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# A CRUCIAL 50KM

How 50km can make the difference between profit and loss in the Indian cement market.

In the cement industry, distance is not an abstract variable. It is a hard commercial boundary that decides whether a plant flourishes, struggles, or quietly bleeds cash. Unlike many industrial products, cement is heavy, low in value per unit weight, and intolerant of inefficient movement. As a result, a seemingly modest difference in distance - sometimes as little as 50km - can determine whether a producer operates profitably or not.

## The variables

For decades, cement pricing models focused primarily on production economics. Efficiency, fuel mix, kiln technology and labour costs were assumed to be the decisive factors. Logistics was treated as a downstream function, a cost to be optimised after production decisions have been made. That assumption no longer holds. In many markets today, logistics costs exceed energy costs and, in some cases, even rival raw material expenses.

The core problem lies in the cement itself. A tonne of cement occupies space, demands careful handling and offers very little margin to absorb inefficiency. Unlike steel, chemicals or refined fuels, cement cannot travel long distances over land without losing economic value. Every additional kilometre

increases fuel costs, labour costs, vehicle wear, tolls and time. The compounding effect of these variables is often underestimated by planners, who often focus on annual averages rather than route-level realities.

Distance also reshapes competitive behaviour. Producers with a logistical advantage can price aggressively in contested markets, knowing competitors cannot follow without eroding their own margins. This creates invisible exclusion zones around efficient plants, where rivals are structurally discouraged from competing. Such dynamics are rarely captured in market share analyses but are well understood by operators on the ground.

## An Indian example

In several Indian cement markets today, a 50km difference in plant location can materially change profitability. This is not theoretical. In southern India, road freight costs for cement are typically US\$0.06-0.08/t/km depending on diesel prices, route conditions and backhaul availability. If a plant is located 100km from its primary market, delivered freight costs work out at roughly US\$7.70/t. If another plant supplying the same city is 150km away, freight costs could reach about US\$11.50/t. The 50km gap creates a disadvantage of ~US\$3.80/t.

Trucks queue outside a cement plant in Uttar Pradesh. Source: PradeepGaur / Shutterstock.com.



In a market where EBITDA margins are US\$5.50-9.90/t depending on demand conditions, a structural US\$3.80/t disadvantage can eliminate a large share of operating margin. In weak cycles, it can push a plant into loss, even if its kiln efficiency and fuel mix are competitive.

This is visible in markets such as Kochi and Bengaluru. Grinding units located within a 100km radius of these cities are able to respond quickly to price changes and defend volumes. Plants located 140-160km away often find that they can enter the market only by sacrificing margins. Over time, this shapes where each producer chooses to compete.

Urban congestion intensifies the gap. The last 20-30km inside major cities introduces unpredictable delays. Truck entry restrictions, toll plazas, unloading window limits and traffic congestion reduce fleet productivity. A route that looks commercially viable on paper can become inefficient once real turnaround times are factored in. Higher idle time increases per tonne logistics cost and reduces daily trip counts.

Road quality also plays a decisive role. Two routes of identical distance can have vastly different economics depending on the surface condition, gradient and congestion. Poor road infrastructure increases tyre wear, maintenance costs and breakdown frequency. It also limits payload optimisation, which forces trucks to carry less than their rated capacity to avoid damage or penalties. Over thousands of trips, these inefficiencies translate into material cost disadvantages that no amount of kiln optimisation can offset.

Fuel volatility further magnifies structural distance differences. When diesel prices rise, the impact is multiplied over longer routes. A plant closer to the market absorbs the shock more easily. A plant further away sees the increase compounded across every tonne despatched. Over a year, this translates into sustained margin erosion, not a temporary blip.

Administrative geography adds another layer. In India, state borders still influence compliance, documentation checks and informal friction. A 50km route extension that crosses a state boundary can introduce additional costs and delays. Even when formal entry taxes are rationalised, enforcement patterns and inspection frequency vary. Distance in such cases is both physical and regulatory.

Inventory economics also shift with distance. Cement has a limited storage window if quality is to be preserved. Plants located further from consumption centres must maintain higher buffer stocks to account for transit delays and market uncertainty. This ties up working capital and increases storage costs. Plants closer to markets can operate with leaner inventories and faster turnover, which strengthens cash flow during demand swings.

## Market responses

Rail connectivity can partially offset long road distances, but only for plants with dedicated sidings and predictable rake access. In states such as Gujarat and Chhattisgarh, plants with strong rail infrastructure can move bulk volumes efficiently over longer distances. However, once cement reaches the nearest railhead, it still faces last mile road movement. Shared terminals, scheduling delays and demurrage charges often reduce the theoretical savings.

Coastal grinding strategies illustrate how producers are responding to these realities. Along India's western coast and in parts of the Gulf, companies have established grinding units close to ports and urban clusters. Clinker is moved in bulk over long distances by sea, which reduces the per tonne transport cost. Final cement distribution then occurs within a tight road radius around consumption centres. By compressing the most expensive segment of transport, these units reduce structural freight exposure. By moving bulk transport upstream and final distribution downstream, producers compress the most expensive segment of the supply chain. Similarly, investments in bulk terminals, dedicated fleets, and digital route optimisation tools reflect a growing recognition that logistics is now a core competitive function.

Future capacity planning increasingly reflects these constraints. Limestone quality and kiln efficiency remain important, but proximity to demand clusters now carries equal weight. In several Indian states, new grinding capacity has been added closer to cities rather than expanding large integrated plants further inland. The objective is not only capacity growth but freight optimisation.

## Concluding remarks

When margins are healthy, a 50km disadvantage may appear manageable. When demand slows, prices soften or fuel rises, that same 50km becomes decisive. It determines whether a producer can hold its price, defend volume or operate at sustainable margins. In the cement business, location is not a secondary variable. It is a structural determinant of profitability.

For policymakers, this has implications as well. Infrastructure investments, urban planning decisions and transport regulations directly shape industrial competitiveness. When a highway bottleneck or port congestion adds 20km of time and cost to a route, it silently reallocates market power within the industry. Understanding these effects is essential to design policies that support domestic manufacturing rather than unintentionally penalising it. 