.9
Forex gain/loss	(59)	80	138	102	45	-26	-142
PBT	1,113	1,098	1,156	1,140	1,130	-0.8	1.6
PBT margins %	13.4	13.2	13.1	12.4	12.2	-15 bps	-118 bps
Taxes	(268)	(273)	(295)	(260)	(292)	12.2	8.9
ETR %	-24	-25	-26	-23	-26	-300 bps	-174 bps
PAT	845	825	861	879	838	-4.7	-0.8
PAT margins %	10.2	9.9	9.7	9.5	9.0	-48 bps	-111 bps

Source: Company, Anand Rathi Research

Fig 8 – Quarterly result

Year-end: Mar(₹m)	Q4FY20	Q/Q %	Y/Y%	FY20	FY21	Y/Y%
Sales (\$ m)	127	(1.8)	7.4	502	494	(1.6)
Sales	9,264	0.4	11.4	35,658	36,239	1.6
EBITDA	1,277	3.4	0.9	4,930	4,671	(5.3)
EBITDA margins (%)	13.8	41 bps	-143 bps	13.8	12.9	-94 bps
EBIT	857	6.3	(3.6)	3,270	3,123	(4.5)
EBIT margins (%)	9.2	51 bps	-144 bps	9.2	8.6	-55 bps
PBT	1,130	(0.8)	1.6	4,523	4,070	(10.0)
Tax	(292)	12.2	8.9	(1,121)	(991)	(11.6)
Tax rate (%)	(25.9)	-300 bps	-174 bps	(24.8)	(24.4)	42 bps
Net income	838	(4.7)	(0.8)	3,403	3,079	(9.5)

Source: Company

Conference call Highlights

- During the Covid shutdown the company was able to move people to work from home before the lockdown was announced in India. Clearly, it did not face much supply-side challenges.
- IP / licence deals dried up in March due to lockdowns.
- Healthcare and BFSI verticals are growing strong. The company has little presence in high turbulence sectors like retail, outdoor etc.
- 65% of the revenues from TSU is of annuity nature while the other 35% can be classified as project based.
- The company has started working with RedHat (an IBM subsidiary). That will help the top client revenues.
- The company invests 2% of revenues in new technologies. This impacts margins in the short run as these expenses are completely charged to P&L and not capitalized.
- In the quarter, S&M expenses were lower due to the attrition in the previous quarter, when the sales headcount declined by 19.
- IL&FS provision is now fully made and ₹30m were provided in the quarter on account of receivables from smaller customers.
- Senior management is taking pay-cuts till the time growth recovers for the company. The prudent measure will help margins.

Outlook

- No quantifiable outlook was provided, citing Covid uncertainties.

Q3 FY20 concall takeaways

- In terms of linear revenue, volumes were up 5.7%, while the billing rate declined 0.8%. IP revenue was lower on the back of lower-than-expected royalty revenue, which resulted in a drop in the gross margin by 140 basis points. The reseller business grew 20% in the quarter.
- The drop in the largest customer's revenue impacted profits but the company's endeavour is to get it back to normal.
- Expenditure on events such as attending conferences like Dreamforce, and AWS led to lower profits during the quarter.
- In Alliance Unit, Mark Simpson (President of the Alliance Unit) exited and Johnnie Zhang replaced him. He is an MBA from UCLA and a Bachelor of Science from the University of California in Electrical Engineering and Computer Science
- In the quarter, the company added 53 accounts and clocked some large deals like with a leading bank in the US, with a leading private bank in Asia Pacific and with the largest aircraft manufacturer in the world.
- Cash generation during the quarter was impacted as a couple of customers have increased payment terms from 60 days to 90, impacting the DSO by about three days.
- The Board approved an interim dividend of ₹9 a share.
- ETR was lower on account of R&D tax credits and overseas locations.

Outlook

- Overall, the pipeline and demand environment is healthy for Q4.
- The BFSI pipeline is healthy across existing and new customers.
- On the gross margin side, the endeavour is to get back to the trajectory of 35%+. The company is done with most of the additions to the sales team. The endeavour is to get the EBITDA margin back to 15%.
- ETR is expected at 24% to 25%.

Q2 FY20 concall takeaways

- The sales force now contributes ~\$55m to revenues on a TTM basis (growing 13% q/q in Q2), including revenues from Youperience.
- In the quarter, the company won large multi-million dollar deals, including a three-year deal from a US-based bank, a many-year healthcare deal and one in the “emerging” vertical. Besides, it secured a renewal from one of its largest healthcare clients.
- Margins were hit by wage hikes, counter-balanced by a 25bp currency benefit and by a reduction in carried-forward leave from 75 days to 60, leading to a benefit at the gross margin level.
- Sales and marketing expenses were higher on a onetime cost (for a brand-refresh exercise) and legal costs pertaining to the acquisition of Youperience. Q1 had a reversal of S&M expense for incentives not paid in FY19. Without such a reversal, higher S&M was seen in Q2.
- 13 people were added to the sales department in the US.
- The bifurcation of revenues of the TSU into Legacy and Digital is not proper, according to management, as some digital works are categorised as legacy services. Therefore, the digital decline doesn't give the proper picture.
- H1 FY19 cash flow was higher on account of a large \$7m deal being booked in the Alliance segment. Also, vendor payments were released earlier in Q2 FY20, as Persistent went in for an ERP upgrade. This led to ~₹500m less cash.

Q4 FY19 concall takeaways

- In FY19, the Linear segment's volumes grew ~1.7% and the billing rate improved 0.6%. The onsite Linear business grew 2.7% (volumes declined 1.2% and billing improved 4%) and Offsite Linear was up 2% (volumes grew 2.2% and billing declined 0.1%). The company expects to deliver sequential growth in this segment, driven by the new sales team. It also expects stabilisation in its top account.
- R&D tax credit on development expenses has led to reduced ETR ~24% (29% in the previous quarter). Overall, tax rates are likely to be maintained on an annual basis.
- Growth in IP-led revenues to accelerate as the company intends to purchase new IPs in H1 FY20.
- We expect acquisitions to enhance its operations in European markets.
- Management expects FY20 margins to be steady and would purely be a function of sales growth.
- Offshore revenues are likely to see an upswing, but margin benefits are likely to be offset by higher S&M expenses, leaving margins unchanged.

Factsheet

Fig 9 – Revenue split

(%)	Q4 FY19	Q1 FY20	Q2 FY20	Q3 FY20	Q4 FY20
Effort-led	78.4	78.5	77.5	78.8	83.7
IP-led	21.6	21.5	22.5	21.2	16.3

Source: Company

Fig 10 – Revenue-split, by region

(%)	Q4 FY19	Q1 FY20	Q2 FY20	Q3 FY20	Q4 FY20
North America	80.9	82.5	81.4	80.1	80.2
Europe	7.9	8.5	9.9	10.6	8.8
Asia-Pacific	11.2	9.0	8.7	9.3	11.0

Source: Company

Fig 11 – Revenue-split, by segment

(\$ m)	Q4 FY19	Q1 FY20	Q2 FY20	Q3 FY20	Q4 FY20
Services	52.8	54.8	56.7	60.2	61.5
Digital	28.9	27.2	28.1	30.0	32.1
Alliance	29.3	33.3	35.3	34.6	28.2
Accelerite	7.3	4.4	5.4	4.7	5.2

Source: Company

Fig 12 – Client concentration

(%)	Q4 FY19	Q1 FY20	Q2 FY20	Q3 FY20	Q4 FY20
Top-1	20.2	23.6	23.7	21.5	19.2
Top-5	40.0	44.6	44.3	42.3	41.5
Top-10	50.2	52.6	53.4	51.1	49.9

Source: Company

Fig 13 – Workforce

	Q4 FY19	Q1 FY20	Q2 FY20	Q3 FY20	Q4 FY20
Employee movement					
Technical(EOP)	9,185	9,363	9,726	9,729	9,835
Net additions (qtr)	424	178	363	3	106
Net additions (LTM)	856	1,167	1,160	968	650
Utilisation (%)	79.7	77.9	77.6	79.8	78.7
Attrition (%)	16.7	17.1	15.7	14.9	14.3
Sales(EOP)					
Sales(EOP)	273	272	285	266	263
Net additions (qtr)	7	(1)	13	(19)	(3)
Net additions (LTM)	62	35	38	-	(10)

Source: Company

Fig 14 – Revenue-split, by delivery type and billing rates

	Q4 FY19	Q1 FY20	Q2 FY20	Q3 FY20	Q4 FY20
Delivery type(%)					
On-site	31.4	30.5	31.0	31.5	33.0
Offshore	47.0	48.0	46.5	47.3	50.7
Reported billing rates (\$/hr)					
On-site	90.1	89.5	91.7	89.6	92.4
Offshore	23.4	23.7	23.7	23.6	23.7

Source: Company

Fig 15 – Key areas and horizontal growth (%)

(%)	Q4 FY19	Q1 FY20	Q2 FY20	Q3 FY20	Q4 FY20
Horizontal growth (q/q)					
Services	4.2	3.8	3.5	6.1	2.2
Digital	4.3	(5.9)	(1.5)	6.8	7.0
Alliance	(17.4)	13.3	6.1	(2.0)	(18.4)
Accelerite	4.6	(39.7)	21.9	(13.7)	11.8
Key area-wise growth (y/y)					
North America	1.2	0.2	4.6	2.5	6.5
Europe	(2.5)	(31.4)	40.1	49.4	19.6
Asia-Pacific	3.9	4.9	(6.7)	14.5	5.5

Source: Company

Fig 16 – Segment-wise growth (y/y)

(%)	Q4 FY19	Q1 FY20	Q2 FY20	Q3 FY20	Q4 FY20
Effort-led	2.1	4.5	10.6	12.6	14.6
IP-led	(2.0)	(23.8)	(6.7)	(9.2)	(18.9)

Source: Company

Valuations

At the ruling market price (₹503), the stock trades at P/E of 10.5x and EV/EBITDA of 4.3x FY22e. While FY19 revenue declined 2.2%, FY20 grew 4%. Revenues are likely to touch \$530m by FY22, at a ~3% CAGR. The EBIT margin declined from 12.6% in FY19 to 9.2% in FY20 and is now largely expected to decline to 8.6% in FY21 and then revert to 9.9% in FY22.

IP sales declined 15% in FY20 and we expect them to remain soft. The company's reliance on its top client has come down to 19% (from 22% in Q3) and the incremental RedHat partnership would help stabilize revenues from the top client.

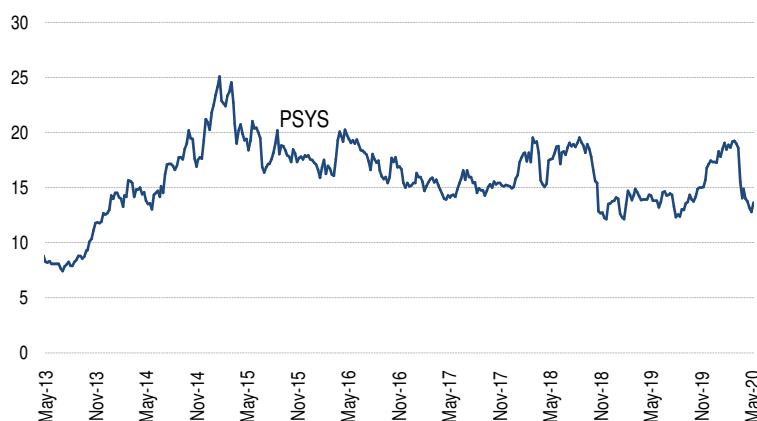
We value the stock based on a target PE of 13.5x FY22e EPS. Considering the risks of slow growth and lower margins already factored into the price, we maintain our Buy recommendation, with a revised target of ₹630 (₹670 earlier).

Fig 17 – Change in estimates

₹m)	FY21			FY22		
	New	Old	Chg %	New	Old	Chg %
Revenues (\$m)	494	526	(6.1)	530	557	(4.8)
Revenues	36,239	37,986	(4.6)	38,922	40,274	(3.4)
EBITDA	4,671	5,361	(12.9)	5,463	6,011	(9.1)
EBITDA margins (%)	12.9%	14.1%	-123 bps	14.0%	14.9%	-89 bps
EBIT	3,123	3,609	(13.5)	3,839	4,279	(10.3)
EBIT margins (%)	8.6%	9.5%	-89 bps	9.9%	10.6%	-76 bps
PBT	4,070	4,601	(11.5)	4,878	5,235	(6.8)
PAT	3,079	3,515	(12.4)	3,666	3,960	(7.4)

Source: Anand Rath Research

Fig 18 – PE band



Source: Bloomberg, Anand Rath Research

Risk

- Declines in the top client.

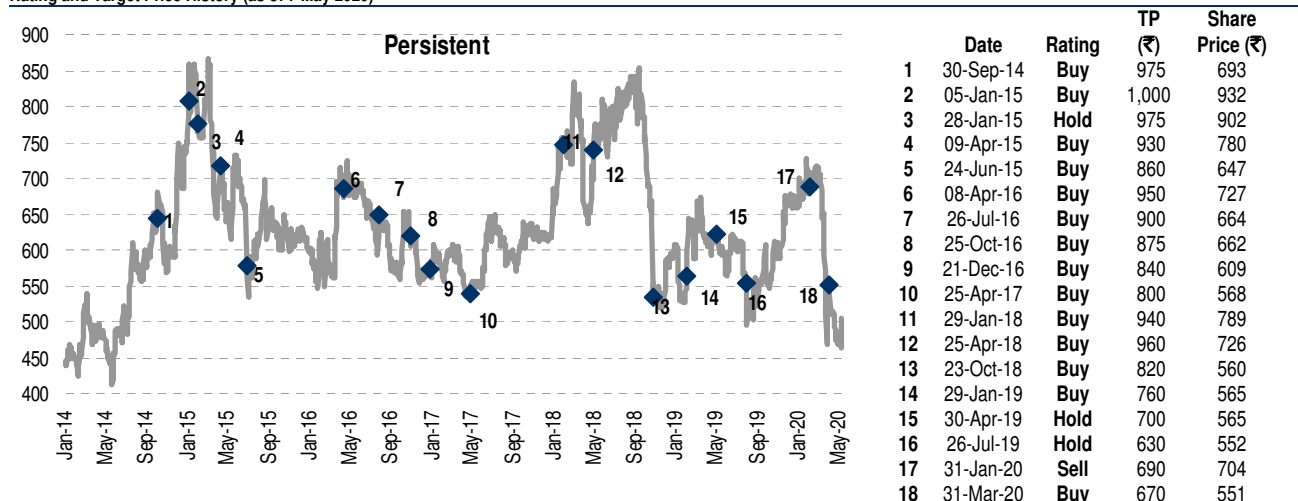
Appendix

Analyst Certification

The views expressed in this Research Report accurately reflect the personal views of the analyst(s) about the subject securities or issuers and no part of the compensation of the research analyst(s) was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analyst(s) in this report. The research analysts are bound by stringent internal regulations and also legal and statutory requirements of the Securities and Exchange Board of India (hereinafter "SEBI") and the analysts' compensation are completely delinked from all the other companies and/or entities of Anand Rathi, and have no bearing whatsoever on any recommendation that they have given in the Research Report.

Important Disclosures on subject companies

Rating and Target Price History (as of 7 May 2020)



Anand Rathi Ratings Definitions

Analysts' ratings and the corresponding expected returns take into account our definitions of Large Caps (>US\$1bn) and Mid/Small Caps (<US\$1bn) as described in the Ratings Table below:

Ratings Guide (12 months)

	Buy	Hold	Sell
Large Caps (>US\$1bn)	>15%	5-15%	<5%
Mid/Small Caps (<US\$1bn)	>25%	5-25%	<5%

Research Disclaimer and Disclosure inter-alia as required under Securities and Exchange Board of India (Research Analysts) Regulations, 2014

Anand Rathi Share and Stock Brokers Ltd. (hereinafter refer as ARSSBL) (Research Entity) is a subsidiary of Anand Rathi Financial Services Ltd. ARSSBL is a corporate trading and clearing member of Bombay Stock Exchange Ltd, National Stock Exchange of India Ltd. (NSEIL), Multi Stock Exchange of India Ltd (MCX-SX) and also depository participant with National Securities Depository Ltd (NSDL) and Central Depository Services Ltd. ARSSBL is engaged in the business of Stock Broking, Depository Participant and Mutual Fund distributor.

The research analysts, strategists, or research associates principally responsible for the preparation of Anand Rathi research have received compensation based upon various factors, including quality of research, investor client feedback, stock picking, competitive factors and firm revenues.

General Disclaimer: This Research Report (hereinafter called "Report") is meant solely for use by the recipient and is not for circulation. This Report does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. The recommendations, if any, made herein are expression of views and/or opinions and should not be deemed or construed to be neither advice for the purpose of purchase or sale of any security, derivatives or any other security through ARSSBL nor any solicitation or offering of any investment/trading opportunity on behalf of the issuer(s) of the respective security (ies) referred to herein. These information / opinions / views are not meant to serve as a professional investment guide for the readers. No action is solicited based upon the information provided herein. Recipients of this Report should rely on information/data arising out of their own investigations. Readers are advised to seek independent professional advice and arrive at an informed trading/investment decision before executing any trades or making any investments. This Report has been prepared on the basis of publicly available information, internally developed data and other sources believed by ARSSBL to be reliable. ARSSBL or its directors, employees, affiliates or representatives do not assume any responsibility for, or warrant the accuracy, completeness, adequacy and reliability of such information / opinions / views. While due care has been taken to ensure that the disclosures and opinions given are fair and reasonable, none of the directors, employees, affiliates or representatives of ARSSBL shall be liable for any direct, indirect, special, incidental, consequential, punitive or exemplary damages, including lost profits arising in any way whatsoever from the information / opinions / views contained in this Report. The price and value of the investments referred to in this Report and the income from them may go down as well as up, and investors may realize losses on any investments. Past performance is not a guide for future performance. ARSSBL does not provide tax advice to its clients, and all investors are strongly advised to consult with their tax advisers regarding taxation aspects of any potential investment.

Opinions expressed are our current opinions as of the date appearing on this Research only. We do not undertake to advise you as to any change of our views expressed in this Report. Research Report may differ between ARSSBL's RAs and/ or ARSSBL's associate companies on account of differences in research methodology, personal judgment and difference in time horizons for which recommendations are made. User should keep this risk in mind and not hold ARSSBL, its employees and associates responsible for any losses, damages of any type whatsoever.

ARSSBL and its associates or employees may; (a) from time to time, have long or short positions in, and buy or sell the investments in/ security of company (ies) mentioned herein or (b) be engaged in any other transaction involving such investments/ securities of company (ies) discussed herein or act as advisor or lender / borrower to such company (ies) these and other activities of ARSSBL and its associates or employees may not be construed as potential conflict of interest with respect to any recommendation and related information and opinions. Without limiting any of the foregoing, in no event shall ARSSBL and its associates or employees or any third party involved in, or related to computing or compiling the information have any liability for any damages of any kind.

Details of Associates of ARSSBL and Brief History of Disciplinary action by regulatory authorities & its associates are available on our website i.e. www.rathionline.com

Disclaimers in respect of jurisdiction: This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or which would subject ARSSBL to any registration or licensing requirement within such jurisdiction(s). No action has been or will be taken by ARSSBL in any jurisdiction (other than India), where any action for such purpose(s) is required. Accordingly, this Report shall not be possessed, circulated and/or distributed in any such country or jurisdiction unless such action is in compliance with all applicable laws and regulations of such country or jurisdiction. ARSSBL requires such recipient to inform himself about and to observe any restrictions at his own expense, without any liability to ARSSBL. Any dispute arising out of this Report shall be subject to the exclusive jurisdiction of the Courts in India.

Statements on ownership and material conflicts of interest, compensation - ARSSBL and Associates

Answers to the Best of the knowledge and belief of ARSSBL/ its Associates/ Research Analyst who is preparing this report

Research analyst or research entity or his associate or his relative has any financial interest in the subject company and the nature of such financial interest.	No
ARSSBL/its Associates/ Research Analyst/ his Relative have actual/beneficial ownership of one per cent or more securities of the subject company, at the end of the month immediately preceding the date of publication of the research report?	No
ARSSBL/its Associates/ Research Analyst/ his Relative have actual/beneficial ownership of one per cent or more securities of the subject company	No
ARSSBL/its Associates/ Research Analyst/ his Relative have any other material conflict of interest at the time of publication of the research report?	No
ARSSBL/its Associates/ Research Analyst/ his Relative have received any compensation from the subject company in the past twelve months	No
ARSSBL/its Associates/ Research Analyst/ his Relative have managed or co-managed public offering of securities for the subject company in the past twelve months	No
ARSSBL/its Associates/ Research Analyst/ his Relative have received any compensation for investment banking or merchant banking or brokerage services from the subject company in the past twelve months	No
ARSSBL/its Associates/ Research Analyst/ his Relative have received any compensation for products or services other than investment banking or merchant banking or brokerage services from the subject company in the past twelve months	No
ARSSBL/its Associates/ Research Analyst/ his Relative have received any compensation or other benefits from the subject company or third party in connection with the research report	No
ARSSBL/its Associates/ Research Analyst/ his Relative have served as an officer, director or employee of the subject company.	No

Other Disclosures pertaining to distribution of research in the United States of America

This research report is a product of ARSSBL, which is the employer of the research analyst(s) who has prepared the research report. The research analyst(s) preparing the research report is/are resident outside the United States (U.S.) and are not associated persons of any U.S. regulated broker-dealer and therefore the analyst(s) is/are not subject to supervision by a U.S. broker-dealer, and is/are not required to satisfy the regulatory licensing requirements of FINRA or required to otherwise comply with U.S. rules or regulations regarding, among other things, communications with a subject company, public appearances and trading securities held by a research analyst account.

This report is intended for distribution by ARSSBL only to "Major Institutional Investors" as defined by Rule 15a-6(b)(4) of the U.S. Securities and Exchange Act, 1934 (the Exchange Act) and interpretations thereof by U.S. Securities and Exchange Commission (SEC) in reliance on Rule 15a 6(a)(2). If the recipient of this report is not a Major Institutional Investor as specified above, then it should not act upon this report and return the same to the sender. Further, this report may not be copied, duplicated and/or transmitted onward to any U.S. person, which is not the Major Institutional Investor.

In reliance on the exemption from registration provided by Rule 15a-6 of the Exchange Act and interpretations thereof by the SEC in order to conduct certain business with Major Institutional Investors, ARSSBL has entered into an agreement with a U.S. registered broker-dealer, Cabrera Capital Markets. ("Cabrera"). Transactions in securities discussed in this research report should be effected through Cabrera or another U.S. registered broker dealer.

1. ARSSBL or its Affiliates may or may not have been beneficial owners of the securities mentioned in this report.
2. ARSSBL or its affiliates may have or not managed or co-managed a public offering of the securities mentioned in the report in the past 12 months.
3. ARSSBL or its affiliates may have or not received compensation for investment banking services from the issuer of these securities in the past 12 months and do not expect to receive compensation for investment banking services from the issuer of these securities within the next three months.
4. However, one or more of ARSSBL or its Affiliates may, from time to time, have a long or short position in any of the securities mentioned herein and may buy or sell those securities or options thereon, either on their own account or on behalf of their clients.
5. As of the publication of this report, ARSSBL does not make a market in the subject securities.
6. ARSSBL or its Affiliates may or may not, to the extent permitted by law, act upon or use the above material or the conclusions stated above, or the research or analysis on which they are based before the material is published to recipients and from time to time, provide investment banking, investment management or other services for or solicit to seek to obtain investment banking, or other securities business from, any entity referred to in this report.

© 2019. This report is strictly confidential and is being furnished to you solely for your information. All material presented in this report, unless specifically indicated otherwise, is under copyright to ARSSBL. None of the material, its content, or any copy of such material or content, may be altered in any way, transmitted, copied or reproduced (in whole or in part) or redistributed in any form to any other party, without the prior express written permission of ARSSBL. All trademarks, service marks and logos used in this report are trademarks or service marks or registered trademarks or service marks of ARSSBL or its affiliates, unless specifically mentioned otherwise.

Additional information on recommended securities/instruments is available on request.

ARSSBL registered address: Express Zone, A Wing, 9th Floor, Western Express Highway, Diagonally Opposite Oberoi Mall, Malad (E), Mumbai – 400097.
Tel No: +91 22 6281 7000 | Fax No: +91 22 4001 3770 | CIN: U67120MH1991PLC064106.