RSV

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An Insight into Early-Stage Company (ESC) Valuation

Agenda

- ESC- Key Characteristics
- ESC-Key Valuation Challenges
- Pre-Seed , Seed and Series Funding
- Pre-Money and Post Money Valuation
- Invention vs. Innovation
- Influence of Founder, Innovation,Governance and Social Factors on Valuation
- Methods of Valuation for ESC

ESC- Key Characteristics

- Undifferentiated
- Unproven Concepts
- Unproven management
- Undercapitalisation
- Inadequate or lack of governance
- Underbudgeted Expenses
- Unaffordable products or services
- Unrealistic and overoptimistic time schedule
- Many financial indicators such as EBITDA or Net income are either negative or very small and negative operating cash flow
- R&D and marketing expenses may exceed revenue

ESC- Key Characteristics

- High growth or high growth potential
- High return potential
- Very limited financial history
- Risk of failure is high - In 100 new ventures, only 16% survive the first ten years
- High risk of patent and trademark infringement
- Size- ESC size is defined in terms of equity value like Unicorns
- Complex capital structure – multiple classes and series of shares with different rights and privileges
- Non-availability of quality of financial information
- Off-balance sheet liabilities

ESC- Key Characteristics

- Many ESCs heavily rely on IPR and other intangibles and hence valuations are very similar to Intangibles
- Tangible and real properties are De Minimis
- No thought to how we know what we think we know
- Micro –Macro problem
- Most of the pricing decisions are made on autopilot mode
- Some past patterns and assumptions are taken as non-debatable truths (NDT)
- Short-termism is preferred while making a decision
- Focus on increasing growth but not on doing it profitably
- Recurring round of financing
- Funding is a vital resource for startups; financing and equity investments through government grants, accelerators/incubators, angel investors, and venture funds

ESC-Key Valuation Challenges

- Methods used for financing ESC do not meet professional valuation standards-Few VCs use either DCF or any other standard finance techniques for assessing deals
- Historical financial statements of the ESC may not be relevant for the PFI in most cases
- Preference for the valuation of ESC- the Jokey or the Horse or Both ?
- Different market participants –key aspects of ESC valuation
- Most VCs use cash-on-cash return (cash returned from the investment to cash invested) or IRR of the deal
- The discount rate is computed on mature listed companies (“as if publicly traded”) which bear less risk than a new venture that will most probably fail even before breaking even is inappropriate for the valuation of ESCs
- Backsolve Method and Calibration- Rolling Forward Estimate from the Recent Past Transactions

ESC-Key Valuation Challenges

- Going concern qualification under audit has a different perspective and purpose as compared to valuation standards- auditors generally do not count the value of intangibles, or self-created assets for going concern qualification
- Probability of future funding
- In the case of ESC valuation, solvency, and liquidation analysis should consider future prospects in addition to historical data
- Few VCs use either DCF or any other standard finance techniques for assessing deals
- Most VCs use cash-on-cash return (cash returned from the investment to cash invested) or IRR of the deal
- The discount rate is computed on mature listed companies (“as if publicly traded”) which bear less risk than a new venture that will most probably fail even before breaking even is inappropriate for the valuation of ESCs
- Multi-stages of cash flows- Likely to substantially change time

ESC- Seed and Pre Seed Funding

- In most geographical regions and entrepreneurial ecosystems, seed funding is usually the first institutional funding
- Many venture funds are now looking at pre-seed funding due to the competitive nature of seed investments.
- Seed funding - it is used to take a startup from ideation to some early traction, such as initial product development, market research, or validation for product market fit

- A seed funding round typically ranges between $100,000 and $2 million, depending on the type of startup and the geographical region.

- The typical valuation for a startup raising seed ranges between $3 million and $6 million (Reiff, Nathan, 2020)

ESC- Series Funding

- Series funding consists of a series of startup funding rounds that follow one after the other generally with increased valuation in each subsequent round

- Typical rounds include Series A, B, C, D and sometimes E and F, and these rounds of funding are typically raised through venture capital firms (or other institutional investors)-typically after the second and/or third capital injection, startups enter a growth stage where funding serves to propel rapid growth and expansion rather than ignition

- Once a seed stage startup gains sufficient traction—measured in terms of common key performance indicators such as revenue or user acquisition—it moves to raise Series A funding

- In Series A round, startups are expected to have a viable business model and sufficient traction, since investors want to assure more substantive development and growth

- The different rounds are intended to also reflect the startup's status, performance, and valuation

ESC- Series Funding

- A prospering and well-performing startup will have its company stock valued higher in a Series B round than A, and higher still in a Series C round

- A startup not performing well may still obtain Series financing rounds, but subsequent Series rounds will often value the company at a lower stock price (a “downround”).

- The mean Series A funding round is valued at around $10–$15 million in the USA, a figure that has been growing steadily (Fundz Research, 2020).

- The mean Series B round currently stands at around $32 million, with a median pre-money valuation of $58 million (Fundz Research, 2020).

- The overall averages are highly contextualized and differ significantly across countries, different regions (even within the same country), and startup types

Pre-Money Valuation

- Valuation of a Company before a new financing round has taken place
- Can be roughly described as how much an ESC is worth prior to the current round of investments
- Calculation: Post-money valuation – Invested Capital (latest round)

Post-Money Valuation

- Valuation of a Company after a new financing round has taken place.

Key Assumptions

- All shares have equal value-Liquidation preferences do not affect the allocation of equity value to the various classes/series of shares.
- All equity interests have been converted into ordinary share

- Calculation: Number of ordinary shares (fully diluted) x unit price of the latest round

Pre and Post Valuation

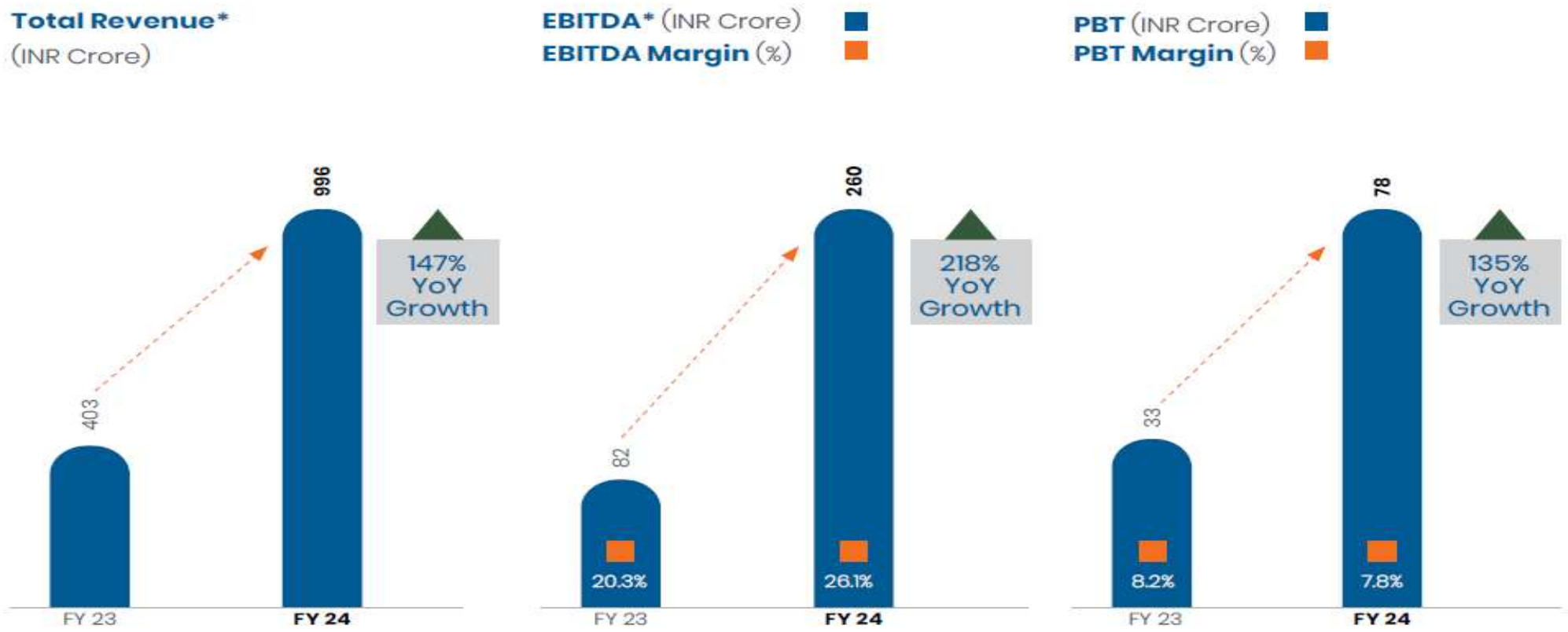
	Pre Money Capital Structure				
S.no		**No**	**Conversion Ratio**	**Equity share (fully diluted)**	**Ownership % (fully diluted)**
1	Ordinary Share	35,00, 000	-	35,00,000	12.24
2	Preferred Share A series	2,50,00,000	1x	2,50,00,000	87.41
3	Options	1,00,000	1x	1,00,000	0.35
	Post Money Capital Structure			2,86,00,000	100.00
1	Ordinary Share	35,00,000		35,00,000	5.97
2	Preferred Share A series	2,50,00,000	1x	2,50,00,000	42.66
3	Preferred Share B series	3,00,00,000	1x	3,00,00,000	51.19
4	Options	1,00,000	1x	1,00,000	0.17
				5,86,00,000	100.00
Assuming post money value per share (fully diluted) is INR 12, Post-money Valuation = INR 12 x 5,86,00,000					
Pre money valuation = 70,32,00,000 - 3,00,00,000 = 67,32,00,000					

Pre and Post Valuation

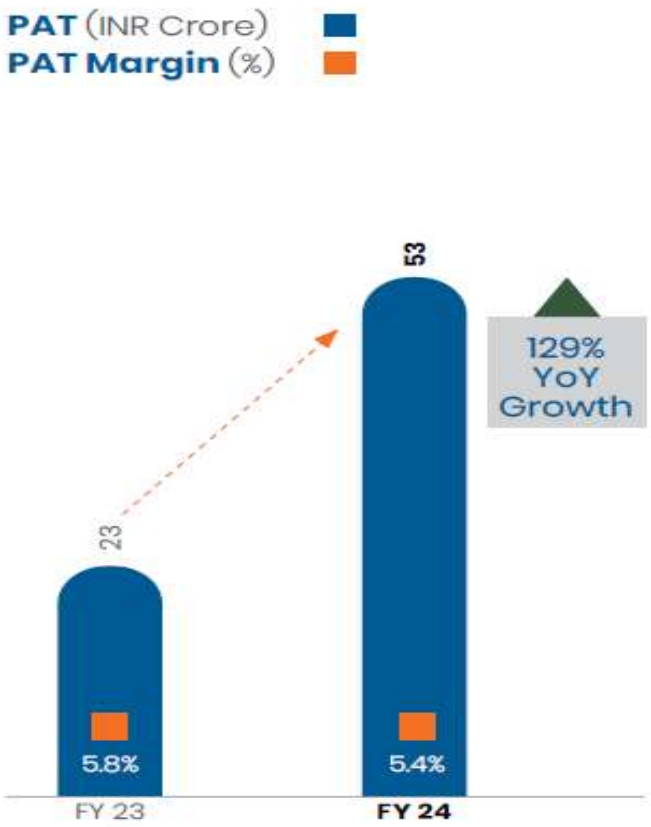
- Typically post-money valuation is calculated by the price paid in a given external financing round and multiplying it with the total number of shares outstanding -is it Right?
- ESCs issue different classes of stock and these classes can have substantially different values depending upon how are they structured and their rights and preferences
- Assuming all shares worth as much as those issued in the latest external round would substantially overvalue the company because investors typically receive convertible preferred shares and the founders and employees receive ordinary shares or options on ordinary shares
- **The Gornall- Strebulaev method** helps in estimating value of such companies
- Gornall and Strebulaev (2020) analyzed the valuations of 135 “unicorn financings” and document that the reported post-money valuations are nearly 50% above fair market value when analyzed using a contingent claims valuation framework.

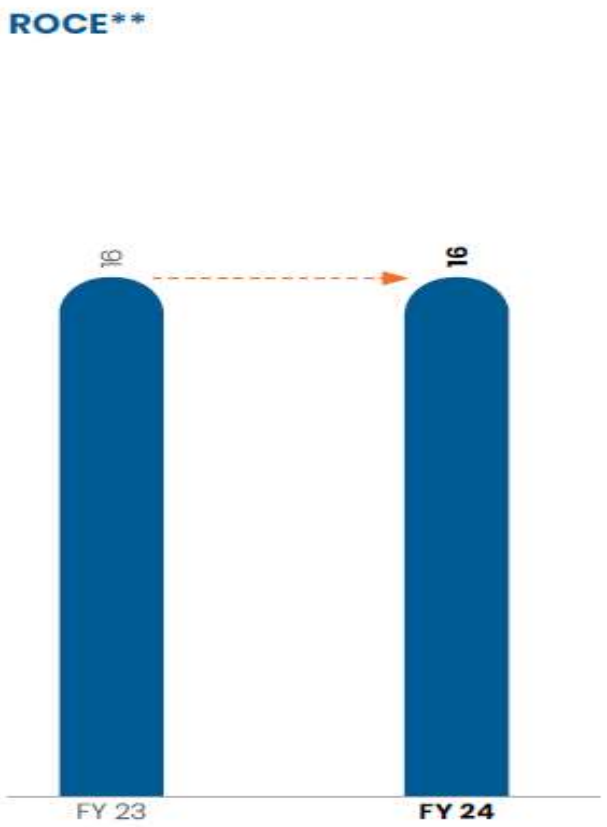
High Growth Example -Gensol Engineering Ltd(GEL)

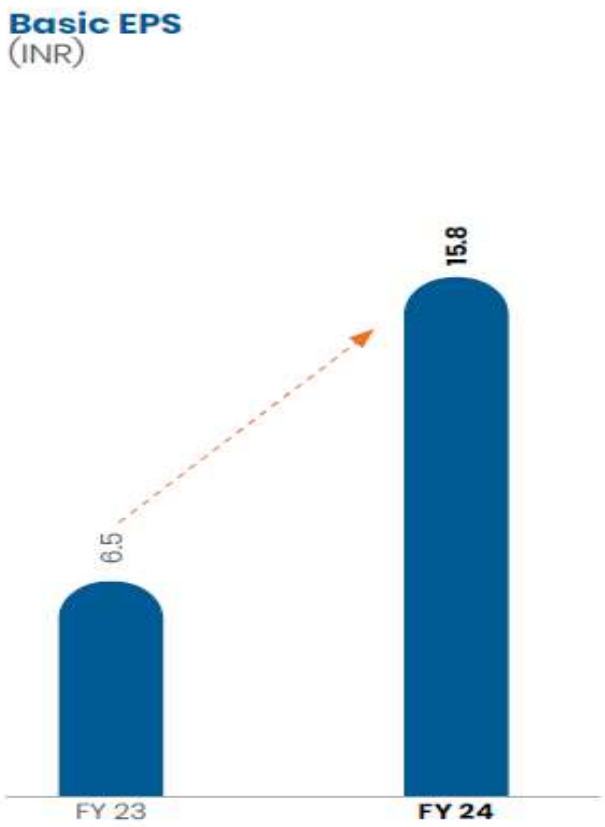
Incorporated in 2012, GEL has a track record of more than a decade in the renewable power segment. It was later listed on BSE SME platform on October 11, 2019. It was listed on BSE in July 2023 and on the NSE on Sept 2023.GEL is engaged in providing EPC and Operations & maintenance (O&M) services for solar power projects. Further, GEL also derives revenue from its EV leasing business as a part of its agreement with



GEL







*Total Revenue & EBITDA includes other income

**ROCE = EBIT/(Total Debt + Equity - cash & cash equivalents)

GEL

			INR Crore			
	Standalone				Consolidated	
	23-24	22-23			23-24	22-23
Revenue	904	371			963	398
PAT	80	25			53	23
% Net Profit	8.85%	6.74%			5.50%	5.78%
Equity	344	204			313	208
ROE	23.26%	12.25%			16.93%	11.06%

The number of shareholders increased from a mere 155 in FY 2020 (the year in which the company was listed on the BSE SME Platform) to 1,09,872 as of March 31, 2025. During this period, promoter holding in GEL came down from 70.72% in FY 2020 to 35% as on March 31, 2025

Category	No. of Shareholders	No. of Shares	percentage of total shares held)
Promoter	3	1,33,48,359	35.1250
Public	109869	2,46,54,075	64.8750
Total	**109872**	**3,80,02,434**	**100.0000**

GEL

FINANCIAL RESULTS

(Amount in Lakhs)

Sr. No	Particulars	STANDALONE		CONSOLIDATED	
		F.Y. 2023-24	F.Y. 2022-23	F.Y. 23-24	F.Y. 2022-23
1	Revenue from Operations (Net)	90,401	37,100	96,310	39,797
2	Other Income	4,040	785	3,279	513
3	Total Income	94,441	37,885	99,589	40,310
4	Total Expenditure	83,640	34,430	91,791	36,994
5	Profit before tax	10,801	3,455	7,789	3,316
6	Tax expense	2,754	950	2,444	983
7	Net Profit for the year	8,047	2,505	5,346	2,333

Cash flow from operating activities		
Net Profit as per statement of profit & loss before tax after exceptional item	108.02	34.55
Adjustment for:		
Depreciation and amortisation expense	72.44	25.03
Adjustment for Change in method of depreciation		0.51
Loss on sale of Property, Plant and Equipment	-	0.32
Finance costs	100.60	22.89
Bad Debts written off	3.49	1.03
Interest received	(36.68)	(5.96)
Provision for Expected Credit Loss provided for/(written back)	0.25	0.05
Remeasurement of Defined Benefit Obligations	0.08	0.08
Operating Profit Before Working Capital Changes	**248.20**	**78.50**
Changes in Working Capital		
(Increase)/Decrease in Trade receivables	(152.05)	(40.48)
(Increase)/Decrease in Other current assets	(200.95)	(34.35)
(Increase)/Decrease in Inventories	1.19	49.94
(Increase)/Decrease in Other Financial Assets - Current	(94.65)	1.43
Increase/(Decrease) in Trade payables	45.52	21.21
Increase/(Decrease) in Other current liabilities	(13.84)	18.35
Increase/(Decrease) in Other Financial Liabilities - Current	116.16	8.38
Increase/(Decrease) in Provisions	2.17	(0.38)
Net Cash Generated (used in)/generated from Operations	**(48.25)**	**102.59**
Direct tax paid	(9.49)	(2.82)
Tax adjustment of earlier years	-	(0.12)
Income tax refund	6.08	-
Net Cash Flow (used in)/generated from Operating Activities (A)	**(51.67)**	**99.66**

GEL

Brief Financials – Consolidated (₹ crore)	March 31, 2023 (A)	March 31, 2024 (A)	9MFY25 (UA)
Total operating income	392.65	963.11	1053.02
PBILDT	58.46	229.83	243.64
PAT	24.79	53.46	67.48
Overall gearing (times)	2.10	4.32	NA
Interest coverage (times)	3.47	2.08	1.35

A: Audited UA: Unaudited; NA: Not Available; Note: these are latest available financial results

(₹ in Crore)

Particulars	As at March 31, 2024	As at March 31, 2023	As at April 1, 2022
Commitments :-			
A. Capital commitments			
Estimated amount of contracts remaining to be executed on capital account and not provided for	45.74	-	-
B. Corporate guarantees given to financial institution / bank			
On behalf of subsidiaries for facilities availed by them	635.39	3.60	3.59
Contingent liabilities :-			
A. Guarantees excluding financial guarantees			
Outstanding Bank Guarantees	160.15	42.91	7.87
B. Claims against Group not acknowledged as debts	-	-	-

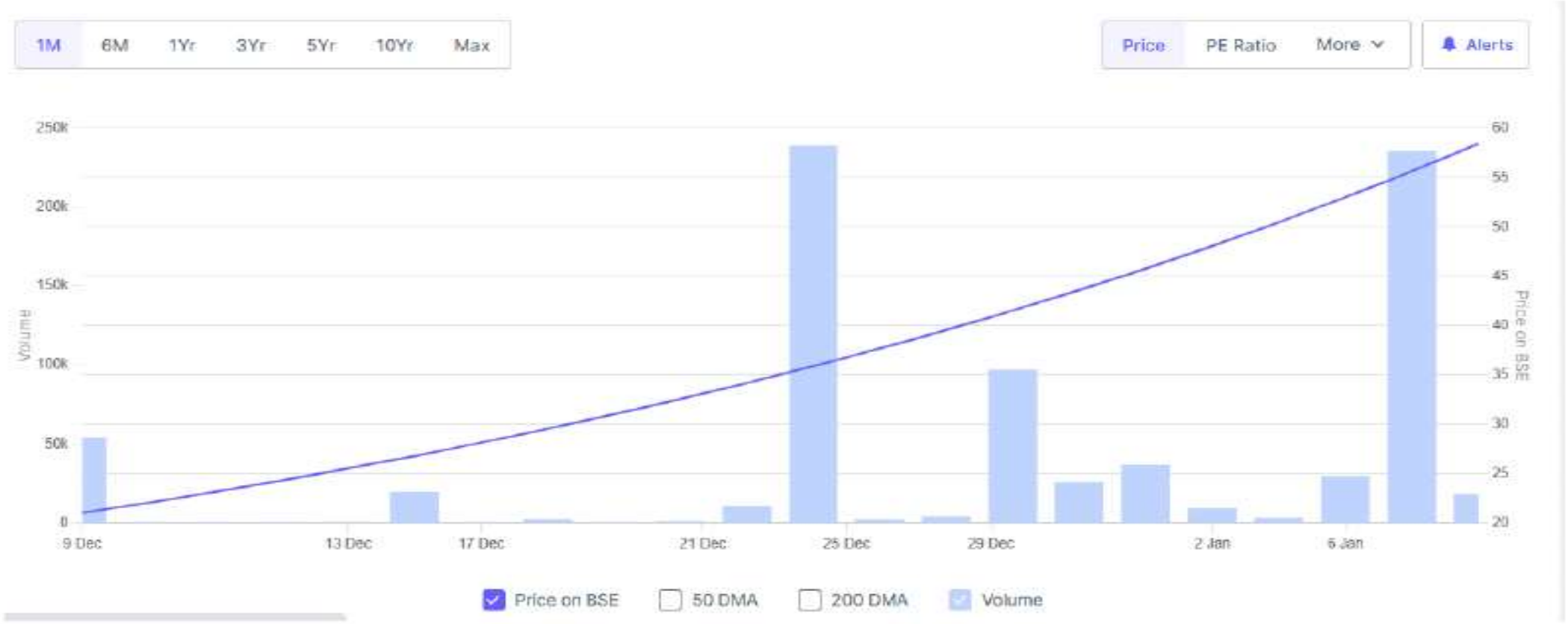
Company has granted advances in nature of loans without specifying any terms or period of repayment as mentioned below :

(Amount in Crores)

Particular	All Parties	Related Parties
Aggregate advances in nature of loans		
– Repayable on demand	–	–
– Provided without specifying any terms or period of repayment	1089.16	948.59
Percentage of Advances in nature of Loans to total Loans	**100%**	**87%**

Pacheli Industrial Finance Ltd (PIFL)

PIFL is listed on BSE and is engaged in providing *“consultancy services related to hotels, lodging houses and other multiple services*



Between December 02, 2024, and January 16, 2025, the share price of PIFL moved from ₹21.02 to ₹78.2 —an increase of 372% in just over a month.

PIFL

	Jan 16 2025
Market Cap	4057 crore
P/E	405614

Price movement since listing till 08 January 2025

PIFL

(Amount in Rs. crore)

Particulars	FY 22	FY 23	FY 24
Operating Revenue	-	-	1.07
Other Income	0.02	-	-
Total Revenue	0.042	-	1.07
Total Expenses	0.08	0.02	1.05
Profit Before Tax	(0.06)	(0.02)	0.01
Profit After Tax	(0.06)	(0.02)	0.005

Category of the shareholders	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23	Mar-24	Sep-24
Promoters	29.56%	19.14%	9.35%	2.89%	2.89%	1.63%	0.01%
DIIs	4.57%	4.57%	4.57%	4.57%	8.59%	4.57%	0.03%
Public	65.87%	76.29%	86.08%	92.54%	88.52%	93.80%	99.96%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

CURRENT LIABILITES:

NOTE 11 : BORROWINGS

₹in Lac

PARTICULARS	AS AT 31ST MARCH 2024	AS AT 31ST MARCH 2023	AS AT 1ST APRIL 2022
Borrowings	1,00,000.00	-	-
Total	**1,00,000.00**	**-**	**-**

The details regarding the nature and purpose of the loan and cost of financing were not disclosed by the Company.

Standalone Notes to Financial Statements

OTHER NON CURRENT ASSETS

NOTE 3: NON CURRENT INVESTMENT

₹in Lac

PARTICULARS	AS AT 31ST MARCH 2024		AS AT 31ST MARCH 2023		AS AT 1ST APRIL 2022	
Name of the Company	No of Share	Amount	No of Share	Amount	No of Share	Amount
Unquoted Equity Shares						
Investment in Equirt Shares		94,568.51		25.52		25.52
** Market Price of shares are 94570.29*						
Total		**94,568.51**		**25.52**		**25.52**

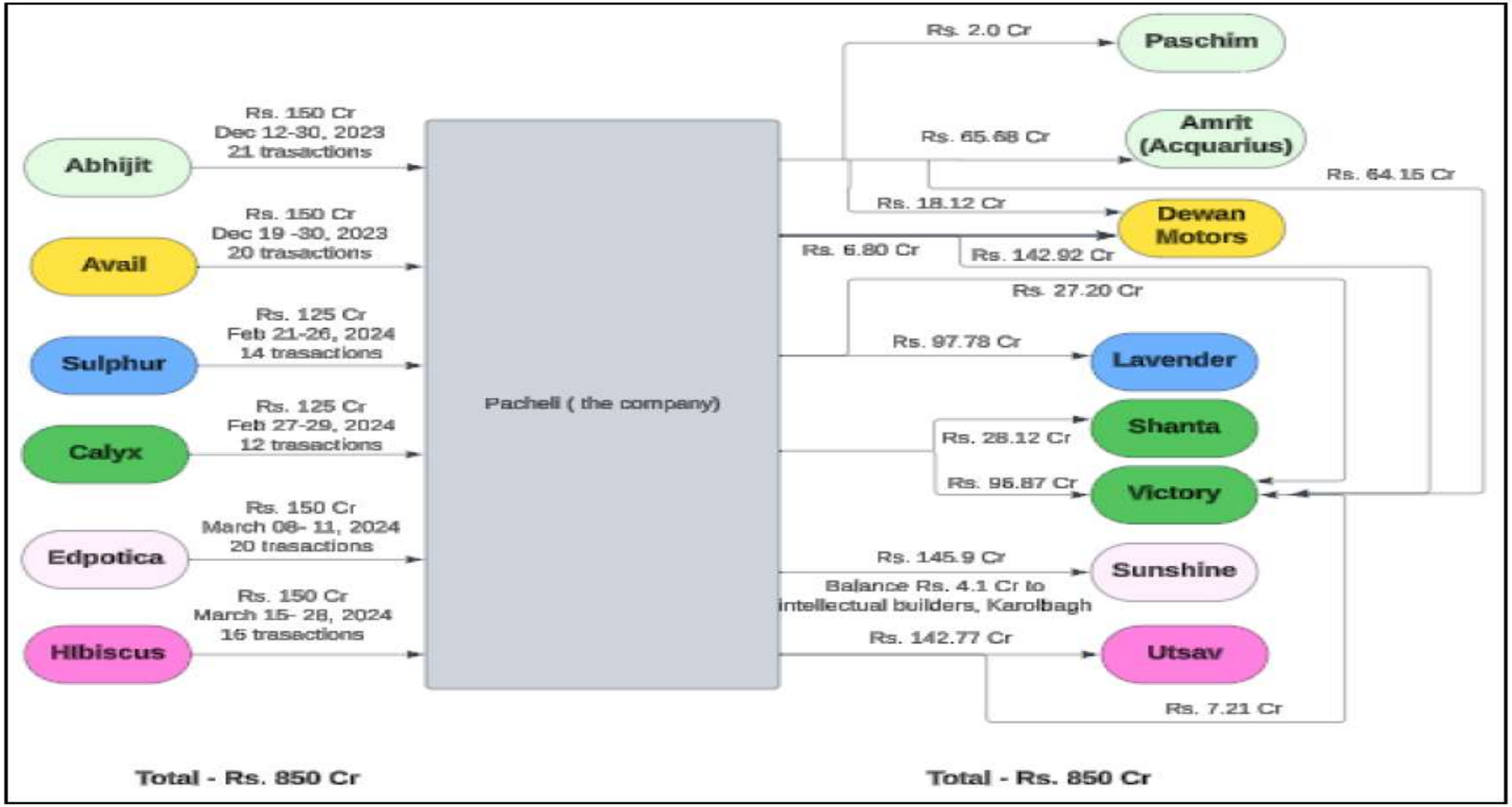
Standalone Statement of Cash Flows for the year ended 31.03.2024

₹in Lac

Particulars	Year Ended 31st March 2024	Year Ended 31st March2023
Cash flows from operating activities		
Profit before taxation	1.267	(2.21)
Adjustments for:		
Depreciation	-	-
Provision for income tax	0.744	-
Defered tax		-
Working capital changes:	-	
(Increase) / Decrease in trade and other receivables	(7.097)	
Other financial liabilities		0.14
Increase / (Decrease) in trade payable/ Other Current Liabilities	67.641	2.10
Cash generated from operations		
Increase/decrease in Current Assets	-	-
Tax Paid	-	-
Dividends paid		
Net cash from operating activities	62.554	0.03
Cash flows from investing activities		
Purchase of property, plant and equipment	-	-
Purchase/ Sale of shares	(94,542.994)	-
Net cash used in investing activities	(94,542.994)	-
Cash flows from financing activities		
Loans & Advances Given/Received	(5,525.023)	
Share Capital Increase	-	-
Borrowings	1,00,012.027	(0.14)
Dividends paid	-	-
Net cash used in financing activities	94,487.005	(0.14)
Net increase in cash and cash equivalents	6.565	(0.11)
Cash and cash equivalents at beginning of period	0.292	0.40
Cash and cash equivalents at end of period	6.857	0.29

PIFL

The BOD on August 28, 2024, approved a proposal to convert certain unsecured loans into equity and proposed to issue 51,51,51,500 equity shares on preferential basis at an issue price of INR 16.50 to six entities. The cumulative value of the shares allotted was INR 849,99,99,750



High Growth Potential

High Growth Potential –Key Value Driver

- On November 7, 2013, Twitter was IPOed at a price of USD 26 per share, valuing it at $12.8 billion (20 times its turnover)
- On the first day of trading, the stock price increased by a staggering 73% to USD 45, implying a valuation of USD 30 billion (60 times its turnover)- this means investors were buying a share for 60 years of Twitter's turnover
- Twitter incurred a USD130 million loss for the fiscal year 2013, and even the management did not believe it would be profitable before 2015.
- Twitter revealed a 100% growth rate of its turnover in one quarter only during that time
- **Reason for the high price**: **Growth**

Invention vs Innovation

- The distinction between invention and innovation has a long history in both legal and economic scholarship
- Act of invention : creates a new product or process
- Act of innovation: which includes the work necessary to revise, develop, and bring that new product or process to commercial fruition
- Empirical evidence indicates that between 40-60% of patented inventions are never commercially exploited
- Firms invest resources in research races to generate new inventions, which represent technically feasible ideas for quality improvements.
- Each invention has the potential to become a commercially profitable innovation, if it proceeds through a continuous development process like drafting blueprints, creating a working prototype, and refining the production process
- Patent protects invention and not innovations

Influence of Founder on Valuation of ESC

Influence of Founder on Valuation

“We live and die by our founders” **(the legendary VC investor Peter Thiel) Founders’**

Factors	Percentage of VC Firms
Founders	95%
Business Model	74%
Market	68%
Industry	31%

Company Valuation was the fifth cited factor in the decision about which deal to pursue

Source: Harvard Business Review

Influence of Founder on Valuation of ESC

The valuation of a startup company is positively influenced by:

- Having more than one founder,
- Having a complete management team,
- Previous startup experience, management, and relevant industry experience, and also a higher level of education

Köhn (2018)

“Successful previous founding experience are both more likely to receive VC funding through a direct tie and to have higher VC valuations”.

D.H. Hsu (2007)

Influence of Innovation on Valuation on ESC

- Companies with a high degree of intellectual capital (IC) tended to outperform non-IC-intensive firms after the global financial crisis. Nemlioglu and Mallick (2020)

- IC-intensive firms also seem to have higher market valuations in general, with lower uncertainty in those valuations, irrespective of their debt structure during economically bad times. Nemlioglu and Mallick (2020)

- High R&D activity, patents, advertising intensity, and debt tend to increase the market valuation.
- R&D and patents reduce valuation uncertainty

Influence of Government and Social Factors on Valuation of ESC

- The more VCs are protected the lower the uncertainty of investors, creating the basis for “high early-stage start-up valuations” and vice versa
- Startups based in innovation-friendly countries are generally assigned a higher valuation
- Young companies with an entrepreneurial and innovative approach are assigned higher valuations
- ESC having business models that depend on government contracts have lower risk and therefore a lower cost of equity, high working capital, and low growth potential except few

Understanding Operational Dynamics of ESC

How fast will the business grow: Revenue Growth

How profitable will it be: ROIC minus WACC

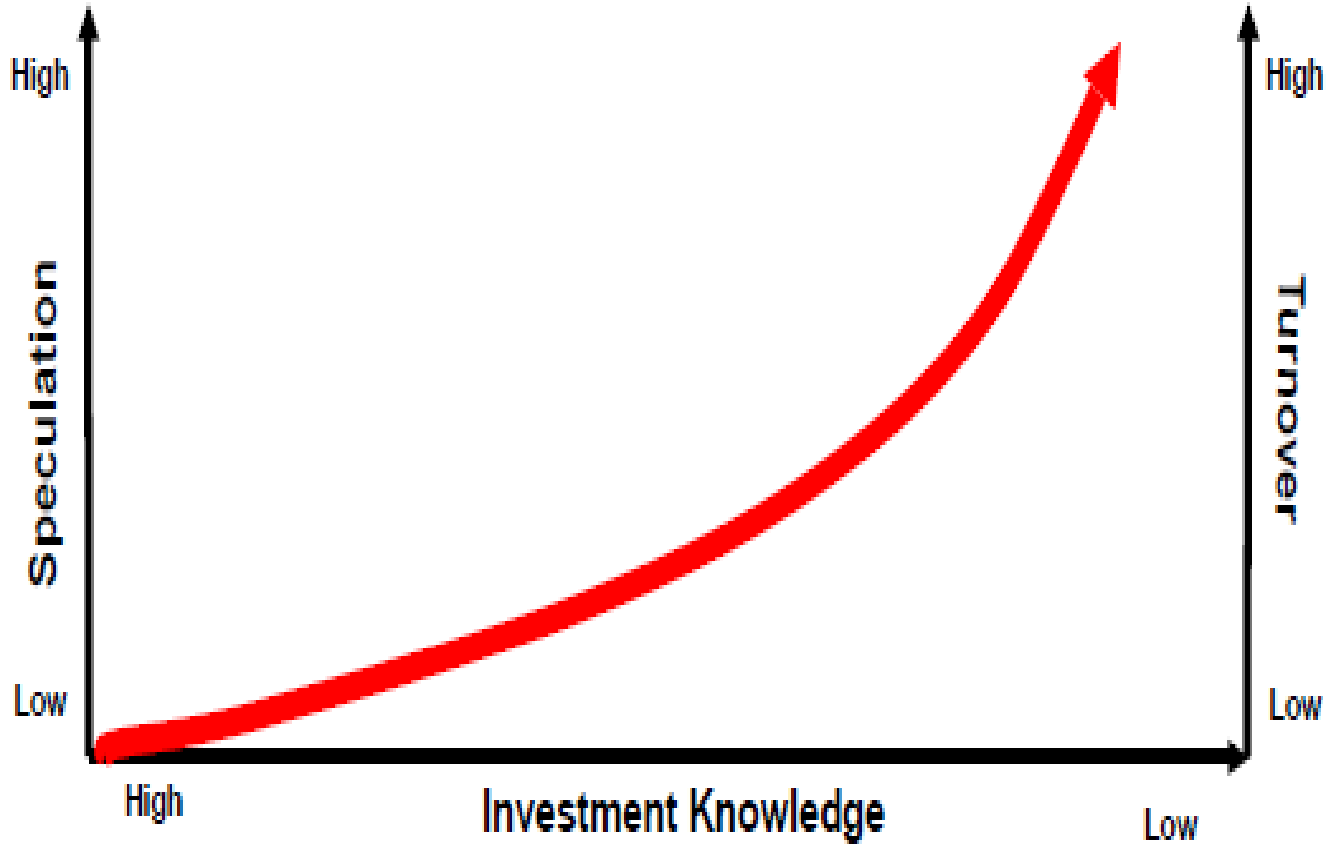
How long it sustain profitable growth: Economic moat

Revenue Building vs. Profit Building

Good Business vs. Story Business

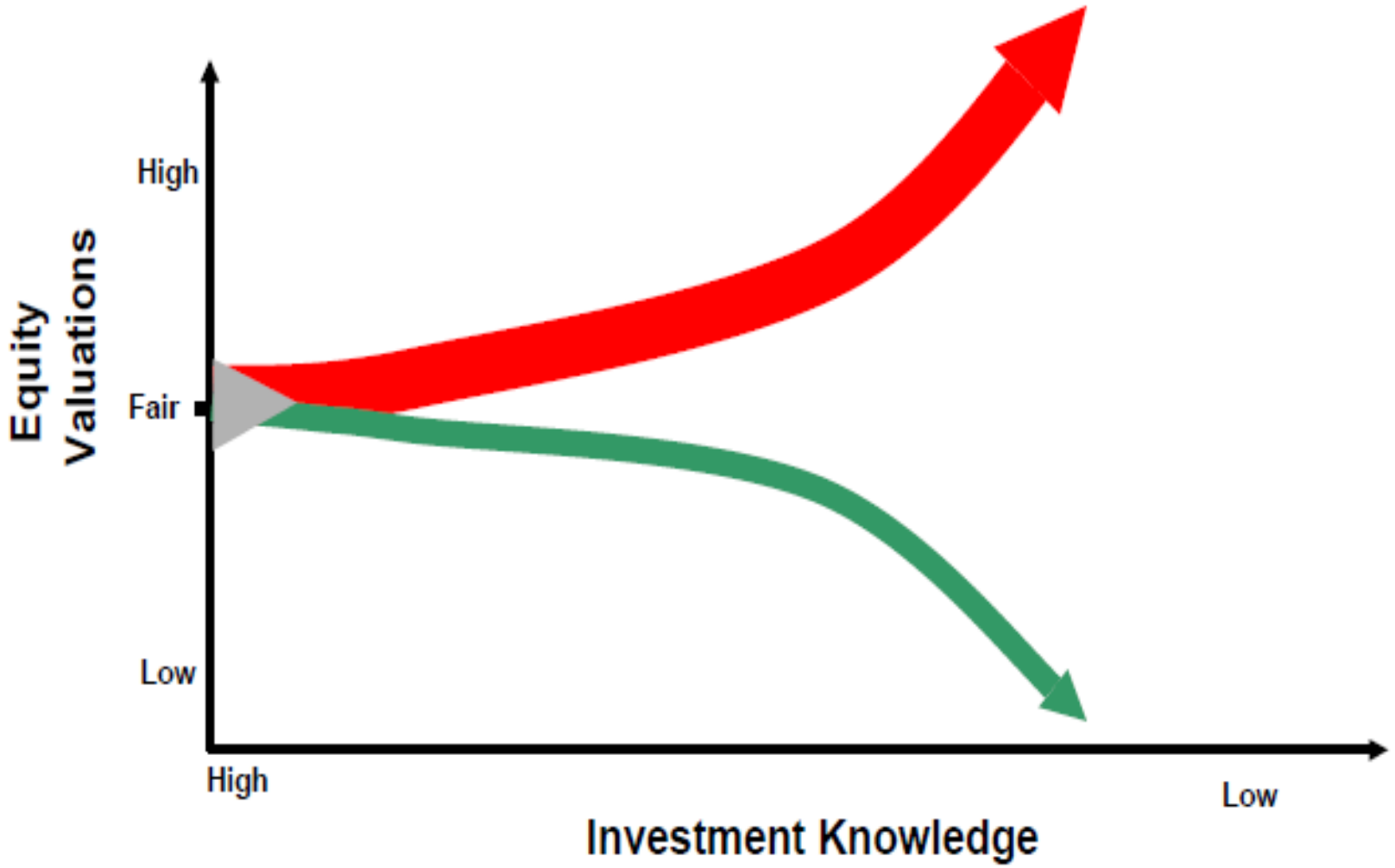
Is ESC focused on building great products/services, marketing, or both?

Noise Trumps Knowledge and Skews Valuation



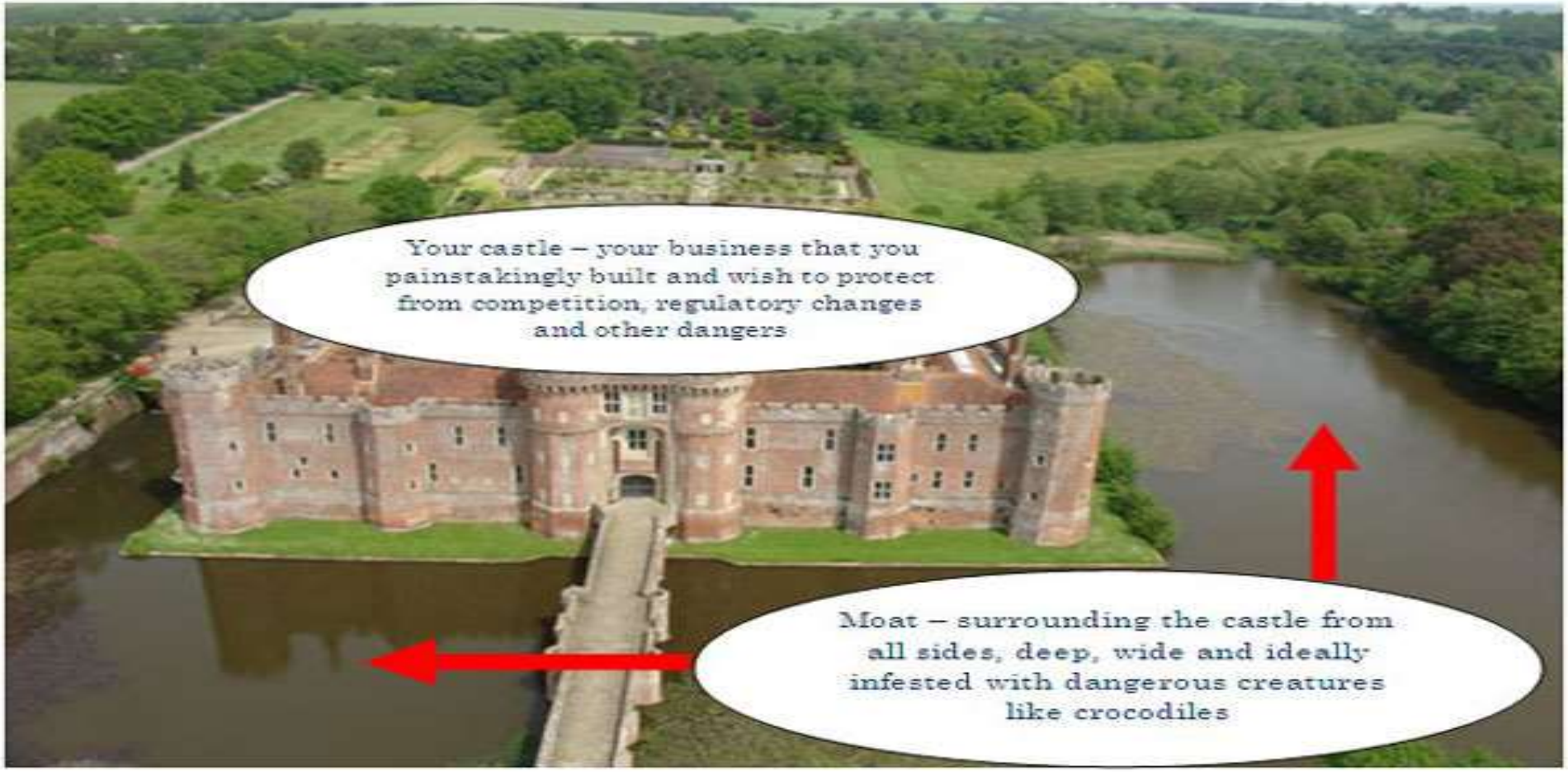
Understanding Operational Dynamics of ESC

Unrealistic Expectations Lead to Self-fulfilling Prophecy



Understanding Operational Dynamics of ESC

Economic Moat – Wider or Narrower has a significant impact on Valuation



Valuation Method of ESC

Stages of ESC	Indicators	Valuation Methods
Seed Stage/ Angel Stage	Commercial operations are being established No products and revenue Little expense history	The Payne Scorecard Method The Risk Factor Summation (RFS) Method Berkus Method 1.0 Enhanced Berkus Method Venture Capital Method The First Chicago Method(FCM)
Early VC Stage	ESC has started operating Building up its management team Opex is higher than revenue Losses are driven by R&D, marketing and advertisement expenses Early rounds of series A and B financing	Income Approach- DCF and Real Option Market Approach- GPCM, GTM, and Backsolve Method Cost Approach-Adjusted Net Asset Value
Late VC Stage	High Revenue growth May have substantial revenue but continue to generate losses Negative CFO	Income Approach- DCF and Real Option Market Approach- GPCM, GTM, and Backsolve Method Cost Approach-Adjusted Net Asset Value

Valuation Method ESC

The Payne Scorecard Method

S.no	The Payne Scorecard Method			
	Comparison Factor	**Weight**	**Target vs Benchmark**	**Factor**
1	Strength of Entreprenuer & Team	30% (0-30%)	125%	0.375
2	Size of Opportunity	25% (0-25%)	150%	0.375
3	Product/Technology	15% (0-15%)	100%	0.15
4	Competitive Environment	10% (0-10%)	75%	0.075
5	Marketing	10% (0-10 %)	80%	0.080
6	Need for additional Investment	5% (0-5%)	100%	0.050
7	Other Factors	5% (0-5%)	100%	0.050
	Total	**100%**		**1.155**
	Median pre-money valuation for Comps			23,00,000
	Pre-money Valuation for Target			2656500
	Investment			5,00,000
	Post-money Valuation			31,56,500
	Required ownership			**15.84%**

Valuation Method ESC

The Payne Scorecard Method

Weighted Ranking	Factors and Issues Impacting Valuation of Pre-revenue, Start-up Companies	
0-30%	*Strength of Management Team*	
	Impact	**What is founder's experience?**
	+	Many years business experience
	++	Experience in this business sector
	+++	Experience as a CEO
	++	Experience as a COO, CTO, CFO
	+	Experience as a product manager
	-	Experience only as a salesperson of technologist
	--	Straight out of school
	Impact	**Is the founder willing to step aside, if necessary, for a new CEO?**
	deal killer	Unwilling
	-	Difficult to convince
	0	Neutral
	+	Willing
	++	Key part of the plan
	Impact	**Is the founder coachable?**
	0	Yes
	deal killer	No
	Impact	**How complete is the management team?**
	--	Very incomplete (none identified)
	-	Somewhat incomplete
	0	Good start
	+	Rather complete team
	++	A complete and experienced management team
0-25%	*Size of the Opportunity*	
	Impact	**What size is the specific market for the company's product/service?**
	deal killer	<$50,000,000
	0	$100,000,000
	++	>$500,000,000
	Impact	**What is the potential for revenues in five years?**
	deal killer	<$30,000,000
	0	$50,000,000
	++	>$100,000,000

Valuation Method ESC

The Payne Scorecard Method

0-15%	*Competitive Landscape*	
	Impact	**What is the status of the IP (intellectual property)?**
	0	Trade secrets only
	+	Core patents pending
	++	Core patents issued
	+++	Complete patent estate
	Impact	**What is the strength of competitors in this marketplace?**
	--	Very strong
	-	Strong
	0	Fragmented
	+	Weak
	++	Very weak
	Competitive Landscape and rest of table continued below.	
	Impact	**How large are the barriers to entry?**
	--	Very low
	-	Low
	0	Modest
	+	High
	++	Very high
0-10%		***Sales Channels***
	Impact	**What channels of sales are in place?**
	--	Haven't even considered
	-	Many possibilities identified
	0	Narrowed to one or two channels
	+	Initial channels verified
	+++	Channels established
0-10%		***Business Stage***
	Impact	**In what stage of business is the company?**
	--	Only have a plan
	-	Writing code/in product development
	0	Product ready for customer evaluation
	++	Positive, verifiable customer acceptance by beta site
	+++	Customer lined up
0-10%		***Funding Required***
	Impact	**What amount of funding is required?**
	++	$250,000 to $750,000
	+	$750,000 to $1,500,000
	0	$1,500,000 to $20,000,000 (depends on availability of VC capital in region)

Valuation Method ESC

The RFS Method

Risk Factor Coefficient	Premoney Valuation Adjustment
2	$ 500,000
1	$ 250,000
0	$ –
–1	$ (250,000)
–2	$ (500,000)

Valuation Method ESC

The RFS Method

Risk Factor	Risk Assessment	Adjustment	
Management risk	Extremely positive mitigation (+2)	$ 500,000	
Stage of the business	Negative mitigation (-1)	$ (250,000)	
Legislation/Political risk	Positive mitigation (+1)	$ 250,000	
Manufacturing/Supply chain risk	Neutral (0)	$ –	
Sales and marketing risk	Positive mitigation (+1)	$ 250,000	
Funding/Capital raising risk	Extremely negative mitigation (-2)	$ (500,000)	
Competition risk	Extremely positive mitigation (+2)	$ 500,000	
Technology risk	Neutral (0)	$ –	
Litigation risk	Negative mitigation (-1)	$ (250,000)	
International risk	Extremely negative mitigation (-2)	$ (500,000)	
Reputation risk	Negative mitigation (-1)	$ (250,000)	
Exit value risk	Neutral (0)	$ –	
Total		$ (250,000)	[1]
Median premoney valuation for comparable companies		$ 2,300,000	[2]
Premoney valuation for target company		$ 2,050,000	[3] = [1] + [2]
Investment		$ 400,000	[4]
Postmoney valuation		$ 2,450,000	[5] = [3] + [4]
Required ownership		16%	[6] = [4]/[5]

Valuation Method ESC

The Berkus Method

Milestone	Risk	Valuation
Sound idea	Innovation risk	Max $500,000
Prototype	Technology risk	Max $500,000
Quality management team	Execution risk	Max $500,000
Strategic relationships	Marketing risk	Max $500,000
Product rollout or sales	Production risk	Max $500,000

Factors	Max Premoney Valuation	Degree of Achievement	Industry Benchmark	Premoney Valuation
Sound idea	$ 500,000	100%	80%	$ 500,000
Prototype	$ 500,000	80%	80%	$ 400,000
Quality management team	$ 500,000	80%	50%	$ 400,000
Strategic relationships	$ 500,000	50%	25%	$ 250,000
Product rollout or sales	$ 500,000	0%	0%	$ -
Premoney valuation				$ 1,550,000
Investment				$ 250,000
Postmoney valuation				$ 1,800,000
Required ownership				13.9%

Valuation Method ESC

The VC Method with Dilution

Step I: Estimate time to Exit (T): Estimated by the Investor

Step II Estimate the value at the Exit -Use market multiples, DCF, or average of successful exit in the same industry
(Assume 20 m revenue and an exit of 6x)

Step III: Estimate the Discount Rate

$$(1 + TR)^T = (1 + r)^T/(1 - p)$$

Assume a 60% probability of failure and investor required return of 25% over 7 years

$$\text{Target Return} = [(1 + 0.25)^7/(1 - 0.6)]^{1/7} - 1 = [4.7684/0.40]^{1/7} - 1$$
$$= 11.9209^{1/7} - 1 = 1.4248 - 1 = 42.48\%$$

$$\text{Target TVPI} = (1 + \text{TR})^T = 1.4248^7 = 11.92$$

Step IV: Estimate the retention Percentage (estimated by an investor based on its experience; say 30%)

- The VC method requires estimates of revenue at exit, probability of failure for the company, and dilution, all of which can be subject to considerable uncertainty.

- The model has features of the market and income approaches, both of which have significant limitations when they are applied to seed-stage enterprises

Valuation Method ESC

The FCM

The FCM uses a scenario-based approach that looks at the performance of an ESC under three scenarios:

Scenario 1 (Success): ESC achieves exceptional business performance within or above financial projections.

Scenario 2 (Survival): ESC underperforms the success scenario due to delays in product approval or business pivots, resulting in higher expenses or longer time to market.

Scenario 3 (Failure): ESC underperforms the survival scenario and sees a continuation or a deterioration of the business resulting in capital losses or business failure.

Valuation Method ESC

The FCM

	Success	Survival	Failure
Revenue	$ 20,000,000	$ 3,000,000	$ 200,000
Exit year	6	4	2
Scenario probability	25%	50%	25%
Terminal value @ EV/Revenue multiple of			
1			$ 200,000
3		$ 9,000,000	
6	$ 120,000,000		
Discount rate (required return)	25%	25%	25%
Discount factor	0.2621	0.4096	0.6400
Present value (PV)	$ 31,457,280	$ 3,686,400	$ 128,000
Postmoney valuation = Probability-weighted PV	$ 9,739,520		
Investment	$ 500,000		
Required ownership	5.13%		
Premoney valuation	$ 9,239,520		

$$\begin{aligned}\text{Postmoney valuation} &= 0.25 \times 120,000,000 \times 0.2621 + 0.50 \times 9,000,000 \times 0.4096 \\ &\quad + 0.25 \times 200,000 \times 0.6400 \\ &= \$9,739,520\end{aligned}$$

The Backsolve Method

- This method provides a basis also for subsequent measurements of the company's equity value, as the model built at the time of the initial transaction is "calibrated" to reflect changes in market conditions that affect the model's key inputs andassumptions over time.

- The validity of this method relies heavily on the quality of the transaction price (arm's length price) that is used as a basis for valuation

The AICPA PE/VC Valuation Guide defines the Backsolve method as "a method within the market approach wherein the equity value for a privately held company is derived from a recent transaction in the company's own instruments.[. . .]

Rolling Forward Estimate Using Recent Transaction

Can we rely on indications of value from rounds / transactions ?

- Company performance
- Market trends
- Issuance of equity-like instruments
- Length of time from latest round - There is not a hard rule ; In most cases, 6 to 12 months are considered acceptable, but it depends on market trends and specific company conditions
- Multiples update
- Reference Metric update
- Updated capital structure

Rolling Forward Estimate Using Recent Transaction

Rolling Forward Estimates from past transaction		
Steps	**Description**	
Step I	Estimate Equity value at Calibration date based on the issue price of the previous round (Backsolve method)	
Step II	Estimate EV at Calibration date	
Step III	Calculate implied multiples based on EV at calibration date 31/03/2024	
Final EV Calculation	*Conclude Equity	16,90,00,000
	Net Debt	5,00,00,000
	EV	**21,90,00,000**
*Estimated using backsolve method from the recent round of funds		
		000
EV	**Revenue**	**Implied Multiple**
219000	21900	10x
Median Comps EV/Revenue Multiple : 12x		

Rolling Forward Estimate Using Recent Transaction

Valuation Date: 31/03/2025						
	Range of Multiples of Comps					
Multiple Type	**High**	**75th Percentile**	**Median**	**Mean**	**25th Percentile**	Low
EV/Revenue (LTM)	18x	16x	15x	14.5x	13x	11x
EV/Revenue (NTM)	17x	15x	13x	12.5x	12x	9x
	Calibration Date	Selected Multiple				
	Multiple	**Low**	**High**			
EV/Revenue(LTM)	10x	11x	12x			
EV/Revenue(NTM)	NA	11x	12x			
1) After review of market and company's performance, we have selected a multiple of 11.5x for both LTM & NTM (versus LTM of 10x at calibration date).						
2) For High growth Companies use NTM multiple at calibration date.						

DCF –Key Issues for the Valuation of ESC

- Every founder presents their PFI as reasonable- is it so in reality?
- Have come across circumstances where promoters say that the FPI presented by them represents the deepest and most profound fantasies they’ve ever had?
- Evaluate biases in the PFI- Nudge the PFI
- Estimate discount rate after considering appropriate discount rate – Use total beta instead of beta depending upon the facts of the case

DCF –Key Issues for the Valuation of ESC

Stage of Development	Selected Studies and Range of Discount Rates			
	Plummer/QED Median	Scherlis and Sahlman	Sahlman, Stevenson and Bhide	Damodaran
Seed stage	50% - 70%	50% - 70%	50% - 100%	50% - 70%
First stage	40% - 60%	40% - 60%	40% - 60%	40% - 60%
Second stage	35% - 50%	35% - 50%	30% - 40%	35% - 50%
Bridge/Initial Public Offering ('IPO")	25% - 35%	20% - 35%	20% - 30%	25% - 35%

	Description
Seed stage	Seed stage corresponds to companies that are less than one year old, have completed or are completing research and development of their product and have a business plan. The venture funding provided in this stage is to be used toward product development, prototype testing and marketing.
First stage	Sometimes referred to as the "emerging stage," enterprises in the first stage have developed prototypes that appear viable and for which further technical risk is deemed minimal. However, the commercial risk associated with the product may be significant.
Second stage	Also referred to as the "expansion stage," enterprises in the second stage have usually shipped some products to consumers (including beta versions) and received feedback.
Bridge/IPO	The final stage of venture capital financing, the bridge stage is when financing is required for activities such as pilot plant construction, product design and testing, as well as bridge financing in anticipation of a later IPO.

DCF –Key Issues for the Valuation of ESC

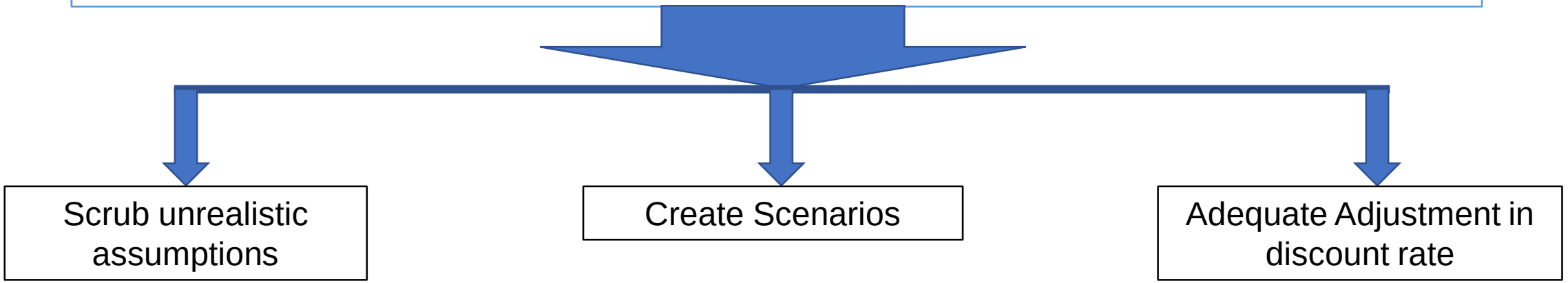
Three stage	Time horizon
Hyper growth	1-5, IPO may take place at the end
Declining growth	5-10
LT stable growth	10+

Biases – How to Nudge?

(a) Forecast Biases vs. Forecast errors

- Forecast error is the uncertainty inherent in the PFI
- Forecast bias occurs when forecasts are overly optimistic or overly pessimistic due to the motivation of the Preparer.

Nudging Forecast bias is possible either through Cash Flow or discount rate but avoiding double counts



Biases – How to Nudge?

- Traditional Finance: In the long run most firms can be expected to earn their cost of capital. In exception cases long-run competitive advantages are possible.
- Terminal value bias: PVGO > O [ROIC > WACC]
- Zero PVGO is the rule rather than the exception

Biases – How to Nudge?

(a) Representativeness Heuristic Biases:

- In-built feature of the brain for producing rapid probability judgements rather than consciously adopted procedures
- New information is classified based on past experience

Sample size neglect

•Occurs when the similarity of objects or events confuses people's thinking regarding the probability of an outcome.

•People frequently make the mistake of believing that two similar things or events are more closely correlated than they actually are

Biases – How to Nudge?

(**b) Confirmation bias:**

- People tend to look for and notice what confirms their beliefs

(c) Availability bias

- People recall the salient events – that is those that are very recent and/or those they are or were emotionally involved
- Affects estimation risk
- Prevents from considering other potential and and relevant outcomes

Biases – How to Nudge?

(d) Anchoring and Adjustments

- Different starting points yield different estimates which are biased towards the initial value
- Information that is visibly irrelevant still anchors judgements and contaminates guesses
- Locate Confidence in judgements based on overconfidence (unwarranted faith in own intuitive reasoning, judgement and/or cognitive ability
- Hindsight bias

Biases – How to Nudge?

(e) Conservation bias:

People maintain their prior views or Forecasts by inadequately incorporating new information.

Lack of capacity to incorporate new information.

(f) Status quo bias:

An emotional bias in which people do not want to change.

Biases – How to Nudge?

(g) Endowment bias:

An emotional bias that causes individuals to value an owned object higher, often irrationally, than its market value

(h) The halo effect:

The tendency to like or dislike everything about a subject.

Paytm valuation by Damodaran

Paytm						Sep-21
The Story						
Paytm will continue its dominance of the Indian mobile payment market, while that market continues to grow. Along the way, its management will focus more on converting transactions on its platform into revenues, and revenues into operating income.						
The Assumptions						
	Base year	*Next year*	*Years 2-5*	*Years 6-10*	*After year 10*	*Link to story*
GMV	₹ 4,033,000	40.00%	40.00% →	4.19%	4.19%	Growing mobile payment market
Revenue as % of GMV	0.79%	0.83%	1.00% →	2.00%	2.00%	Take rate improves, as company matures
Operating margin (b)	-49.00%	-20.0%	5.00% →	30.00%	30.00%	High-margin intermediary business
Tax rate	25.00%		25.00% →	25.00%	25.00%	Converge on statutory tax rate
Reinvestment (c)		3.00	2.45 →	2.45	27.93%	Industry average reinvestment, for capital intensive business.
Return on capital	-21.78%	Marginal ROIC =	80.13%		15.00%	Competitive advantages fade over time.
Cost of capital (d)			10.44% →	8.91%	8.91%	Cost of capital relatively stable.
The Cash Flows						
	GMV	*Revenues*	*Operating Margin*	*EBIT (1-t)*	*Reinvestment*	*FCFF*
1	₹ 5,646,200	₹ 46,984.56	-20.00%	₹ -9,396.91	₹ 5,038.85	₹ -14,435.77
2	₹ 7,904,680	₹ 69,095.49	-10.00%	₹ -6,909.55	₹ 9,024.87	₹ -15,934.42
3	₹ 11,066,552	₹ 101,377.63	-5.00%	₹ -5,068.88	₹ 13,176.38	₹ -18,245.27
4	₹ 15,493,173	₹ 148,430.20	0.00%	₹ -0.00	₹ 19,205.13	₹ -19,205.13
5	₹ 21,690,442	₹ 216,904.42	5.00%	₹ 10,845.22	₹ 27,948.66	₹ -17,103.44
6	₹ 28,813,149	₹ 345,757.79	10.00%	₹ 28,564.36	₹ 52,593.21	₹ -24,028.85
7	₹ 36,211,213	₹ 506,956.99	15.00%	₹ 57,032.66	₹ 65,795.59	₹ -8,762.93
8	₹ 42,915,357	₹ 686,645.72	20.00%	₹ 102,996.86	₹ 73,342.34	₹ 29,654.52
9	₹ 47,787,109	₹ 860,167.96	25.00%	₹ 161,281.49	₹ 70,825.40	₹ 90,456.09
10	₹ 49,789,389	₹ 995,787.77	30.00%	₹ 224,052.25	₹ 55,355.03	₹ 168,697.22
Terminal year	₹ 51,875,564	₹ 1,037,511.28	30.00%	₹ 233,440.04	₹ 65,207.58	₹ 168,232.45
The Value						
Terminal value			₹ 3,564,246.92			
PV(Terminal value)			₹ 1,377,090.74			
PV (CF over next 10 years)			₹ 36,169.53			
Value of operating assets =			₹ 1,413,260.27			
Adjustment for distress			₹ 35,331.51		Probability of failure =	5.00%
- Debt & Minority Interests			₹ 12,006.00			
+ Cash & Other Non-operating assets			₹ 7,785.00			
+IPO Proceeds			₹ 83,000.00	*Total proceeds expected to be 166,000, but half will be cashing out existing stockholders.*		
Value of equity			₹ 1,456,707.76			
- Value of equity options			₹ 45,696.90			
Number of shares			644.23			
Value per share			₹ 2,190.24		Stock was trading at =	₹ 2,950.00

RSV

Paytm: Key statistics

Key stats	FY19	FY20	FY21
Payments:			
No. of consumers on-boarded (Paytm wallets) (m)	260	300	333
No. of merchants on-boarded (m)	11.2	16.3	21.1
Total transactions (b)			7.4
Annual transacting users (m)			114
Total payment devices (POS, SoundBox) (k)			800
Total GMV (INR b)	2,292	3,032	4,033
Commerce GMV (INR b)		142	42
Credit			
Total no. of loans disbursed (k)	5	75	2,635
Payment Bank			
Total payments bank accounts - CASA accounts (m)			64
Total deposits (INR b)			52
Fixed deposits (INR b)			17.5
Wealth			
AUM - includes MF, stock broking, and gold AUM (INR b)			52
Insurance			
Unique insurance customers (m)			11.3
Insurance and attachment policies sold			31.5

Source: Company RHP

Paytm: Revenue and EBITDA

Key stats (INR m)	FY19	FY20	FY21
Revenue from operations	**32,320**	**32,808**	**28,024**
-Payment & financial services	16,955	19,068	21,092
-Commerce & cloud services	15,365	11,188	6,932
-Other operating revenue	0	2,552	0
Contribution profit	(19,980)	(2,378)	3,625
Contribution profit margin (%)	(61.8%)	(7.2)%	12.9%
Adjusted EBITDA	(42,115)	(24,683)	(16, 548)
Adjusted EBITDA margin (%)	(130.3)%	(75.2)%	(59.0)%

Source: Company RHP

Paytm: Overview of financial ecosystem

CATEGORY	KEY PRODUCTS OFFERED	DETAILS
Payments	Mobile Wallet	Mobile payments to merchants and friends over Paytm proprietary Network/UPI.
	Consumer UPI	
	Bill payment	Pay utility bills, recharge mobile etc
	Merchant Solutions-QR codes, PoS solutions and payment gateways/ In-store payments	Digital payment acceptance for merchants
Banking (Paytm payment Bank)	Saving & Current A/C	Bank accounts for merchants, individuals and business
	Time Deposits	Fixed deposits and recurring deposits
	Debit Card	Offers a debit card with attractive rewards program
Credit	Buy Now Pay Later (Paytm Postpaid)	Revolving credit facility in collaboration with other financial partners.
	Credit cards	Co-branded credit cards in partnership with leading banks
	Personal loans	Co-originated personal loans
	Merchant Financing	Merchant partners can avail credit facilities offered by financial partners under 'merchant cash advances'
Insurance	Insurance Distribution aggregator	Distribution platform for Auto, life, General and health insurance
Wealth Advisory (paytm Money)	Mutual Funds	Paytm Money offers zero commission direct mutual funds to the consumers
	Equity Trading	Invest in cash equities, futures and options.
	Gold	Allows consumers to purchase 24-karat pure gold
E-Commerce/Others	E-commerce (Paytm Mall)	Paytm mall offers electronics, apparel, groceries, grooming, footwear
	Gaming	Mobile gaming platform
	Travel Ticketing	Consumers can book flight, inter-city bus and train tickets on the app
	Entertainment	Purchase tickets for movies, sports, music, comedy, theatre and events

RSV

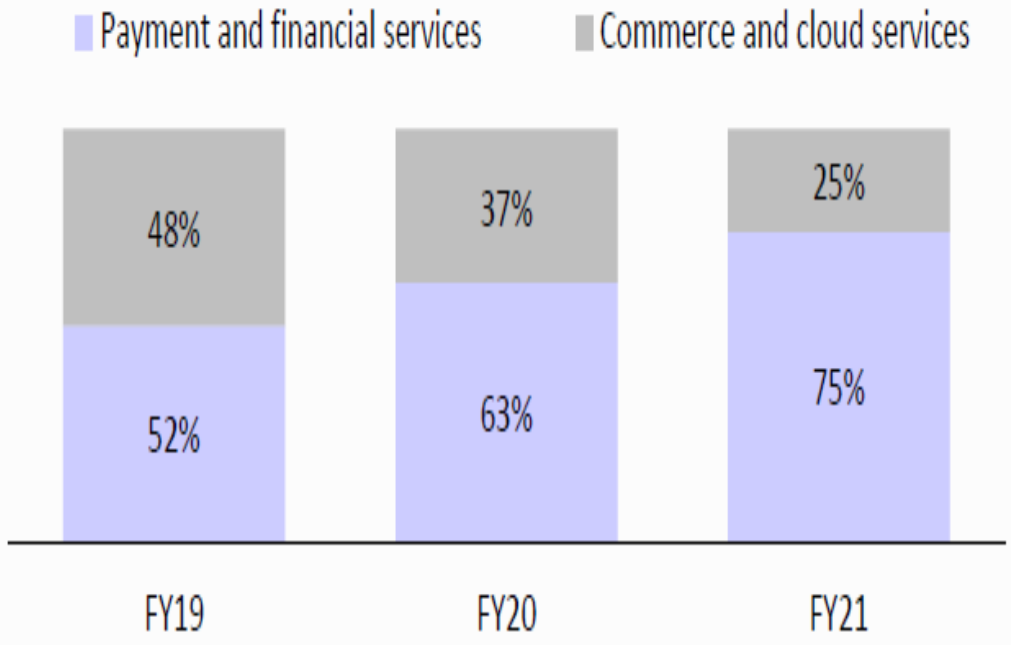
Paytm – Revenue model

	PAYMENT SERVICES	FINANCIAL SERVICES	COMMERCE SERVICES	CLOUD SERVICES
Revenue model	❖ Transaction charge: Merchant fee based on % of GMV	❖ Generating revenue depending on the types of services offered, such as lending, insurance, and wealth management	❖ Charging merchants a transaction fee on travel ticketing, entertainment ticketing, and advertising and other commerce activities	❖ Charging merchants a subscription fee, and in some instances, a fee linked with the volume of activity on the platform
	❖ Consumer convenience fees	❖ **Lending:** A) sourcing fee from financial institution partners, which is typically earned at the time of disbursal of the loan; (B) collection fee from lending partners	❖ Charging consumers a convenience fee	❖ Brand marketing campaigns for merchants and charging certain fee
	❖ Subscription fees: Charging merchants for certain products and services, such as Paytm SoundBox and POS	❖ **Distribution of credit card:** Upfront distribution fee per card issued and % of total annual spend for the card		
		❖ **Insurance products:** Commission fee on total premium of insurance products		
		❖ Equity broking fees		
Revenue driver	❖ GMV processed on the platform; take-rate defined as ratio of revenue to GMV ❖ Attracting new consumers and increasing retention and engagement of existing consumers ❖ Ability to retain and acquire new merchants on the core platform ❖ Adoption of financial services offerings, such as loans disbursed, number of credit cards sold, and insurance products			
Cost driver	❖ Major expenses include (i) payment processing charges, (ii) marketing and promotional expenses, (iii) employee benefit expenses, (iv) software, cloud, and data center expenses			

RSV

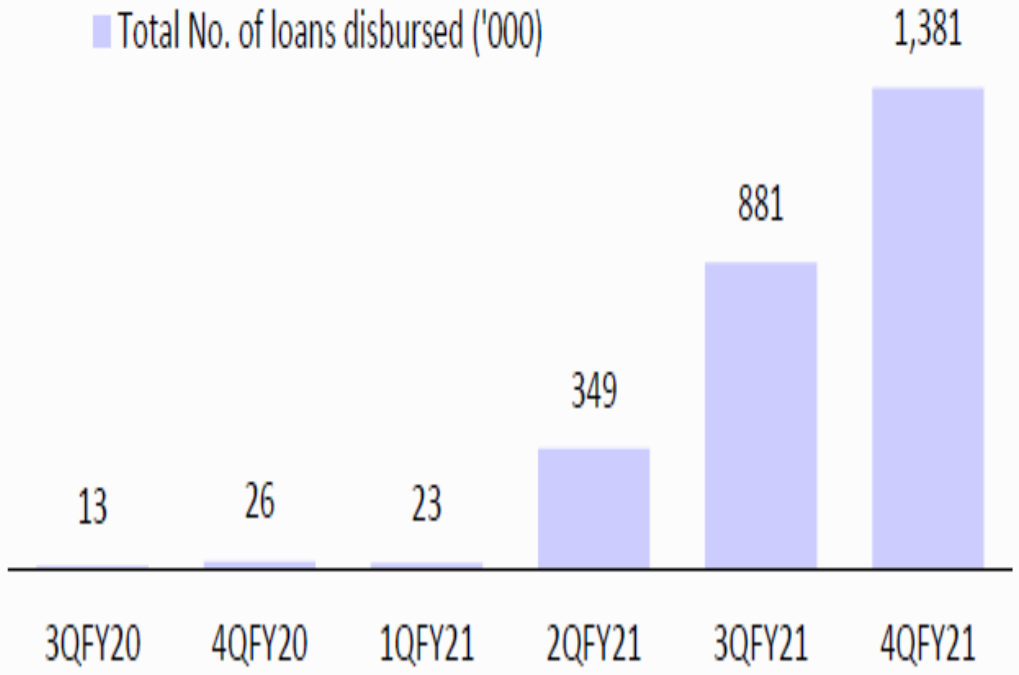
Paytm

Payments & financial services contribute ~75% to total revenues



Source: Company RHP

Total number of loans disbursed by Paytm

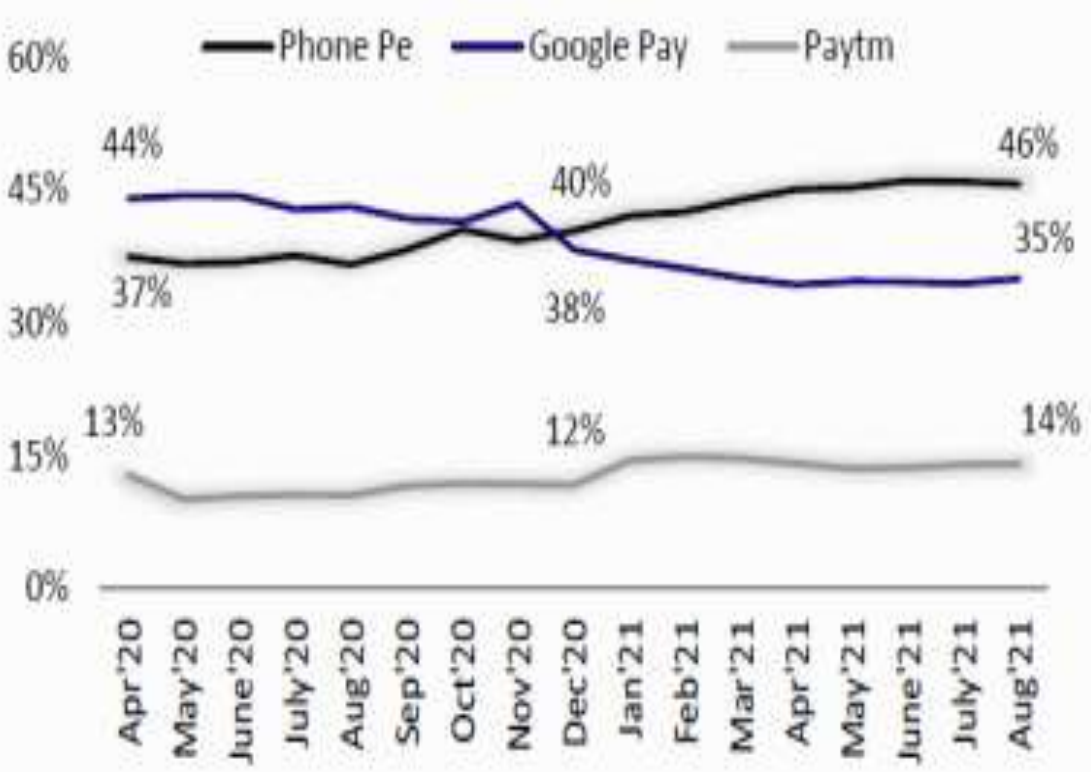


Source: Company RHP

RSV

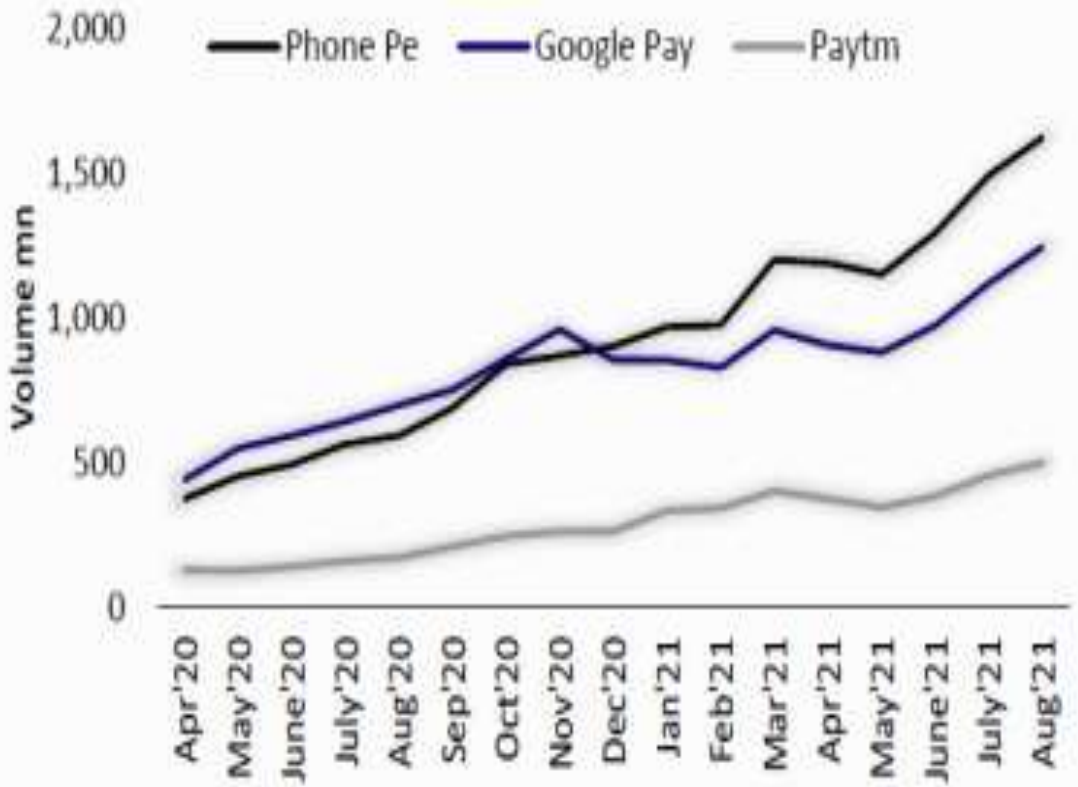
Paytm

~14% market share in UPI transactions



Source: Company RHP

UPI monthly volumes of key large peers



Source: Company RHP

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Paytm

UPI market share trends in volume terms (%)

Market Share in volume terms (%)	June'20	Dec'20	June'21	Aug'21
PhonePe	36.9	40.4	45.2	44.7
Google Pay	44.3	38.2	34.0	34.3
Paytm	10.4	11.7	13.4	13.7
AXSB	0.2	4.1	2.2	2.4
Amazon Pay	4.5	1.8	1.8	1.7
BHIM	1.3	1.1	0.8	0.7
Yes Bank	0.5	0.9	0.9	0.7
ICICIBC	0.6	0.6	0.5	0.5
Airtel Payments	0.2	0.2	0.2	0.3
Cred	0.1	0.2	0.2	0.2
KMB	0.1	0.1	0.1	0.1
SBIN	0.3	0.2	0.1	0.1
HDFCB	0.1	0.1	0.1	0.1
MobiKwik	0.1	0.1	0.1	0.1
Others	0.4	0.5	0.5	0.4

UPI market share trends in value terms (%)

Market Share in value terms (%)	June'20	Dec'20	June'21	Aug'21
PhonePe	40.8	43.8	47.5	46.6
Google Pay	45.7	42.3	37.5	37.8
Paytm	6.9	7.5	8.1	8.7
AXSB	0.1	0.2	0.2	0.1
Amazon Pay	1.0	0.8	0.9	0.8
BHIM	2.5	1.9	1.3	1.2
Yes Bank	0.3	0.5	0.9	0.9
ICICIBC	0.6	0.7	0.9	0.9
Airtel Payments	0.2	0.1	0.5	0.5
Cred	0.3	0.9	1.1	1.4
KMB	0.1	0.1	0.1	0.1
SBIN	0.8	0.5	0.4	0.3
HDFCB	0.1	0.1	0.1	0.1
MobiKwik	0.1	0.1	0.1	0.1
Others	0.5	0.5	0.5	0.5

RSV