CASE STUDY - 1

INTRODUCTION

PC Products is a leading Indian FMCG company specializing in the production and distribution of high-volume personal care products. The company operates through an extensive supply chain network that includes Clearing & Forwarding (C&F) agents, distributors, and last-mile delivery partners to ensure seamless product availability across urban and rural markets. Efficient logistics and cost-effective secondary freight movement are central to PC Products' ability to meet consumer demand and maintain competitive pricing in a fast-moving marketplace.

To support its expanding retail footprint, PC Products utilizes regional warehouse hubs operated by third-party C&F agents. These hubs are responsible for stock maintenance, loading, and dispatch to stockiest spread across various districts.

This Case Study covers the review of the C&F centers at **Pollachi (Tamil Nadu)** and **Vijayawada (Andhra Pradesh)**. These centers form the backbone of the southern distribution operations, serving a high-density network of retailers.

Given the scale of daily operations and the diversity of geographic terrains served, optimizing route planning, fuel costs, vehicle usage, and regulatory compliance is crucial. This case study evaluates the operational efficiency of these two C&F centers, highlights key issues, and provides recommendations to improve cost control, distribution strategy, and compliance post the Andhra–Telangana state bifurcation.

BUSINESS MODEL AND CORE OPERATIONS

PC Products follows a **decentralized warehousing model**, supported by a network of Contract & Forwarding (C&F) agents. These agents function as key distribution hubs, responsible for storing finished goods, managing dispatch schedules, and coordinating transportation to retail stockists across various districts. The company strategically positions its C&F centers close to high-volume consumption zones to ensure **faster turnaround time and lower freight costs**.

The **Pollachi** and **Vijayawada** centers are critical components of this distribution ecosystem, each catering to distinct geographical clusters within the southern region. The operations involve handling large volumes of packed goods, daily vehicle dispatches, coordination with local dealers, and managing route-level freight planning. Each center is expected to function independently with strong coordination between warehouse teams, logistics vendors, and area sales managers.

PC Products adopts a **hybrid transport approach**, leveraging a mix of owned vehicles by the C&F Agents (in some cases), hired trucks, and third-party parcel services to meet varying delivery needs. While this offers flexibility, it also requires **robust cost management, route optimization**, and compliance with logistics regulations. Effective operations at the C&F level are central to maintaining the company's supply chain responsiveness, inventory accuracy, and overall profitability.

COMPANY BACKGROUND

PC Products has built its distribution strength over the years by investing in a well-structured **warehouse and logistics network**. The company's warehousing model evolved from centrally located depots to a **region-wise C&F-based system**, designed to improve product accessibility and minimize lead time to market. Each C&F location

is strategically chosen based on proximity to key consumption centers and major transportation corridors.

The company's southern region operations are anchored by two major C&F hubs: **Pollachi** (serving parts of Tamil Nadu and Kerala) and **Vijayawada** (serving Andhra Pradesh, Telengana and adjacent markets). These warehouses manage high-volume movement of fast-selling products and play a pivotal role in servicing Tier 2, Tier 3 towns and rural retailers.

The introduction of the **Goods and Services Tax (GST)** in 2017 was a transformative moment. Previously, warehouse locations were often chosen to optimize state-level tax benefits. Post-GST, the focus shifted to **logistics efficiency, supply chain consolidation**, and **interstate compliance**. Additionally, following the **bifurcation of Andhra Pradesh and Telangana**, companies like PC Products had to revisit their compliance frameworks. Operations from Vijayawada, which earlier covered the combined state, now required to deal with two states and the consequential compliance requirements related to such change.

STRATEGIC DECISION-MAKING

The selection of C&F locations such as **Pollachi** and **Vijayawada** was originally based on a combination of **legacy dealer presence**, **accessibility to regional demand clusters**, and **existing infrastructure availability**. At the time of establishment, these hubs were seen as optimal for covering wide delivery zones with limited operational disruption. However, over time, as retail footprints expanded and fuel costs surged, the need for data-driven distribution decisions became more apparent.

Trip planning at these locations largely relied on **manual scheduling and experience-based routing**, which, while operationally feasible, lacked efficiency. For instance, vehicles were often dispatched for partial loads, servicing small dealers individually instead of consolidating orders for route-based optimization. This approach led to **redundant trips, higher diesel consumption**, and unnecessary wear and tear on aging fleets.

PC Products' strategy to **outsource its logistics operations** offered flexibility and reduced asset ownership costs. While outsourcing brought initial benefits, it also introduced challenges such as **lack of trip-level visibility**, inconsistent route costing, and limited accountability on fuel efficiency. The absence of automated route planning and data-led vendor management meant that cost leakages went unnoticed for long. The case reveals how strategic decisions must evolve with scale, and how early choices require periodic reevaluation through a cost-benefit lens.

CHALLENGES AND RESPONSES

PC Products faced critical operational challenges at its C&F hubs in **Pollachi** and **Vijayawada**, largely stemming from outdated practices and lack of route-level analytics. In **Pollachi**, the locations proximity to less than 20% of its serviced towns raised concerns. Major towns like Trichy, Dindigul, and Thanjavur — better serviced from alternate hubs — continued to be dispatched from Pollachi, resulting in **longer trip distances**, **higher turnaround times**, and **avoidable diesel consumption**.

Compounding the problem was the use of **older, fuel-inefficient trucks** (4–6 km/litre), which significantly increased per-trip operating costs. Drivers often undertook **multiple**

trips to the same town within short intervals, owing to poor trip consolidation and lack of dispatch visibility.

In **Vijayawada**, although the hub was centrally located, there was a **disproportionate reliance on parcel services**, even when full-truckloads could have been planned more economically. This model added ₹60,000–₹70,000 per month in avoidable logistics costs. Additionally, there were issues with **underutilized lorry trips**, **lack of shipment clustering**, and inefficient stockist servicing.

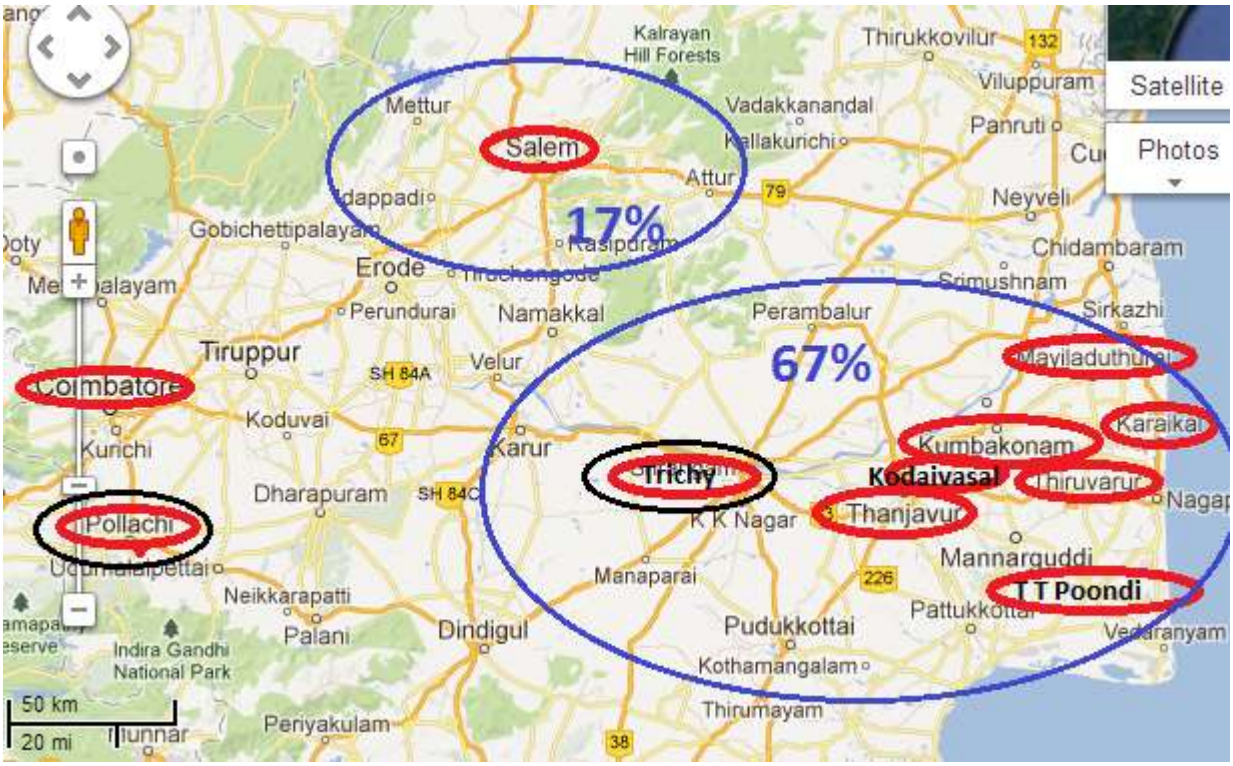
Also, Vijayawada's operations needed to be reevaluated from the compliance perspective to serve the state of Andhra Pradesh and Telengana post the bifurcation of these states.

Recognizing these issues, the company initiated cost optimization review to re-evaluate route economics, fuel cost control mechanisms, and overall freight optimization strategies at both hubs, marking the beginning of its turnaround roadmap.

CURRENT OPERATIONAL POSITION

The Pollachi and Vijayawada C&F hubs currently handle substantial monthly dispatch volumes, catering to a wide spread of **urban and rural stockists**. Despite maintaining healthy outbound volumes, both hubs reveal significant disparities in **delivery efficiency and cost control**.

In **Pollachi**, over **80% of the total stock movement** is routed to locations that are **geographically closer to Trichy**, making the existing warehouse location sub-optimal. High-volume towns such as Thanjavur, Karaikudi, and Pudukkottai require longer trips, inflating diesel costs and driver hours. The fleet primarily comprises **older trucks**, which are **fuel-inefficient** and operate on **non-clubbed routes**, leading to multiple runs to the same region within short time spans. Estimated avoidable fuel costs alone exceed ₹60,000 per month.



In **Vijayawada**, while stock movement is more centralized, the **dependency on parcel services** for secondary freight movement—even for routes that could have been clubbed into lorry loads—has driven costs disproportionately high. The hub services **diverse districts**, but lack of **dynamic route planning** has led to scattered deliveries. A more structured clustering of dealers could bring in better economies of scale.

Both hubs currently suffer from **under-optimized delivery models**, with missed opportunities in shipment consolidation, stockist clustering, and trip frequency rationalization.

Also, in respect of Vijayawada, there is a need to review the compliance with respect to GST which has been introduced in 2017 and the earlier bifurcation into two states in 2014.

COST & ROUTE ANALYSIS SUMMARY TABLE

A comparative review of the **route economics and fuel efficiency** of Pollachi and Vijayawada hubs reveals considerable disparities in operating costs and trip planning effectiveness. In Pollachi, routes such as those to Trichy belt, Mayiladuthurai region, and Thanjavur region are serviced from a less-than-ideal location, increasing the average kilometers traveled per metric tonne dispatched. Compounding this inefficiency is the use of **aging trucks**, yielding **just 4–6 km/litre**, which significantly raises per-trip diesel consumption.

In contrast, Vijayawada's centrally located depot services districts like Guntur, Nellore, and Rajahmundry with better proximity. However, due to **over-reliance on parcel services**, even routes under 150 km incur higher cost per MT delivered compared to a structured full-truckload dispatch.

Routes	Locations covered in route	Distance Round trip from Pollachi	Distance for Round trip from Trichy	Difference in Kms	Number of trips in Oct	Savings in kms for Oct
Route 4	Papanasam, Kumbakonam, Aduthurai,Thiruvarur	695	274	421	3	1263
Route 3	Salem, Omalur, Valapadi, Attur, Sankagiri	517	462	55	5	275
Route 1	Mayiladuthurai, Sirkali, Sembanarkoil, Poraiyar, Karaikal, Peralam, Tirumarugal	805	384	421	6	2526
Route 6	Orathanad, Pattukottai, Peravoorani, Muthupet, Thiruthuraipoondi, Vedharanyam,Thirupoondi, Nagai, Kivaloor	873	428	445	3	1335
Route 8	Udumalpet, Madathukulam, Manaparai, Trichy, Lalgudi	472	445	27	4	108
Route 2	Tirukattupalli, Thiruvaiyaru, Tanjore, Kodaivasal, Koothanullur, Manargudi, Tiruvarur	726	304	422	5	2110
Route 9	Mettur, Dharmapuri, Pennagaram , Palacode, Kaveripatinam, Krishnagiri, Hosur. Dhenkanikottai, Harur	764	726	38	2	76
Route 5	Pollachi , Coimbatore, Sulur, Mettupalayam	200	526	-326	1	-326
Route 7	Tirupur, Perundurai, Erode, Bhavani,Idapadi,Elampillai,Anthiyur,Gobi, Sathy.	421	622	-201	2	-402
Route 11	Dharapuram,Vellakoil, Pallapatty, Karur, Kulithalai, Musiri, Thuraiur, Perambalur, Ariyalur,Andimadam	689	606	83	2	166
Route 10	Kangeyam, Trichengode, Taramangalam, Vennathur,Rasipuram, Sendamangalam,Namakkal, Mohanur.	461	444	17	2	34
	Total savings in kms travelled					7165
	Cost savings at Rs. 14 per km					**100310**

When we look at the benefit of moving the hub, one needs to also consider the implication of primary freight costs from the manufacturing location to the C&F agent warehouse location. In this also, interestingly, with the significant development of certain arterial roads etc., the following emerged:

From Manufacturing Location	To C&F Hub location	Freight Rate	Distance in KM
Indore	Pollachi	X	1637
Indore	Trichy	0.9 X	1690

Though both locations are equidistant, due to the arterial road network and too and fro freight movement position, the costs of transportation from the factory location to Trichy is lower than to Pollachi.

POST-SPLIT GST COMPLIANCE ISSUES (VIJAYAWADA)

Following the **bifurcation of Andhra Pradesh and Telangana in 2014**, PC Products faced critical changes in its compliance environment, especially in its **Vijayawada warehouse operations**. Prior to the split, the Vijayawada C&F hub catered to dealers spread across both undivided Andhra Pradesh and Telangana, with **a single central tax registration** and uniform reporting.

However, with the advent of **GST in 2017**, and the political division of the two states in 2014, supplies from Vijayawada to Andhra Pradesh and Telengana were to be treated differently even under GST. This shift meant that PC Products had to **restructure its invoicing, tax filings, and compliance controls** to ensure full adherence to meet this requirement of supplies to two states.

This highlights the importance of **dynamic compliance management** in a post-bifurcation GST regime and underscores how tax structure directly influences distribution strategy and legal risk exposure.

GST INPUT TAX UTILIZATION MATRIX

Input Credit - Adjustable in priority against	IGST	CGST	SGST
IGST ITC	1	2	3
CGST ITC	2	1	
SGST ITC	2		1

STRATEGIC FINANCIAL & COST MANAGEMENT ANALYSIS

Some of the C&F Agents of PC Products historically followed an **asset-light logistics model**, outsourcing freight operations to third-party vendors and parcel service providers. This approach offered operational flexibility and minimized capital investment in fleet maintenance, driver payroll, and fuel management. However, review findings from the Vijayawada hub revealed that **complete reliance on outsourcing led to cost inefficiencies**, particularly where shipment volumes were consistent enough to justify owning delivery vehicles.

In **Vijayawada**, the heavy use of parcel services for medium-to-large loads was found to be **30–40% costlier** than deploying full-truck loads via owned or dedicated leased lorries. Route-wise costing suggested that a switch to **semi-owned or contract-based dedicated trucks** could save up to ₹70,000 monthly without compromising delivery timelines.

Similarly, in **Pollachi**, while outsourcing eliminated asset depreciation and maintenance overheads, it also resulted in **poor oversight of fuel usage**, inefficient trip scheduling, and excess kilometers driven per dispatch.

From a strategic cost management lens, a hybrid model—where **high-frequency routes are served by dedicated vehicles**, and **low-frequency dispatches are outsourced**—can offer optimal balance. The ability to **track, measure, and control transport costs** in real-time is now a critical component of PC Products logistics efficiency roadmap.

GOVERNANCE & COMPLIANCE REVIEW

The cost optimization process review of PC Products' C&F operations at Pollachi and Vijayawada revealed several **gaps in governance, controls, and documentation** that could expose the company to financial and compliance risks. One key area of concern was the **parcel service billing mechanism**, especially in Vijayawada. Since parcel services were widely used without standardized rate agreements, there were

inconsistencies in freight billing, leading to inflated logistics costs and lack of visibility over per-trip profitability.

Additionally, **manual trip records**, absence of driver-wise logbooks, and lack of GPS-based tracking resulted in weak control over mileage claims and trip validations. There were no formal SOPs or system-generated checks to match fuel consumption with route distance and payload.

Documentation lapses were also identified in **e-way bill generation, GST invoicing**, and **interstate stock transfers**—particularly relevant in the post-AP/Telangana split scenario. Some C&F agents lacked proper segregation of invoicing by state to dealers who had operations in multiple towns across AP and Telengana, increasing the risk of tax mismatches and non-compliance.

Moreover, security and insurance coverage at the warehouse premises were found to be inadequate. These governance concerns point to the urgent need for **automated controls**, periodic reconciliation, and standardized documentation processes across all dispatch hubs.