**📑 Detailed Vendor Performance Analysis Report**

**🔹Summary**

This analysis evaluates vendor performance based on profitability, sales, inventory turnover, freight costs, and procurement dependency. Several key problems were identified, including **loss-making vendors, freight inefficiencies, vendor dependency risk, bulk purchasing challenges, inventory capital lock, and profitability gaps**.  
The solutions focus on **vendor scorecards, demand forecasting, procurement diversification, freight optimization, and strategic vendor management.**

**🔹Key Business Problem As per RD:-**

**1. Profitability Issues: Negative & Zero Values**

* **Findings:**
  + Gross Profit recorded values as low as **–52,002.78**, indicating transactions at a loss.
  + **Profit Margin** sometimes dropped to –∞, due to revenue being lower than purchase cost or even zero.
  + Several products had **zero sales quantity**, meaning purchases were made but not sold.
* **Business Impact:**
  + Direct financial losses from unprofitable sales.
  + Working capital tied up in unsold inventory.
  + Misleading profitability metrics if such vendors are ignored.
* **Recommendations:**

1. Enforce **profit margin floors** (no sale below cost unless approved for clearance).
2. Track and dispose of **unsold inventory** using discounts, bundles, or vendor return agreements.
3. Maintain a **dual dataset approach**:
   * 1. *Clean Dataset* → for benchmarking best vendors.
     2. *Full Dataset* → to monitor risk vendors and prevent hidden losses.

**2. Price, Freight, and Stock Turnover Variability**

* **Findings:**
  + Purchase prices varied from **24.39 avg → 5,681.81 max**, selling prices up to **7,499.99**.
  + **Freight costs** fluctuated between **₹0.09 and ₹257,032**, highlighting logistics inefficiencies.
  + **Stock turnover** ranged from 0 (dead stock) to 274 (fast stockouts).
* **Business Impact:**
  + Unstable freight reduces profit predictability.
  + Overstocking leads to dead inventory, while understocking risks lost sales.
  + Vendor pricing inconsistencies make cost planning difficult.
* **Recommendations:**

1. **Vendor Freight Optimization:** Standardize shipping contracts and consolidate orders to reduce volatility.
2. **ABC Inventory Classification:**
   * 1. Class A: Fast-movers → Ensure continuous availability.
     2. Class B: Medium turnover → Balanced strategy.
     3. Class C: Slow-movers → Restrict procurement, apply liquidation policies.
3. Implement **dynamic reorder policies** linked to turnover data instead of fixed stock levels.

**3. Correlation Insights & Root-Cause Problems**

* **Findings:**
  + **Purchase ↔ Actual Price (0.99):** Suppliers strongly influence pricing; risk of over-dependence.
  + **Gross Profit ↔ Profit (0.98):** Profits depend almost entirely on gross margins, leaving little buffer.
  + **Freight Cost ↔ Profit (–0.81):** Freight is a major profitability drag.
  + **Profit Margin ↔ Sales/Purchase Ratio (0.42):** Excess purchases without sales reduce margins.
* **Business Impact:**
  + Procurement inefficiency (over-purchasing without matching demand).
  + Profit vulnerability to supplier and freight costs.
* **Recommendations:**

1. Strengthen **supplier negotiations** for better pricing control.
2. Deploy **demand-driven procurement**: align purchases with real-time demand forecasts.
3. Apply **cost-to-serve analysis**: measure profit after including freight, handling, and hidden logistics costs.

**4. Vendor & Brand Performance Gaps**

* **Findings:**
  + Some vendors have **high margins but low sales** (premium pricing, poor reach).
  + Others have **high sales but low margins** (competing heavily on price).
* **Business Impact:**
  + Over-reliance on high-volume/low-margin vendors exposes business to margin risk.
  + High-margin vendors not achieving scale → lost revenue opportunities.
* **Recommendations:**

1. **High Margin–Low Sales Vendors:** Boost visibility with promotions, marketing campaigns, and stronger distribution.
2. **High Sales–Low Margin Vendors:** Improve margins via renegotiated procurement costs, dynamic pricing, and selective bundling.
3. Regularly update a **Vendor/Brand Performance Matrix** to segment and act accordingly.

**5. Procurement Dependency Risk**

* **Findings:**
  + A significant share of procurement depends on a handful of top vendors.
* **Business Impact:**
  + High risk of disruption if one vendor fails (supply chain breakdown, price increase, or contractual issues).
* **Recommendations:**

1. **Diversify supplier base** by onboarding alternatives and secondary vendors.
2. Introduce **Vendor Performance Scorecards** to compare across quality, cost, reliability, and lead time.
3. Reduce concentration risk by limiting procurement exposure per vendor (e.g., not more than 25%).

**6. Bulk Purchasing & Inventory Risk**

* **Findings:**
  + Bulk orders reduce cost per unit by ~72%, but increase inventory holding risk.
  + Small orders are 3x costlier, but safer for uncertain demand items.
* **Business Impact:**
  + Bulk buying locks working capital and risks dead stock.
  + Small orders raise per-unit cost, hurting margins.
* **Recommendations:**

1. Use **bulk buying only for high-demand products** with consistent turnover.
2. For uncertain/slow movers, apply **Just-In-Time (JIT)** procurement.
3. Combine bulk purchase with **flexible warehousing** to avoid overstocking at main facilities.

**7. Inventory Turnover & Locked Capital**

* **Findings:**
  + Vendors with low turnover contribute heavily to unsold stock.
  + Substantial **capital is locked in non-moving items**, reducing liquidity.
* **Business Impact:**
  + Tied-up capital reduces ability to invest in high-performing products/vendors.
  + Warehouse space wasted on dead stock.
* **Recommendations:**

1. Apply **turnover-based vendor penalties** or performance-linked agreements.
2. Negotiate **buyback clauses** for slow-moving inventory.
3. Run **inventory clearance campaigns** for aging stock.

**8. Profit Margin Differences Between Vendor Segments**

* **Findings:**
  + Low-performing vendors had **higher profit margins (40–42%)** but low sales.
  + Top-performing vendors had **lower margins (30–31%)** but higher sales volumes.
* **Business Impact:**
  + High-volume/low-margin vendors → scale but weak profitability.
  + Low-volume/high-margin vendors → profitability but underutilized sales potential.
* **Recommendations:**
  1. **For Top Vendors (High Sales–Low Margin):**
     1. Reduce procurement costs,
     2. Explore selective price increases,
     3. Bundle products to raise per-transaction value.
  2. **For Low Vendors (Low Sales–High Margin):**
     1. Expand reach through better marketing,
     2. Lower prices slightly to boost sales without eroding margin advantage.

**Final Strategic Recommendations:**

1. **Establish a Vendor Performance Dashboard** with KPIs: Profitability, Freight %, Turnover, and Margin Stability.
2. **Diversify Procurement Base** to reduce dependency on a few vendors.
3. **Optimize Logistics Contracts** to minimize freight-driven margin loss.
4. **Adopt Demand Forecasting & Inventory Optimization** tools (e.g., ABC + JIT).
5. **Balance Bulk Buying vs. Cash Flow** with predictive analytics.
6. **Actively Manage Vendor Relationships** via scorecards, SLAs, and renegotiations.
7. **Implement Capital Unlock Strategy**: actively monitor unsold inventory and reduce financial blockage.

**🔹Conclusion:**  
The business is currently losing efficiency due to unprofitable vendors, logistics inefficiencies, and inventory mismanagement. However, by **applying vendor scorecards, diversifying suppliers, optimizing freight, and adopting smarter inventory policies**, the company can significantly improve profitability and reduce risk.