

# Procurement Cost & Supplier Performance Analysis-Project Report

## 1. Project summary

This project aims to emulate procurement analysis for a construction company. Within the remit of supplier performance management, spend analysis, bid analysis and material price forecasting, the aim was to generate actionable insights from mock datasets and leverage procurement analytical skills in Excel.

## 2. Step by step analysis

### 2.1 Purchase order analysis

we reviewed (20) purchase orders placed with (5) suppliers, for (6) materials (Cement, Gravel, Steel, Bricks, Pipes, Sand). The dataset offered order purchases, order quantities, unit prices, expected delivery dates, as well as actual delivery dates. We calculated delay (if applicable) as a logical flag, and day difference, to assist with the performance review of off-cycle orders regarding the expected and actual delivery dates.

What was done:

- ❖ Delayed in days was calculated using Expected\_Delivery and Actual\_Delivery
- ❖ Flags were assigned to either be On-Time or Delayed (binary flag)
- ❖ Order distribution was undertaken per material and per supplier.

What we found:

- ❖ Approximately 48% were delivered on-time (10 orders delivered out of 21 orders).
- ❖ SUP01 was perfect with 100% on-time for 4 orders.
- ❖ SUP05 had a few delayed orders including one for Cement and one for Recycled Bricks, totalling multiple delayed orders as it was the top-spend supplier.
- ❖ Cement had the highest number of total orders (7) which lends credence to its importance in the procurement priorities.
- ❖ Averaged delay over the late deliveries indicated between 1–2 days (minor but regular slippage)

### Key points

- ❖ SUP03 and SUP05 delivery performance was not consistent at all.
- ❖ SUP01 had low prices for cement and had no delays but had fulfilled less order volumes.

### Recommendations

- ❖ Consider increasing the order counts to SUP01 for Cement as it has ordered reliably (although low volume) with competitive pricing.
- ❖ Engage SUP05 and SUP03 to determine the root cause of reoccurring delays and enforce strict delivery performance SLA's.
- ❖ Track and publish each supplier OTIF (On-Time-In-Full) regularly/monthly to drive accountability.

## 2.2 Spending Overview

We compiled a total spend per material and per supplier. Cement had the most overall total spend followed by Steel. We also reviewed unit prices paid against market averages to highlight instances of overpayments.

### Observations:

- ❖ The overall total spend of Cement was €29,207.25.
- ❖ SUP05 was the highest total spent supplier, with €26,389.31 total.
- ❖ SUP01 was consistently less than the market price on Cement, with unit prices starting at €2.88.
- ❖ SUP05 was priced at €5.38/unit for Cement, approximately 9.00% higher than the average market rate of €4.95.
- ❖ Steel and Pipes had the highest average over-market rates at 7.51% and 6.66% respectively.

### Recommendations:

- ❖ Consolidate high volume orders of Cement with lower-cost suppliers like SUP01.
- ❖ Ensure SUP05 pricing for Cement is evaluated in the next contracted cycle.
- ❖ Examine other vendors for high-volume low-cost items like Steel to reduce over-market cost.

## 2.3 Supplier KPI Dashboard

In this task we developed a dashboard to help assess supplier performance from various views with KPI's including:

- ❖ % On-Time Delivery
- ❖ Average Delay (days)
- ❖ Total Spend
- ❖ Cost Per Order
- ❖ Risk rating [based on delivery/delay criteria]

### Observations:

- ❖ SUP05 was highest spend supplier but lowest on-time rate (25%)
- ❖ SUP03 had high delay and poor on-time performance (33.3%)
- ❖ SUP01 was the most reliable supplier, 75% on-time and no delays
- ❖ Risk ratings varied based on the criteria. SUP03 and SUP05 were flagged as high risk even with larger order volumes.

### Recommendations:

- ❖ SUP03 and SUP05 should be questioned for future orders, unless performance levels improve.
- ❖ Prefer SUP01 or medium-risk suppliers (SUP02) with improved delivery reliability.

## 2.4 Bid Comparisons

Three quotes for steel were reviewed and compared across (price, lead time, warranty and compliance). A weighted scoring matrix was used for evaluation of offers.

### Observations:

- ❖ SUP05 offered the lowest price at (€2.85) and lead time (4 days), but no compliance documentation and a score of (4) lowest.
- ❖ SUP03 had overall highest score (7) for long warranty (12 months); however, was also the longest lead time (8 days) and no compliance documents.
- ❖ SUP02 in addition to being the only compliant supplier had a balanced offer with average price and score.

### Recommendations:

- ❖ The selection of SUP05 needs to be reconsidered. If compliance is a critical requirement, I would actively consider SUP02 as a modestly balanced compliant supplier. However, I would continue to reconsider the weighting of price vs compliance in our scoring criteria for any future RFQ's.

## 2.5 Forecasting for Material Costs

Historical monthly prices were used to estimate projected short-term price trends for Cement, Steel and Gravel as an approach to give early direction to contract pricing and budgeting timelines using the FORECAST.ETS function in Excel.

### Process:

- ❖ Input: 7 days of price history for each material.
- ❖ Formula: =FORECAST.ETS (target date, known values, known times) applied for a out to 5 future periods.
- ❖ Output: 5-day forward price projection for each material.

### Results:

#### Cement

- ❖ Prices are projected to decline at a consistent rate from €4.95 and will settle at €4.41 per unit.
- ❖ Stable market with moderate deflation.

#### Steel

- ❖ Price fluctuations are projected to peak at €6.91 and decline to €4.84 over the 7-day projection.
- ❖ Indicates volatility and pricing pressure.

## **Gravel**

- ❖ Forecast increases from €4.42 to €4.88 over 5-day period.
- ❖ Continuously increasing trend and lower slope.

### **Recommendations:**

- ❖ Cement: Lock in contract pricing early while trend is moving positively.
- ❖ Steel: Monitor pricing on a weekly basis. If purchase is greater than what is normally purchased, wait until price stabilizes.

## **2.6 Documentation & SOP Checklist**

A standardized checklist was developed to identify documentation required through all procurement stages. Also added folder naming convention and compliance points to assist future process audit.

### **Recommendation:**

- ❖ Implement this SOP for internal workflows so there is consistency, traceability, and audit readiness.

## **3. Key Learnings**

- ❖ Cement accounts for highest spend and is showing signs of price volatility.
- ❖ Vendor delivery performance varies significantly across suppliers.
- ❖ Bid scoring metric helps with selection objectivity.
- ❖ Forecasting tools improve procurement planning approaches.

## **4. Recommendations**

- ❖ Renegotiate material pricing for items that are above market average.
- ❖ Lower reliance on high-risk and/or low performing suppliers.
- ❖ Use bid scoring sheets for all supplier evaluations moving forward.
- ❖ Utilize forecasting trends to make more strategic and cost-saving purchases.
- ❖ Utilize SOP templates to ensure records are enforceable with standardized documentation.

## **5. Next Steps**

- ❖ Continue analysis on other materials and historical PO data.
- ❖ Create a KPI dashboard from real-time report using Power BI or Google Data Studio.
- ❖ Use Power Query or basic VBA scripts to automate Excel tracker.