

APRIL 06, 2015

THEME

BSE-30: 28,260

A multi-billion dollar question: How do you value an e-commerce company? We put together a framework for valuing a non-travel e-commerce company by taking into account nuances around (1) market size, (2) competitive intensity and positioning, (3) capital availability and its willingness to price risk and (4) time horizons of investors. Investors need to take into account the wide variations in assumptions possible and the optionality inherent in the pricing as they rush to chase the next big theme.

10X increase in number of online shoppers – it is a possibility

In Exhibit 1, we lay down our basic assumptions and forecasts of where we see the e-commerce market currently and where it could possibly be. We forecast that by FY2020E, (1) the stock of smart phones is expected to be 625 mn, up from 225 mn currently, (2) the number of people online is expected to be 750 mn, up 3X, and (3) the proportion of those online who will shop online is expected to increase to 45% from the current 20%. If these projections hold true, the number of online shoppers in India will go up by 8X to around 300 mn from the current 38 mn. We note in Exhibit 2 that many of these assumptions do have a basis in current reality.

Changing the shopping behavior to reach US\$50 bn GMV by FY2020E – there is a probability

Exhibit 3 looks at a possible trajectory of the evolution of the non-travel e-commerce gross merchandise values (GMVs). We break up the derivation of the GMV into various components: (1) number of people who will shop online, (2) the number of items in an order, (3) the number of times they will shop in a year and (4) the average value of item purchased. The first three variables can be expected to increase as we project ahead in time – and these will possibly form the basis of spectacular growth in Indian e-commerce. However, as the number of times people purchase online goes up, the average value of an order is expected to trend down. We base our current assessment of these numbers on our meetings with 30+ e-commerce companies recently; our projections take into account some comparable data from China and the US (see Exhibit 4). We note that our calculations of GMV are over the year, and not run-rate based.

Is there a big enough market in India? It is worth pondering

To triangulate the value of goods and services that can be purchased online, it is good to get an estimate of the overall retail market in India and estimate what proportion of it could come online. To do this, we refer to our RUPEES estimator (see Exhibit 5). We note that our current estimates of the market sizes across various categories tie in with industry realities (see Exhibit 6). We recast our estimates and projections into travel and non-travel and present them in Exhibit 7: this allows us to compare our top-down and bottom-up estimates in Exhibit 8.

How will the market look like in 2020 or 2025? This is the profound question

Any estimate of value being ascribed to a company today is based on how the situation is expected to pan out deep into the future. We look at three scenarios over two time-frames (see Exhibits 9 and 10) to understand how investors could potentially think about making their investment thesis on an e-commerce company. In an expected winner-take-all market, the investing outcomes should also be expected to be binary (either a creation of massive value or a spectacular kaput; unless of course, till the end of the forecast horizon, the situation still remains muddy and muddled). Taking these three scenarios provides a reasonable framework to assess what value can potentially be created over the forecast horizon.

So how should an investor value an e-commerce company today? This is the practical question

In our February 27, 2015, note '*e is now mc*', we had highlighted how capital is now a primary raw material in e-commerce: it is possibly the richest that will go on to become the fittest and hence survive. The valuation of the 'winner' is hence dependent on how kindly or otherwise the holders of capital are willing to look at it – and this hence allows for a wide range of values to be justified (see Exhibit 11). Many of our assumptions will also get tested over time and that only makes taking the call on the value today so much more difficult. It might leave some valuation comfort for investors to not value companies to perfection.

QUICK NUMBERS

- Underlying dynamics for growth of online shopping are all in place
- The question to ask is on the overall size of the market and the pie an e-com company can take
- How to value e-com companies so as to make investing returns

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Exhibit 1: Modeling the e-commerce market in India

Various assumptions and their outputs, March fiscal year-ends, 2015-25E

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
India's population (mn) [A]	1,256.8	1,268.7	1,280.6	1,292.7	1,304.9	1,317.2	1,329.7	1,342.2	1,354.9	1,367.7	1,380.6
Internet penetration (%) [B]	20.0	27.5	35.0	42.5	50.0	57.5	60.0	62.5	65.0	67.5	70.0
Number of internet subscribers (mn) [C=A*B]	251.4	348.9	448.2	549.4	652.4	757.4	797.8	838.9	880.7	923.2	966.4
Number of smart phones in stock (mn)	224.0	304.0	386.0	467.0	550.0	625.0	687.5	749.4	809.3	866.0	917.9
Proportion of subscribers who do commerce online (%) [D]	15.0	20.0	25.0	30.0	35.0	40.0	42.5	45.0	47.5	50.0	52.5
Number of online shoppers (mn) [E=C*D]	37.7	69.8	112.1	164.8	228.4	303.0	339.1	377.5	418.3	461.6	507.4

Source: Various company discussions, Kotak Institutional Equities

Exhibit 2: 2.5X increase in the number of Indians online over three years

Number of internet subscribers, year-ending June, 2012-15E

	2012	2013	2014	2015
Urban	99	130	165	216
Rural	38	60	92	138
Total	137	190	257	354
of which, via mobile				
Urban	44	70	101	
Rural	4	21	36	
Total	48	91	137	
Mobile as a proportion of total users				
Urban	44	54	61	
Rural	11	35	39	
Total	35	48	53	

Source: IAMAI, Kotak Institutional Equities

Exhibit 3: Modeling the e-commerce market in India

Various assumptions and their outputs, March fiscal year-ends, 2015-25E

	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Number of online shoppers (mn) [A]	37.7	69.8	112.1	164.8	228.4	303.0	339.1	377.5	418.3	461.6	507.4
Number of items in an order [B]	1.4	1.4	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.7
Number of orders in a year [C]	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
Average value of an item ordered (US\$) [D]	25.0	22.5	20.3	18.2	16.4	14.8	14.0	13.3	12.7	12.0	11.4
Average value of an order (US\$) [E=B*D]	35.0	32.1	29.4	26.9	24.6	22.5	21.7	21.0	20.3	19.5	18.8
Average value of goods ordered by a consumer in a year (US\$) [F=C*E]	140.0	144.3	146.8	147.9	147.6	146.3	152.2	157.4	162.0	166.1	169.6
Total value of goods ordered (US\$ bn) [G=A*F/1000]	5.3	10.1	16.5	24.4	33.7	44.3	51.6	59.4	67.8	76.7	86.1
Growth (yoy, %)		90.7	63.4	48.1	38.3	31.5	16.4	15.2	14.1	13.1	12.3

Source: Various company discussions, Kotak Institutional Equities

Exhibit 4: Data availability in the e-commerce sector can be a challenge

Various matrices for Alibaba and Amazon, 2012-14

	Alibaba			Singles Day		Amazon		
	2014	2013	2012	2014	2013	2014	2013	2012
Active buyers (mn)	255	172	123			270	237	200
Total GMV (RMB bn)	1,678	1,077	663					
Total GMV (US\$ bn)	278	179	110	9	6	89	74	61
GMV per buyer (US\$)	1,092	1,039	894					
Number of orders (bn)	12.7	8.1		0.3	0.3			
Amount per order (US\$)	21.9	22.1		33.5	22.8			
Number of transactions per buyer per year	49.8	47.1						

Notes:

- (a) Amazon's GMV represents its revenues from sale on its own site and commissions earned via its marketplace model. The overall GMV is hence indeterminate.
 (b) The year end for Alibaba is March and for Amazon is December.

Source: Media articles, company disclosures, Kotak Institutional Equities

Exhibit 5: RUPEES estimate of India's retail market and what proportion could come online
 Estimate of various sectors, March fiscal year-ends, 2015-25E

	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Food and beverages	27,279	28,723	30,172	31,603	33,030	34,460	36,013	37,474	38,902	40,378	42,025
Alcohol and tobacco	1,667	1,775	1,883	1,991	2,098	2,206	2,323	2,435	2,545	2,666	2,805
Clothing and footwear	3,390	3,589	3,789	3,987	4,186	4,388	4,610	4,822	5,030	5,260	5,527
Housing	7,948	8,584	9,228	9,867	10,506	11,154	11,856	12,531	13,192	13,950	14,828
Household goods	2,752	2,945	3,139	3,333	3,527	3,723	3,935	4,139	4,339	4,572	4,848
Healthcare	3,074	3,322	3,574	3,825	4,077	4,333	4,612	4,882	5,147	5,462	5,836
Transport	5,798	6,233	6,671	7,106	7,541	7,983	8,466	8,931	9,385	9,900	10,497
Communications	1,729	1,862	1,996	2,129	2,263	2,398	2,544	2,684	2,821	2,980	3,163
Leisure	2,447	2,660	2,874	3,087	3,301	3,519	3,759	3,990	4,216	4,477	4,781
Education	1,755	1,884	2,016	2,146	2,277	2,410	2,554	2,692	2,828	2,985	3,167
Hotels	2,067	2,239	2,412	2,584	2,757	2,933	3,129	3,317	3,502	3,715	3,966
Miscellaneous	7,124	7,650	8,182	8,711	9,240	9,777	10,359	10,920	11,468	12,111	12,871
Grand total	67,030	71,465	75,935	80,371	84,803	89,284	94,159	98,817	103,376	108,457	114,315
Proportion online (%)											
Food and beverages	0.20	0.45	0.70	0.95	1.20	1.45	1.70	1.95	2.20	2.45	2.70
Alcohol and tobacco	—	—	—	—	—	—	—	—	—	—	—
Clothing and footwear	1.50	3.00	4.50	6.00	7.50	9.00	10.00	11.00	12.00	13.00	14.00
Housing	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75
Household goods	1.50	3.00	4.50	6.00	7.50	9.00	10.50	12.00	13.50	15.00	16.50
Healthcare	—	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00
Transport	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00
Communications	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00	26.00	28.00	30.00
Leisure	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00	26.00	28.00
Education	—	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
Hotels	10.00	12.00	14.00	16.00	18.00	20.00	21.00	22.00	23.00	24.00	25.00
Miscellaneous	0.50	1.00	1.50	2.00	2.50	3.00	3.25	3.50	3.75	4.00	4.25
Grand total	1.25	1.86	2.48	3.11	3.74	4.37	4.92	5.47	6.02	6.58	7.16
Value online (Rs bn)											
Food and beverages	55	129	211	300	396	500	612	731	856	989	1,135
Alcohol and tobacco	—	—	—	—	—	—	—	—	—	—	—
Clothing and footwear	51	108	171	239	314	395	461	530	604	684	774
Housing	20	43	69	99	131	167	207	251	297	349	408
Household goods	41	88	141	200	265	335	413	497	586	686	800
Healthcare	—	17	36	57	82	108	138	171	206	246	292
Transport	58	93	133	178	226	279	339	402	469	544	630
Communications	173	223	279	341	407	480	560	644	734	834	949
Leisure	196	266	345	432	528	633	752	878	1,012	1,164	1,339
Education	—	19	40	64	91	121	153	188	226	269	317
Hotels	207	269	338	413	496	587	657	730	805	892	992
Miscellaneous	36	77	123	174	231	293	337	382	430	484	547
Grand total	836	1,332	1,886	2,498	3,168	3,898	4,629	5,404	6,224	7,141	8,181

Notes:

(a) Communications include both mobiles and recharges.

Source: RUPEES model of Kotak Institutional Equities

Exhibit 6: The online non-travel market is estimated at US\$5 bn by industry sources
Estimate of the online market, December 2014

	(Rs bn)	(US\$ bn)
Mobiles and mobile phone accessories	99.4	1.6
Apparels, footwear and personal items	47.0	0.7
Consumer Durables along with Kitchen Appliances	34.0	0.5
Laptops, Net Books, Tablets	27.1	0.4
Home Furnishings	10.6	0.2
Books	6.5	0.1
Others	15.9	0.3
Total e-tailing	240.5	3.8
Financial services	45.1	0.7
Matrimony and classifieds	9.0	0.1
Other services	20.3	0.3
Total non-travel e-commerce	314.8	5.0
Travel e-commerce	500.5	7.9
Total digital commerce	815.3	12.9

Source: Digital Commerce Report by IAMAI and IMRB International, Kotak Institutional Equities

Exhibit 7: Our bottom-up estimates on the possible digital commerce in India over the next decade
Estimating the market across the travel and non-travel space, March fiscal year-ends, 2015-25E

(Rs bn)	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Travel	460	628	816	1,023	1,251	1,500	1,747	2,010	2,287	2,600	2,960
Non-travel	375	704	1,070	1,475	1,917	2,399	2,882	3,394	3,938	4,541	5,221
Grand total	836	1,332	1,886	2,498	3,168	3,898	4,629	5,404	6,224	7,141	8,181
US\$ bn											
Travel	7.3	9.7	12.6	15.7	19.2	23.1	26.9	30.9	35.2	40.0	45.5
Non-travel	6.0	10.8	16.5	22.7	29.5	36.9	44.3	52.2	60.6	69.9	80.3
Grand total	13.3	20.5	29.0	38.4	48.7	60.0	71.2	83.1	95.8	109.9	125.9

Notes:

(a) We include transport, leisure and hotels in the category of travel. All other items are part of non-travel.

(b) We take the FY2015 exchange rate to be Rs63/US\$ and for projection, we take our economist's long term forecast of Rs65/US\$.

Source: RUPEES model of Kotak Institutional Equities

Exhibit 8: Top-down and bottom-up exercises provide a good range of where the market estimate would lie
Estimate of the online non-travel marketplace, March fiscal year-ends, 2015-25E

	2015	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Bottom-up estimate from RUPEES estimator	6.0	10.8	16.5	22.7	29.5	36.9	44.3	52.2	60.6	69.9	80.3
Top-down estimate by forecasting underlying trends	5.3	10.1	16.5	24.4	33.7	44.3	51.6	59.4	67.8	76.7	86.1

Source: Kotak Institutional Equities

Exhibit 9: Playing out the various scenarios in 2020
Working out the probabilities, March fiscal year-end, 2020

	Scenario A	Scenario B	Scenario C
Description	There emerges one dominant player in the e-commerce vertical	Intense competition continues and the top-most players continue fighting for market-share	There is an unstable equilibrium with the top-3 players having 80% market-share divided roughly equally (say, 30%, 30%, 20%)
Probability	0.4	0.3	0.3
Market share of the dominant player (%)	80.0	10.0	30.0
Example	Alibaba in China, Amazon in the USA	The current Indian situation further exacerbated by new players starting horizontal portals, verticals	The situation remains unstable as the e-commerce marketplace infrastructure tends to move towards winner-takes-all
Gross Merchandise Value (GMV, US\$ bn)	44.3	44.3	44.3
GMV of the market leader	35.5	4.4	13.3
Operating profit / EBITDA margin (%)	10.0	(10.0)	5.0
Explanation	With a dominant share, the market leader does not need to engage in discounting.	Discounting continues as the only way to attract the new consumers and retain old ones	Discounting abates but competitive intensity keeps margins in check
EBITDA (US\$ bn)	3.5	(0.4)	0.7
EV/EBITDA multiple	12.0	NA	5.0
Explanation	Stable business generating cash flows with certainty and hence can get a high multiple	Still burning cash and hence there is no multiple	Unstable cash flows and hence a low multiple
EV (US\$ bn)	42.6	—	3.3
Probability-based valuation (US\$ bn)	17.0	—	1.0

Notes:

(a) We assume there is no debt on the balance sheet and hence EV = equity value

Source: Kotak Institutional Equities

Exhibit 10: Playing out the various scenarios in 2025
Working out the probabilities, March fiscal year-end, 2025

	Scenario A	Scenario B	Scenario C
Description	There emerges one dominant player in the e-commerce vertical	Intense competition continues and the top-most players continue fighting for market-share	There is an unstable equilibrium with the top-3 players having 80% market-share divided roughly equally (say, 30%, 30%, 20%)
Probability	0.4	0.3	0.3
Market share of the dominant player (%)	80.0	10.0	30.0
Example	Alibaba in China, Amazon in the USA	The current Indian situation further exacerbated by new players starting horizontal portals, verticals	The situation remains unstable as the e-commerce marketplace infrastructure tends to move towards winner-takes-all
Gross Merchandise Value (GMV, US\$ bn)	86.1	86.1	86.1
GMV of the market leader	68.9	8.6	25.8
Operating profit / EBITDA margin (%)	10.0	(10.0)	5.0
Explanation	With a dominant share, the market leader does not need to engage in discounting.	Discounting continues as the only way to attract the new consumers and retain old ones	Discounting abates but competitive intensity keeps margins in check
EBITDA (US\$ bn)	6.9	(0.9)	1.3
EV/EBITDA multiple	12.0	NA	5.0
Explanation	Stable business generating cash flows with certainty and hence can get a high multiple	Still burning cash and hence there is no multiple	Unstable cash flows and hence a low multiple
EV (US\$ bn)	82.6	0.0	6.5
Probability-based valuation (US\$ bn)	33.0	0.0	1.9

Notes:

(a) We assume there is no debt on the balance sheet and hence EV = equity value

Source: Kotak Institutional Equities

Exhibit 11: Depending on how far out the investor is willing to look, a range of values can be justified

Valuing the current equity value of the leader

	2020	2025
Probability-based valuation	18.0	35.0
Assuming a 10% US\$ cost of equity		
Current equity value (US\$ bn)	11.2	13.5
Assuming a 12% US\$ cost of equity		
Current equity value (US\$ bn)	10.2	11.3
Assuming a 14% US\$ cost of equity		
Current equity value (US\$ bn)	9.4	9.4

Source: Kotak Institutional Equities
