VoltRide
The Electric Two-Wheeler Diagnostic

A Case for Discussion

Prepared by Prof. Karthikeyan Balakumar
Consumer Behaviour — EMBA — IIM Sirmaur
Sessions 1 & 2 • Academic Year 2026–27

1. The Boardroom

On a humid Tuesday evening in April 2026, the board of VoltRide — a three-year-old Bengaluru-based D2C electric two-wheeler manufacturer — meets in a glass-walled conference room on the 11th floor of a building that used to be an apparel warehouse. The CEO, Ms Anjali Menon, is 41, an ex-McKinsey partner who left consulting in 2022 to build something she could point at. The company she points at today sells 1,850 scooters a month, holds 3.1% of the Indian electric two-wheeler market, and burned ₹112 crore in FY25.

The board is not unhappy. They have all seen this movie before — the early years of an Indian D2C challenger look like this. But the meeting agenda has one item: a strategic reset. The next round of funding closes in six months. The lead investor has asked Anjali a question she cannot answer in a slide:

> *"Who, exactly, is VoltRide for — and why should anyone outside that group ever buy one?"*

Anjali has convened an external advisory panel for three hours. You are on that panel. She has given you access to everything: the current market scan, the latest 2,000-respondent consumer research panel, the perceived-attribute study VoltRide commissioned last month, the engineering data on battery cycle life, and the per-unit economics across the competitive set. She does not want a deck. She wants a decision, and one number from the data that makes the decision unarguable.

This document contains the facts she has shared. Read it before class. Bring your first-year Marketing Management and Marketing Research instincts. We will spend the session applying them — together and against each other — to Anjali's problem.

2. VoltRide — The Company

VoltRide was founded in 2023 in Bengaluru by Anjali Menon and two co-founders from the ex-Ather and ex-Bosch engineering networks. The company is positioned as a digital-first, premium-economy electric scooter brand, with an early commitment to lithium iron phosphate (LFP) battery chemistry — an unusual choice in a market dominated by nickel-manganese-cobalt (NMC) packs, chosen for LFP's longer cycle life and better thermal safety profile.

The flagship model, the **VoltRide Kinetic+**, is priced at ₹129,000 on-road. Key specifications:

Claimed range	120 km per full charge
Real-world range (field)	92 km (independent press testing)
Top speed	82 km/h
Battery pack	3.2 kWh LFP
Battery warranty	5 years / 60,000 km
Monthly units sold (FY25 avg)	1,850
Current market share	3.1% of Indian electric 2W
Dealer network (own stores + partner)	48 outlets, 14 cities
Net Promoter Score (FY25)	42
FY25 EBITDA	−₹112 cr

VoltRide's current marketing position, on the company website and in dealer communications, is built on three claims: premium build quality, longer battery life than NMC competitors, and a 5-year battery warranty (industry standard is 3 years). The tagline is *'Ride Light. Ride Long.'* The brand's social media presence emphasises technology and styling. Independent reviews have been broadly positive on product quality and mixed on service network coverage.

3. The Indian Electric Two-Wheeler Market

India's two-wheeler market sells approximately 15.2 lakh units per month — among the largest such markets in the world. The electric segment remains a minority of total volume (5.8%) but is growing at 31% year-on-year, and is now a strategic priority for every major two-wheeler manufacturer in the country. In FY25, electric scooters accounted for roughly 59,800 units of monthly sales, with the top five brands collectively holding 83.2% of segment volume.

The segment has two structural features that shape every strategic choice within it. The first is that battery and range technology is evolving rapidly: a new generation of scooters with meaningfully more range is released roughly every 18–24 months. The second is that the category has attracted an unusual mix of competitors — venture-funded digital-native brands (Ola Electric, Ather, VoltRide) sitting alongside 45-to-75-year-old native two-wheeler manufacturers (TVS, Bajaj, Hero) who have

re-entered the category with electric variants of their historic products. These two groups do not share the same cost structure, the same distribution footprint, or the same brand-equity starting position.

Regulatory context includes FAME-II subsidies (currently being phased out), state-level road-tax exemptions for EVs, and the 2023 safety standard tightening that followed a series of high-profile battery thermal incidents in the 2022 model year.

4. The Competitive Set

Five brands account for the majority of the electric two-wheeler market (see **Exhibit A** for full data). Each has a distinct strategic posture:

Ola Electric

The market share leader at 27.4%, with 16,400 units sold monthly. Founded by Bhavish Aggarwal as an extension of the Ola ride-hailing business, Ola Electric launched in 2021 with a direct-to-consumer model, aggressive pricing, and a heavily marketed 'Made in India' positioning. The flagship S1 range is priced from ₹1.35 lakh on-road. Ola operates 782 experience centres and service outlets — a network built entirely in the last three years. FY25 EBITDA: −₹1,584 crore. NPS: 14. Ola has publicly committed to a lithium-iron-phosphate cell manufacturing facility in Tamil Nadu (the 'Bharat Cell' announcement) but most current battery cells are imported.

Ather Energy

A premium-positioned native EV brand founded in 2013 in Bengaluru by IIT Madras alumni Tarun Mehta and Swapnil Jain, with early backing from Hero MotoCorp. Ather's 450X model is priced at ₹1.58 lakh on-road — the most expensive mainstream electric scooter in the market. Ather positions explicitly on engineering quality, connected features, and its proprietary fast-charging grid (Ather Grid). 11.8% market share, 312 outlets, NPS 61 (the highest in the segment). FY25 EBITDA: −₹178 crore — loss-making, but narrowing.

TVS Motor — iQube

TVS Motor Company, founded 1978, is one of India's three largest two-wheeler manufacturers, with a multi-decade presence in the petrol scooter market through the Jupiter and Scooty franchises. The TVS iQube is the company's electric offering, launched 2020, currently priced at ₹1.22 lakh on-road. TVS leverages its existing dealer and service network of approximately 3,800 outlets. 21.7% market share. FY25 EBITDA from the EV unit: +₹312 crore (profitable). NPS: 54.

Bajaj Auto — Chetak

Bajaj Auto, founded 1945, is one of India's oldest and largest two-wheeler manufacturers. The original Bajaj Chetak petrol scooter, produced from 1972 to 2005, is a cultural icon — strongly associated with middle-class family transport during the pre-liberalisation era. Bajaj relaunched the Chetak nameplate as an electric scooter in 2019, priced at ₹1.34 lakh on-road. 19.2% market share, 4,100 outlets (the largest service network in the segment), NPS 58. FY25 EBITDA from the EV unit: +₹421 crore (profitable).

VoltRide

The subject of this case (see Section 2). 3.1% market share, 1,850 monthly units, 48 outlets, NPS 42, FY25 EBITDA −₹112 crore. The smallest of the five competitors on every dimension except LFP battery chemistry (shared only with Ola's planned future cell line).

5. The Customer Research

In January 2026, VoltRide commissioned an independent market research agency to run a 2,000-respondent panel survey among Indian urban and semi-urban two-wheeler considerers. The panel was constructed to be representative of the national two-wheeler buying population, with the following rough composition: 55% Tier-1 cities, 32% Tier-2, and the remainder Tier-3 or smaller. Age distribution skewed younger (52% between 25 and 44), with an income mix spanning ₹6 lakh to over ₹48 lakh per annum.

The survey collected four broad classes of data: (i) **demographics** — age, income, city tier; (ii) **behavioural patterns** — daily commute distance, home charging access, current vehicle owned, gig-worker status; (iii) **psychographic measures** — 7-point Likert scales on green self-image, tech-savviness, risk tolerance, and status orientation; and (iv) **stated concerns and brand preferences**.

The panel's **top concerns about EV purchase** are summarised in **Exhibit D**. The five highest-ranked concerns, in order, are: battery life (71% of the panel rank it in their top three), charging access on long trips (68%), resale value (64%), service network strength (52%), and thermal safety (48%). Price ranks below service network. Stated brand preferences are led by Ola (22% of undecided-or-preferring respondents), TVS (20%), Bajaj (18%), Ather (14%), and VoltRide (6%), with 20% undecided.

In a separate exercise, the same agency conducted a perceived-attribute study in which a sub-sample of 400 prospective buyers rated each of the five brands on a 10-point scale across eight attributes: value for money, range confidence, charging convenience, service network, brand trust, styling, tech innovation, and resale confidence. The full results are in **Exhibit C**.

6. Engineering and Field Data

VoltRide's engineering team has shared internal data on battery performance, alongside publicly available field-failure data from the broader LFP cell manufacturer community and academic cycle-life research (see **Exhibit E**).

The VoltRide Kinetic+ battery pack is rated for **2,500 full charge-discharge cycles** to 80% of original capacity, consistent with published LFP chemistry data. Typical retail users perform approximately 180 equivalent full cycles per year (most charging events are partial, not 0–100%). At this usage rate, the pack is engineered to reach 80% capacity in roughly **12 years**.

The scooter's chassis, motor, suspension, and body have an engineering design life of approximately **8 years** under typical Indian road conditions. VoltRide's warranty on the battery pack is 5 years. Field-observed battery failure rate at 5 years, pooled across LFP two-wheeler deployments globally, is approximately **2.1%**. Thermal incident rate across the broader Indian electric two-wheeler population in 2024 was approximately 1.3 per 10,000 units.

Running cost, computed at ₹9.00/kWh electricity and standard petrol scooter fuel economy of 42 kmpl at ₹105/L petrol, works out to roughly ₹29 per 100 km for the VoltRide versus ₹250 per 100 km for the equivalent petrol scooter. A 5-year Total Cost of Ownership model, including purchase price, fuel, servicing, and expected battery replacement probability, is provided in **Exhibit F** and can be explored interactively in the accompanying app.

7. The Unit Economics

VoltRide's finance team has modelled the per-unit economics of each competitor based on publicly disclosed financial statements, industry-standard cost assumptions, and internal estimates of customer acquisition cost and dealer reach. The full per-unit P&L is in **Exhibit G**.

The most striking feature of the per-unit picture is the divergence in contribution margin per unit — the amount each brand earns (or loses) on every scooter after covering cost of goods sold and attributable operating expenses. Per-unit contribution ranges from a loss of roughly ₹9,500 per unit at one end of the competitive set to a profit of nearly ₹11,000 per unit at the other. Customer acquisition cost estimates range from ₹2,800 to ₹11,200, and dealer network sizes range from 48 outlets to 4,100. These numbers are not small differences in degree — they are categorical differences that the class will spend time understanding in Hour 3.

8. What Anjali Wants From You

By the end of the three-hour session, Anjali expects each advisory group to have answered three questions, in writing, with one number attached to each answer:

1. **Who is VoltRide for?** Pick one target segment from the research data. Demographic, behavioural, or psychographic — your choice. Justify the pick with one number from the survey.
2. **What does VoltRide stand for?** Write a one-sentence positioning statement. Name the competitor you are explicitly not fighting, and name the attribute you are leading with.
3. **How will VoltRide know it's working?** Commit to one metric you are prepared to be measured on in twelve months. Include a target level for that metric.

Anjali has made clear that she is not interested in three-horizon strategy decks, blue-ocean poetry, or framework inventories. She wants a decision, one number per claim, and a willingness to be wrong in a direction. The data in front of you supports at least four defensible answers. The only answer she will reject is the one that cannot cite a single number from the research.

9. How the Three Hours Will Run

The session is built around a live interactive diagnostic app. Every table and exhibit in this document has an interactive equivalent in the app, and several of the analytical moves (perceptual-map axis selection, TCO parameter sliders, resale shock simulation, positioning fit scoring) require the app to execute properly. You should have the app open alongside this PDF for the entire session.

The app has six tabs. Each tab poses a question, presents the data, invites you to commit to an answer, and then offers an expandable reveal panel that contains the professor's interpretation. Do not open the reveals until the class discussion reaches them. The reveals exist to end debate, not to start it.

Tab	Contents
1. Market Pulse	The five-brand competitive landscape — volumes, shares, NPS, profitability, dealer reach. The scoreboard.
2. Segmentation Lab	The same 2,000-respondent panel cut three ways — demographic, behavioural, psychographic — with mean purchase intent by segment side by side.
3. Perceptual Map Studio	Five brands × eight attributes. Select any two attributes for the X and Y axes of a perceptual map.
4. The Anxiety Audit	A toggle view comparing what prospective buyers say they fear against the engineering and field data on battery life, failure rates, and real-world range margins.
5. Unit Economics & TCO	Three sub-views: per-unit profitability across competitors, a live 5-year TCO calculator (sliders for daily km, electricity tariff, petrol price, battery replacement probability), and a resale-value shock simulator.
6. Positioning Verdict	A positioning fit scorer. Pick a target segment, select up to three emphasis attributes, and see how well the combination scores against the segment's stated preferences. Four pre-built scenarios are included for quick exploration.

Three breakout rounds

The three hours include three breakout rounds of roughly 10 minutes each, in groups of 5 to 7. Room assignments will be announced at the start of the session. The tasks:

Breakout 1 (end of Hour 1): Your CMO is about to approve a ₹40 lakh media buy targeting 'Young Urban Males, 25–34, Tier-1, Income ₹12–24 L'. Using only the segmentation data in Tab 2, write a three-line memo to the CMO recommending what to do instead.

Breakout 2 (middle of Hour 2): Find one pair of perceptual-map axes where VoltRide occupies genuinely empty space. Find one pair where VoltRide is indistinguishable from a competitor. Which pair would you lead positioning on, and why?

Breakout 3 (Hour 3): The final pitch. One target segment, one positioning statement, one 12-month metric. Three rules: cite at least one number from each of Tabs 1–5; name one competitor you are explicitly not fighting; and commit to a target level, not just a direction.

Ground rules

• Every number in this case and in the app is illustrative synthetic data. Do not quote it outside the classroom as market research or investment analysis.

• If your argument depends on a demographic generalisation, you have already lost the data argument — even if you happen to be right.

• If your argument depends on 'the consumer is irrational', you have stopped doing Consumer Behaviour. The whole course exists to replace that sentence with better explanations.

• You may disagree with any reveal panel. The reveals are interpretations, not verdicts. But you must disagree WITH a number from the data, not against it.

• Disagreement is welcome. Hedging is not. Bring a position. You will not be graded on being right — you will be graded on being specific.

Welcome to Consumer Behaviour. Read this document carefully. Open the app. Bring arguments.

Exhibits

The exhibits below contain the raw data referenced in the case narrative. Every exhibit also appears (interactively) in the accompanying VoltRide app.

Exhibit A — The Competitive Landscape

Brand	Type	On-road	Claimed	Real	Share	Units/mo	Dealers	NPS	FY25
VoltRide	Digital-Native	₹1.29L	120 km	92 km	3.1%	1,850	48	42	−₹112 cr
Ola Electric	Digital-Native	₹1.35L	125 km	88 km	27.4%	16,400	782	14	−₹1,584 cr
Ather 450X	Premium Native EV	₹1.58L	115 km	105 km	11.8%	7,050	312	61	−₹178 cr
TVS iQube	ICE-turned-EV	₹1.22L	100 km	78 km	21.7%	12,960	3,800	54	+₹312 cr
Bajaj Chetak	ICE-turned-EV	₹1.34L	113 km	96 km	19.2%	11,480	4,100	58	+₹421 cr

Source: Industry composite, synthetic illustrative data, VoltRide internal estimates. Share and units are monthly FY25 averages. FY25 column shows full-year EBITDA from the electric two-wheeler business unit.

Exhibit B — Survey Panel Composition

Dimension	Composition
Sample size	2,000 respondents
Geography	55% Tier-1, 32% Tier-2, 13% Tier-3 and smaller
Age distribution	18% (18–24), 34% (25–34), 26% (35–44), 15% (45–54), 7% (55+)
Income distribution	22% (<₹6L), 32% (₹6–12L), 26% (₹12–24L), 15% (₹24–48L), 5% (>₹48L)
Current vehicle	42% petrol scooter, 18% motorcycle, 19% car, 12% public transport, 9% none
Home charging access	46% yes, 54% no
Gig-economy workers in panel	14%
Daily commute distance	18% <10km, 34% 10–25km, 28% 25–50km, 14% 50–80km, 6% >80km
Fieldwork period	January 2026 (independent agency)

Panel quotas calibrated to national two-wheeler buyer demographics. All figures synthetic illustrative data.

Exhibit C — Perceived Attribute Ratings (10-point scale)

Brand	Value Money	Range Confidence	Charging Convenience	Service Network	Brand Trust	Styling / Design	Tech Innovation	Resale Confidence	Status Signal
VoltRide	6.2	5.8	5.4	4.1	5.3	7.2	7.8	4.0	5.4
Ola Electric	7.8	5.2	5.8	5.2	4.6	7.6	8.4	3.8	7.2
Ather 450X	5.1	7.2	6.8	5.8	7.4	8.1	8.6	6.2	8.4
TVS iQube	7.6	6.4	6.2	8.6	8.4	6.2	5.8	7.4	5.2
Bajaj Chetak	7.4	6.8	6.0	8.8	8.6	7.4	6.0	7.6	6.8

Based on a sub-sample of 400 prospective buyers from the panel (Exhibit B), asked to rate each brand independently on each of 8 attributes on a 10-point scale. Non-aware respondents excluded per brand. All figures synthetic illustrative data.

Exhibit D — Top Concerns Among Prospective EV Buyers

Concern	% of panel ranking in top 3
Battery will die in 3-4 years	71%
Can't find charging on long trips	68%
Resale value will crash	64%
Service network is weak	52%
Fires / thermal runaway	48%
Parts will be expensive / unavailable	44%
Charging will raise my electricity bill	31%

Question wording: 'Which of the following concerns would most influence your decision NOT to buy an electric two-wheeler?' Multi-select, top 3 rankings reported. Panel N=2,000.

Exhibit E — Battery and Engineering Data

Specification / Observation	Value
Design cycle life (LFP, to 80% capacity)	2,500 cycles
Typical retail use (full-cycle equivalents/year)	180
Years to 80% capacity at typical use	12 years
Scooter chassis / motor design life	8 years
VoltRide battery warranty	5 years / 60,000 km
Field-observed Y5 battery failure rate (LFP)	2.1%
Thermal incident rate (Indian E2W, FY24)	1.3 per 10,000 units
Running cost: EV	₹29 per 100 km (at ₹9/kWh)
Running cost: petrol scooter	₹250 per 100 km (at ₹105/L, 42 kmpl)

Sources: VoltRide internal engineering data, pooled LFP field data from cell manufacturer technical bulletins, academic cycle-life literature, Indian EV safety reports. All figures are synthetic illustrative data.

Exhibit F — Range Anxiety vs Real Usage

Usage scenario	Weekly km	Self-reported anxiety (0–10)	Actual charges per week	Actual range margin %
Daily 25-km commute	175	8.4	2	73%
Daily 40-km commute	280	8.9	3	57%
Occasional 80-km weekend ride	160	9.2	1	12%
Gig worker 70-km/day	490	7.1	6	31%

Self-reported anxiety collected in the survey. Actual charging frequency and range margin computed from a 60-user telematics sub-study over 12 weeks.

Exhibit G — Per-Unit Economics, All Competitors

Brand	Revenue	COGS	Gross Profit	GM %	Opex	Contri-bution	CAC	Dealers	FY25
VoltRide	₹1.29L	₹1.18L	₹11,000	9%	₹18,000	−₹7,000	₹8,400	48	−₹112 cr
Ola Electric	₹1.35L	₹1.16L	₹19,000	14%	₹28,500	−₹9,500	₹11,200	782	−₹1,584 cr
Ather 450X	₹1.58L	₹1.23L	₹35,000	22%	₹38,000	−₹3,000	₹7,800	312	−₹178 cr
TVS iQube	₹1.22L	₹92,700	₹29,300	24%	₹22,000	+₹7,300	₹3,100	3,800	+₹312 cr
Bajaj Chetak	₹1.34L	₹99,160	₹34,840	26%	₹24,000	+₹10,840	₹2,800	4,100	+₹421 cr

Contribution per unit = revenue − COGS − attributable opex (distribution, warranty reserve, service-network amortisation). CAC = blended customer acquisition cost across digital, dealer, and referral channels. FY25 column is full-year EV business unit EBITDA. Dealer reach is total outlets (own + partner).

Exhibit H — Segmentation Schemes Applied to the Panel

The same 2,000-respondent panel has been segmented three different ways. Summary statistics and mean purchase intent by segment are available interactively in Tab 2 of the VoltRide app. This exhibit lists only the segment names and the defining variables — not the intent scores. Those you will see together, in class, for the first time.

Scheme	Defining variables	Resulting segments
Demographic	Age band × income × city tier	Affluent Metro, Young Urban, Aspirational Tier-2, Mid-life Mainstream, Everyone
Behavioural	Daily km × home charging × current vehicle type	Petrol-to-EV Switcher, Gig Worker Commuter, Heavy Commuter (Range-Stressed
Psychographic	Green self-image × tech-savvy × risk tolerance	Eco-Signaller, Early Adopter, Quiet Environmentalist, Pragmatic Value-Seeker, R

Intent scores deliberately omitted here. See Tab 2 of the app.