

Case Study for Round 3 of HCCB Disrupt Season 1

Congratulations! Welcome to Round 3

As you have studied the HCBL case facts and done your primary and secondary research, it is now time to dive deeper to suggest robust strategies!

While the overall case remains the same, there is more data made available and some changes have been done in data to come as close to reality. **Therefore, you are requested to follow the data provided in this document only.**

Introduction

HCBL is India's largest player in the NARTD (Non-Alcoholic Ready to Drink) market. The non-alcoholic beverages market in India is approximately valued at INR 28,000 Cr and growing at a CAGR of 5-7%. HCBL manufactures these beverages at its own and contracted plants and then distributes it to around 5000 distributors across 20 states in India. Beverages being voluminous product, the transportation cost of the product becomes a significant cost, compared to the overall costs of production. Beverage industry's cost of logistics is significantly higher compared to the other FMCG products due to the bulkiness and lower cost/volume.

Logistic Operations

HCBL has 15 manufacturing locations spread across the East, West and South of the country. The company does not have operations in northern region of the country (UP, Haryana, Punjab etc). The operations of the company are divided into three Clusters, East, South and west. South cluster is the biggest in scale of operations, followed by West and East cluster (smallest). There are three types of transportation movements prevailing in HCBL. The company uses trucks with payloads ranging from 750 Kgs to 34 tons. The loading bay length of these trucks range from 4 to 45 feet.

Intra Unit: This movement is typically short haul, with distances ranging between 5 to 40 Kms/trip. We use dedicated trucks for this movement. These trucks are contracted throughout the year and run only with HCBL. The trucks used in these movements have a payload capacity >24 tons and loading bay length of >40 feet.

Inter Unit: These are long haul movements, where we prefer to use market trucks. These trucks transport HCBL goods on one way chartered by the company. Once it reaches destination and the delivery of goods is done, the contract for the truck is over. The distances in these movements range from 150 to 2400 Kms. The average distance of these moves is around 490 KMs/trip. The trucks used in these movements have a payload capacity >24 tons and loading bay length of >40 feet.

Customer: These movements are done from HCBL locations to our customers. We service more than 5000 distributors from our 15 plants and 20 depots. The distances in these movements range from 15- 500 Kms. Customer movements are again split into two types- NKA and GT (National Key Accounts & General Trade).

The trucks used in GT movements have a payload capacity of 12 tons, loading bay length of 24 feet. The average distance of these movements is 265 Kms.

The Trucks used in NKA movement have a payload of 3 tons and loading length of 8 feet (Electric?). The average distance of NKA movements is 150 Kms.

Both these customer movements are fully loaded on the way to customer delivery (Full truck Loads) and on return journey carry only around 15% of the load capacity (Partial truck load). The return of these vehicles back to HCBL locations in a specified time (trackable/dependable) is of importance to maintain customer service levels.

HCBL moves around 2500 trucks/day on an average. Out of which 485 trucks are inter unit movements, 255 trucks/day are Intra Unit moves and remaining 1,760 truck movements are customer movements. Graph in Fig 1 shows the percentage split between different move types based on the total distance travelled in a year.

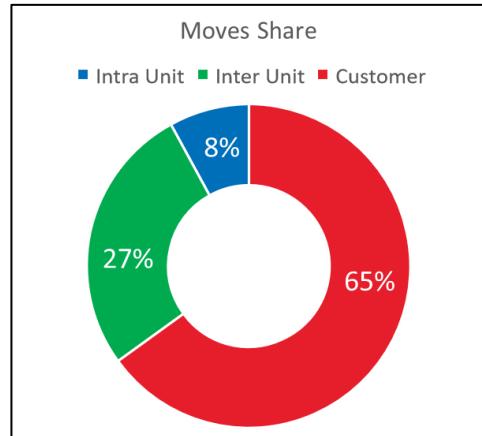


Figure 1: Split of move type based on total distance travelled annually

Trucks Used for HCBL's Transport Requirements (Examples)



Figure 2: Long Haul Transportation



Figure 3: Short Haul Transportation

Problem Statement

HCBL's current transportation is dominated by Diesel as a primary fuel. The largest number of fleet available in the market is also diesel compliant Trucks for goods and material transport. In this ecosystem, Diesel contributes around 35% of the freight cost in short haul movements. The cost of diesel increases to 45% of total Freight on long haul moves.

There is a huge risk of inflation in this fuel, and this creates risks on the total transportation costs. Like HCBL, most of the organizations are contracted to reimburse the cost of the fuel along with its inflation to the trucker / transporter. This implies that there is a cascading impact of the fuel inflation to the user of the service and not the transport industry. A rough calculation indicates that if the Diesel price increases by 20% in the next 3 years – the freight impact is expected to be around 8% which needs to be passed on the customer, thereby pressurising our sales, and challenging the price points of every pack and flavour.

The carbon emission of this fuel is amongst the highest at 2.71 Kg CO₂ / Litre. Considering that our long haul / Higher capacity trucks (payload >24 tons) give a mileage of 2.5 KMPL, and our short haul trucks (Payload of 12 tons) have a mileage of 4.5 KMPL. This gives us an emission of 1.08 KG CO₂ for every KM travelled in long haul/higher capacity trucks and an emission of 0.6 KG CO₂ for every KM travelled in short haul.

HCBL is looking for reducing its risk on fuel inflation and reduction in carbon emission (Check section below for target) in line with its sustainability targets.

Task at hand

You are a part of the Logistics Team of this company, and you need to propose alternatives to mitigate this risk. Below are the points to consider:

1. Alternative Fuels to be blended with/replace diesel which can reduce Cost / emissions. Consider and plan for consistency of supply and quality.
2. Carbon emission impact to be proposed from a current emission of 100,000 MT of CO₂ emission with 100% diesel usage (An annual usage of approx. 3.68 Crore litres).
3. Newer technologies, their application, to be explored with timelines along with risks involved.
4. Assume solution for long haul to be through 24-ton trucks and Customer dispatch through 12-ton trucks (24 feet).
5. Assume 1 ton equal to 70 Cases.

Points to consider:

- The company's sales are growing at **CAGR 20 %**, and there will be commensurate increase in truck movements and thereby emissions.
- Carbon emission **reduction target is 40 %** (In Intensity – Emission / unit sale) by 2030. Consider 1 Lakh MT of CO₂ as described above as current emission, commensurate increase in emissions with volume growth will form the base case scenario.
- **HCBL is open to changing truck sizes** in case of newer mobility options with different specifications.
- Suggest various levers to reduce carbon footprint on road transportation as well as rail & water.

Deliverables of Round 3

You are part of the senior commercial team at HCBL. You are expected to get back to the senior management with solution for them to take a well informed and prudent decision:

1. Study the data carefully and come up with a plan on how best to allocate people and resources to reduce carbon footprint and optimize freight for the three types of movement: Customer, Intra, and Inter unit.
2. Come up with innovative and sharp ideas that will help us reduce carbon footprint not only to the Customer, but also for the last mile delivery of the Customer to retail outlets.
3. Carbon Dashboard with all the levers, Current stats vs Target vs suggested action plan
4. Analysis of various actions/levers with emission reduction & cost benefit analysis for implementation
5. Transport Industry benchmarking in modes of transport (rail vs water vs road) with respect to FMCG industries / global standards.

Presentation Guidelines:

Your presentation should cover all the above tasks and should be as concise as possible. Give your recommendations and support them with numbers. Please put your calculations in annexures.

Submission should contain a cover slide, 5 main slides for analysis and solution. In addition to these 6 slides, there must be an annexure providing due credits to all the references. All the references will be verified and reviewed. Please attach supporting excel-sheets, details etc. (if any) in the annexures. All the best!!!

Appendix-1

Volume Split & Forecast of GT and NKA sales

Year	2022	2023	2024	2025	2026	2027	2028	2029	2030
Volume (in Mn Cases)	200	240	288	346	415	498	597	717	860

General Trade (Mn Cases)	170	204	245	294	353	423	508	609	731
Modern Trade (Mn Cases)	30	36	43	52	62	75	90	107	129

B2B & B2C	22	26	30	32	38	43	49	53	56
E-Com	1	2	3	5	7	11	16	25	37
E&D	0	0	0	1	1	1	1	1	2
E&L	0	0	0	1	1	1	1	1	1
IC	1	2	2	3	4	5	6	7	9
Transport	5	5	6	8	9	11	13	16	19
Institutions	1	1	2	2	2	3	4	4	5

Mode of Transport

Road	99%	98%	94%	92%	91%	89%	89%	86%	86%
Rail	1%	1%	5%	5%	6%	7%	7%	9%	9%
Water	0%	1%	1%	3%	3%	4%	4%	5%	5%