Building sensitive forecast models and common forecast assumptions

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Victoria Clark
CGMA Financial Analyst

Considerations when forecasting

- Correctly interpret data
- Account for changes in data
- Account for interlinked variables
  - Dependencies
  - Sensitivities
- Set assumptions

Assumptions

- "Best guess" based on data available
- Set at the beginning of a forecast process
- Used to drive forecasting
- Can be directly controlled
- Can be indirectly controlled
  - Outside control of company

Different types of Assumptions

- Probability
  - Weighted
- Market sentiment
- Demand and supply

Working with pairs in Python

Using Combined Lists

Outcome	Probability (%)
1	30
2	20
3	50

```
outcome_probability = ['1|0.3', '2|0.2', '3|0.5']
```

Define a Python Function

Define a dependency or sensitivity formula

- Prevent duplication of work and errors

```
def assumption1()
  if marketsentiment = 0.3:
    sales + sales*0.1
  else
    sales
```

Let's practice!

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Dependencies and sensitivity in financial forecasting

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Explaining forecasting dependencies and sensitivities

- Interlinked variables
- Changing one variable has a knock-on effect on other variables

Working with dependencies and sensitivities in Python

```
if x = 0:
   x_costs + y_costs
 else
   x_costs
```

- Expect rush orders
- Increases delivery costs by 10%

```
if month = December:
   delivery_costs + delivery_costs*0.1
 else
   delivery_costs
```

Let's practice!

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Working with variances in the forecast

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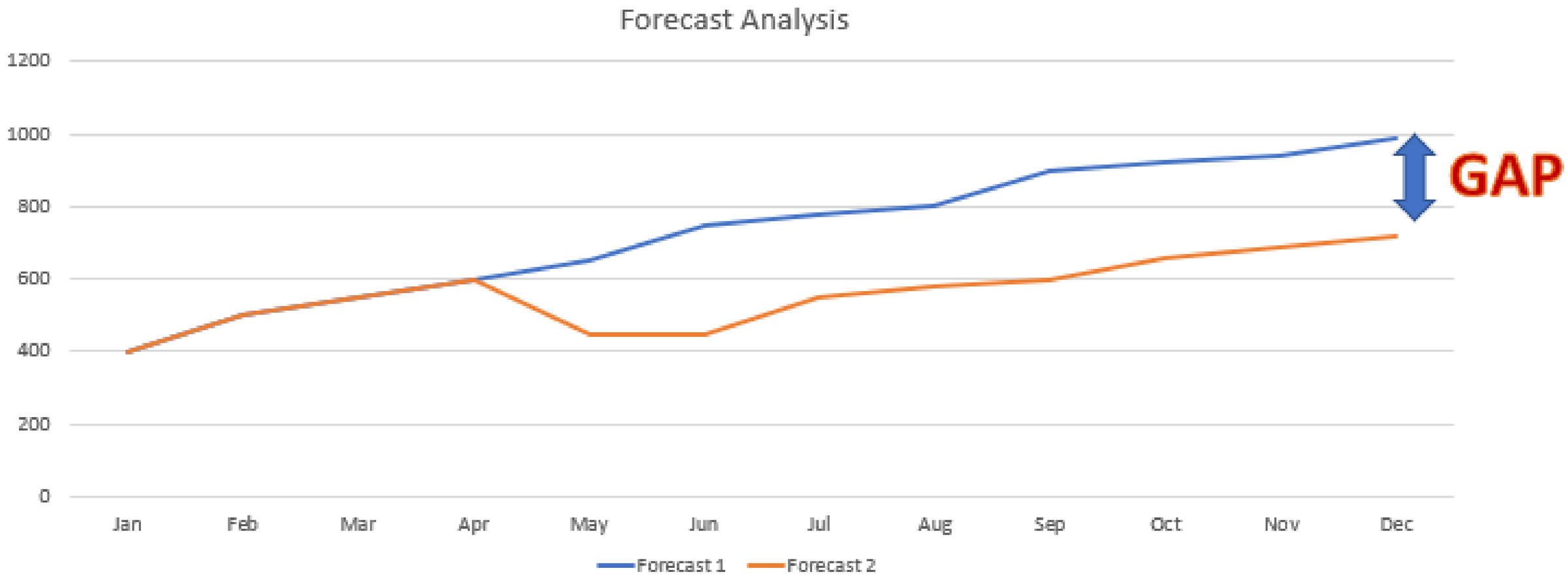
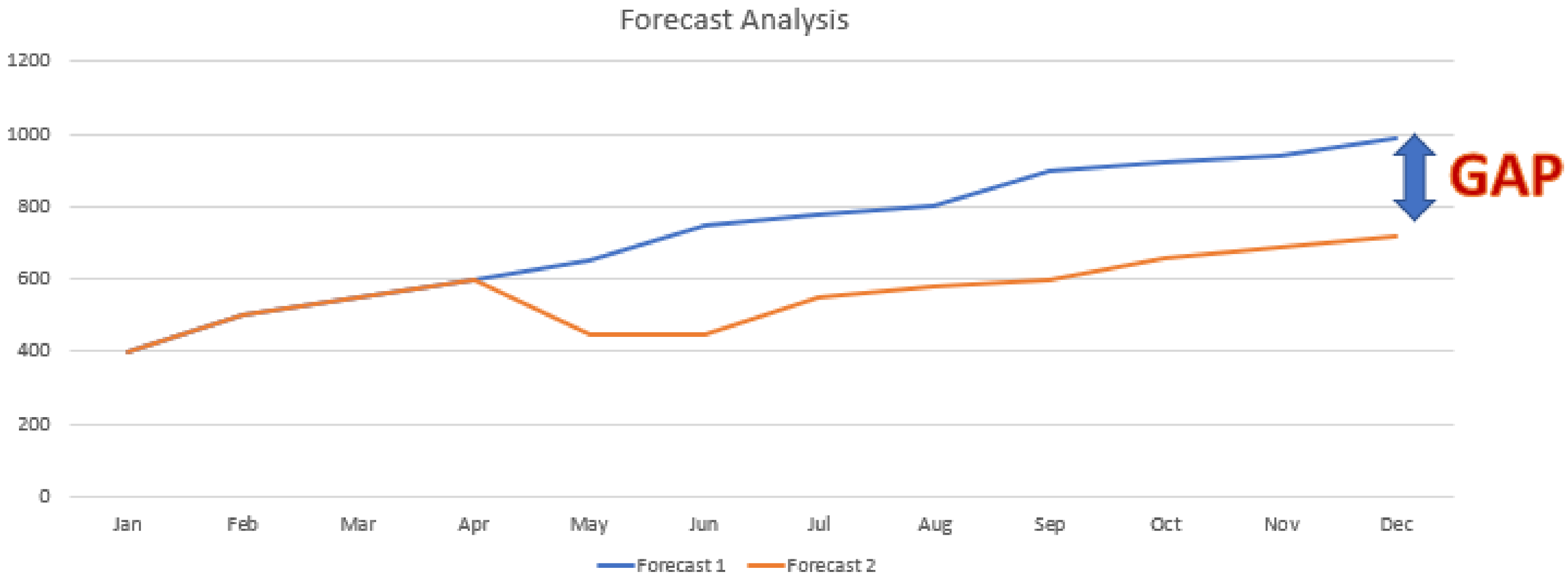
CGMA Financial Analyst

datacamp

What are variances?



A gap analysis



Gap analysis and alternative forecasts

```
rollingforecast1 = 1200
# First 6 months
sales = 300
# The first dependency has 120 units
dependency1 = 120
units = 30
expected_units = 45
# The adjusted dependency
dependency2 = units + expected_units
dependency
```

```
75
```

Congratulations!

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