

Senior financial analyst

- Key responsibilities Assist in the preparation of financial analysis of actual, forecast and budget figures and identify key trends as appropriate.
- Scenario: In July, the EMEA SG&A was €2.8M vs a forecast of €2.5M, an unfavorable variance of €300k.
- Analysis: You drill down and find the variance is driven by:
 - +€150k in Travel & Entertainment (T&E) in the Site Management group.
 - +€100k in Professional Fees in the Regulatory group.
 - +€50k in IT Software licenses across all groups.

```
import pandas as pd
```

```
csv_data = pd.read_csv('sga_data.csv')
```

csv_data

	Month	Country	Cost_Center	Account_Name	Actual_EUR	Forecast_EUR
0	2023-07	Germany	SM_DE	T&E	250000	150000
1	2023-07	Germany	REG_DE	Professional Fees	50000	40000
2	2023-07	UK	SM_UK	T&E	100000	50000
3	2023-07	UK	REG_UK	Professional Fees	150000	60000
4	2023-07	France	CL_FR	IT Software	75000	50000
5	2023-07	France	SM_FR	Salaries & Wages	800000	810000

```
def analyze_sga_variance(csv_data):
    """
    Analyzes SG&A data to identify and summarize key variances.

    Args:
        csv_data (str): A string containing the CSV data.

    Returns:
        pandas.DataFrame: A summary of variances by account name.
    """
    # Read the CSV data into a DataFrame
    df = pd.read_csv('sga_data.csv')

    # Calculate variance
    df['Variance_EUR'] = df['Actual_EUR'] - df['Forecast_EUR']

    # Group by account name to see the biggest drivers globally
    sga_summary = df.groupby('Account_Name')[['Actual_EUR', 'Forecast_EUR', 'Variance_EUR']].sum()

    # Sort by the absolute variance to see the biggest impacts (positive or negative)
    sga_summary = sga_summary.reindex(sga_summary['Variance_EUR'].abs().sort_values(ascending=False).index)

    print("---- SG&A Variance Analysis Summary ----")
    return sga_summary
```

```
sga_report = analyze_sga_variance(csv_data)
print(sga_report)
```

	Actual_EUR	Forecast_EUR	Variance_EUR
Account_Name			
T&E	350000	200000	150000
Professional Fees	200000	100000	100000
IT Software	75000	50000	25000
Salaries & Wages	800000	810000	-10000

What is the data telling us:

- T&E is €150k over forecast, and Professional Fees are €100k over.
- The €150k T&E overspend in Site Management was a deliberate investment to get key sites activated few weeks ahead of schedule for the new trial. This proactive spending accelerates patient recruitment and could lead to millions in early revenue.
- The Professional Fees spike is due to a new regulatory requirement in Germany; we should evaluate if this is a recurring cost and budget for it going forward."

Understanding Why

We analyze SG&A not just to cut costs, but to ensure our resources are deployed effectively. It's about investment efficiency. Is our spending driving growth and operational excellence, or is it waste?

Storytelling with Data

```

# Prepare data for the waterfall chart
# We need to start with the Forecast value, then add the individual variances.
# Let's take the first 5 largest variances as the main components, and group the rest into "Other".

# Calculate the total forecast
total_forecast = sga_report['Forecast_EUR'].sum()

# Sort the variances by absolute value and take the top N
top_n = 5
top_variances = sga_report['Variance_EUR'].sort_values(key=abs, ascending=False).head(top_n)

# Calculate the 'Other' variance
other_variance = sga_report['Variance_EUR'].sum() - top_variances.sum()

# Create the labels for the chart
labels = ['Total Forecast'] + top_variances.index.tolist() + ['Other', 'Total Actual']

# Create the measures for the chart
# The first measure is 'absolute' for the total forecast
measures = ['absolute'] + ['relative'] * (len(top_variances) + 1) + ['total']

# Create the delta values for the chart
# The first value is the total forecast
delta_values = [total_forecast] + top_variances.tolist() + [other_variance, sga_report['Actual_EUR'].sum()]

# Create the trace for the waterfall chart
fig = go.Figure(go.Waterfall(
    name="SG&A Variance",
    orientation="v",
    measure=measures,
    x=labels,
    textposition="outside",
    text=[f"{v:,.0f}" for v in delta_values],
    y=delta_values,
    connector={"line": {"color": "rgb(63, 63, 63)"}}),
))

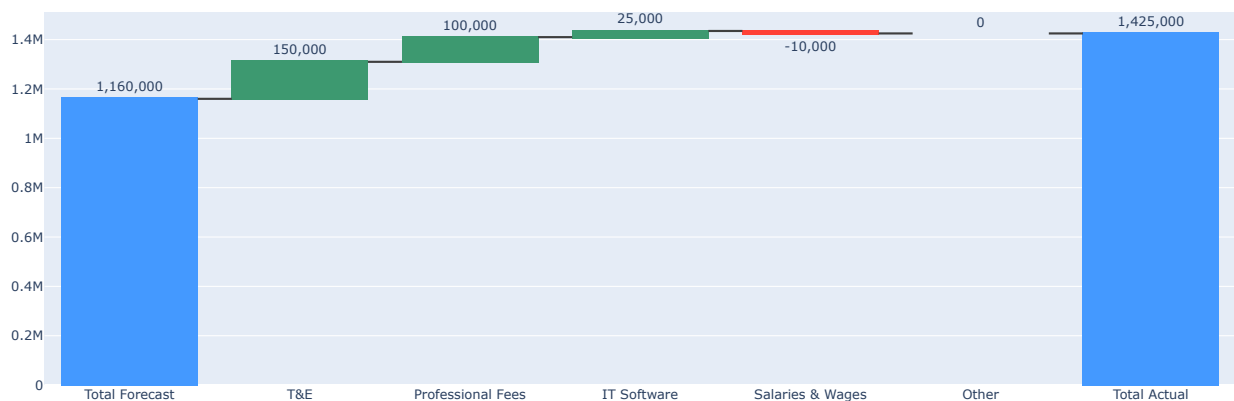
fig.update_layout(
    title="SG&A Variance Waterfall Chart",
    showlegend=False
)

fig.show()

```



SG&A Variance Waterfall Chart



Insights

For July, our SG&A story isn't about overspending; it's about strategic investment. As you can see on this waterfall chart, while our total variance was €300k, two key items drove this: a successful push to accelerate site on opening on schedule, and a necessary response to new regulations. These actions protect and accelerate our revenue, demonstrating proactive, not reactive, financial management.