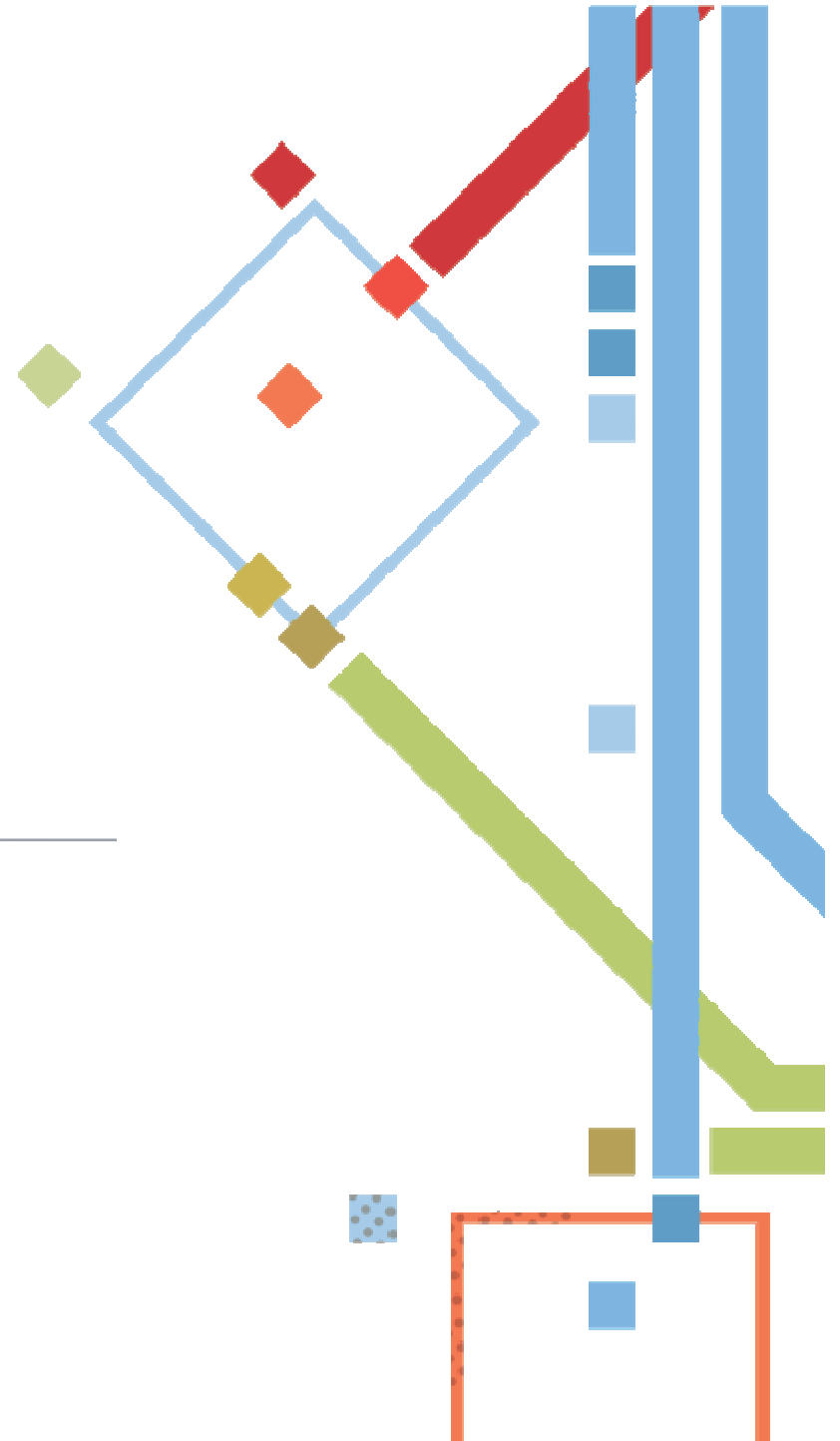


# Mastering forecasting

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## Practice and principles



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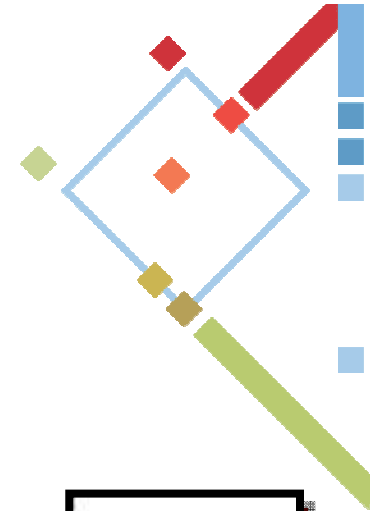
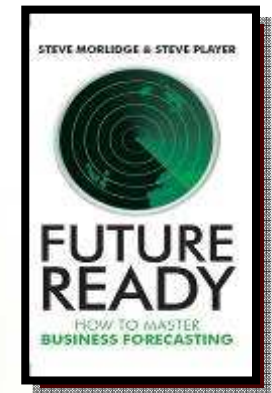
Anticipate and shape business outcomes

## Pierre Guillaume

Pierre has more than 25 years of experience as a management consultant and specializes in cost management, advanced planning and budgeting, and business strategy development. Pierre has been responsible for cost, performance management, planning and budget systems, and strategic information systems implementations for clients in a variety of industries in the North America, Europe, and Asia.

Pierre is the President of Beyond EPS Advisors, a Dallas-based consulting firm associated with the BBRT, which he co-formed after leaving Capital One where he ran the cost budgeting, forecasting and planning function. Prior to Capital One, Pierre was the North-East Region Strategic Cost and Performance Management Practice leader with Arthur Andersen.

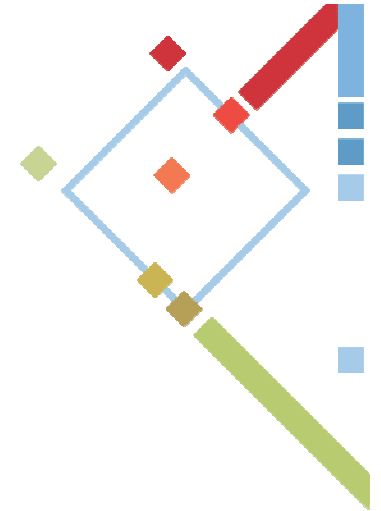
Pierre 's work in the field of performance management has been documented and recognized by a number of Harvard Business School case studies. Pierre is a frequent speaker on advanced costing, planning and business strategy. He has also taught accounting and financial management at the Université de Paris and business strategy at the Centre de Perfectionnement aux Affaires in Paris.



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***“It’s awful. Why did no one see it coming?”***



Queen Elizabeth II

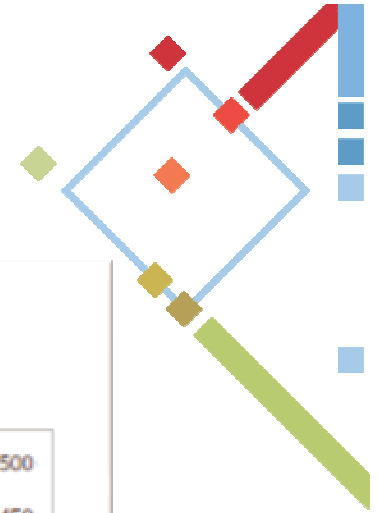
London School of Economics

Bonfire Night 2008

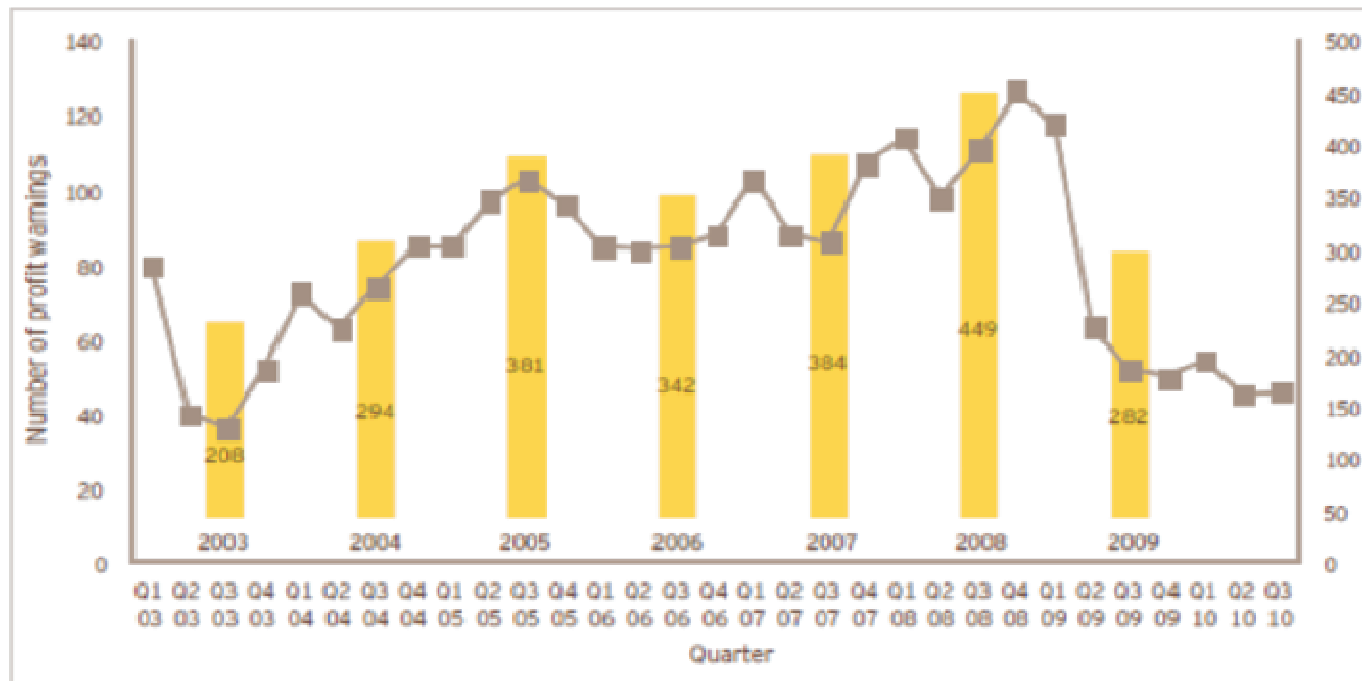
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## UK profit warnings



Number of profit warnings issued by UK quoted companies, Q1 2003 - Q3 2010



Average market cap

FTSE 100	£10.0B
All quoted (1400)	£1.2B

Impact of warning: **10% to 20%**

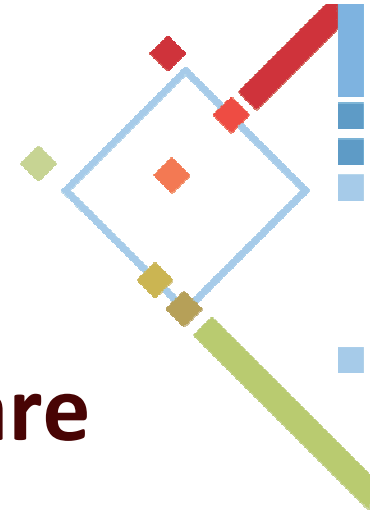


Source: Ernst & Young 2010

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TOP EXTERNAL CONCERNS		TOP INTERNAL CONCERNS	
RANK (previous quarter)		RANK (previous quarter)	
<b>EUROPE</b>		<b>EUROPE</b>	
1 (1)	Consumer demand	1 (2)	Ability to forecast results
2 (3)	Financial/banking system	2 (2)	Working-capital management
3 (2)	Credit market/interest rates	3 (3)	Maintaining morale during downturn
4 (4)	Currency volatility	4 (6)	Counterparty risk
5 (7)	Housing market fallout	5 (5)	Balance sheet weakness
6 (NR)	Government policy	6 (7)	Supply chain risk
7 (6)	Foreign competition	7 (4)	Attracting/retaining qualified employees
8 (NR)	Stability of local and central government	8 (8)	Managing IT systems
9 (9)	Financial regulation	9 (10)	Intellectual property protection
10 (10)	Trade policies and agreements	10 (NR)	Data security
<b>UNITED STATES</b>		<b>UNITED STATES</b>	
1 (1)	Consumer demand	1 (1)	Ability to forecast results
2 (2)	Credit markets/interest rates	2 (NR)	Working capital management
3 (4)	New administration and Congress	3 (2)	Maintaining morale during downturn
4 (3)	Housing market fallout	4 (3)	Balance sheet weakness
5 (5)	Financial regulation	5 (4)	Cost of health care
6 (6)	Currency volatility	6 (5)	Attracting/retaining qualified employees
7 (7)	Cost of non-fuel commodities	7 (6)	Supply chain risk
8 (8)	Cost of fuel	8 (7)	Managing IT systems
9 (NR)	Trade policies and agreements	9 (8)	Pension obligations
10 (9)	Foreign competition	10 (9)	Intellectual property protection
<b>ASIA*</b>		<b>ASIA*</b>	
1 (1)	Consumer demand	1 (1)	Ability to forecast results
2 (3)	Credit markets/interest rates	2 (NR)	Working capital management
3 (2)	Currency volatility	3 (3)	Maintaining morale during downturn
4 (7)	Foreign competition	4 (2)	Counterparty risk
5 (NR)	Rise of protectionism in the West	5 (6)	Balance sheet weakness
6 (6)	Cost of fuel	6 (4)	Attracting/retaining qualified employees
7 (5)	Cost of non-fuel commodities	7 (5)	Supply chain risk
8 (NR)	Housing market fallout	8 (7)	Managing IT systems
9 (8)	Financial regulation	9 (9)	Intellectual property protection
10 (9)	Trade policies and agreements	10 (8)	Data security

▲ Increased ▼ Decreased = Same \* New to top ten NR-not ranked

\* Excluding China

SOURCE: BUSINESS OUTLOOK SURVEY BY CFO EUROPE, TILBURG UNIVERSITY AND DUKE UNIVERSITY

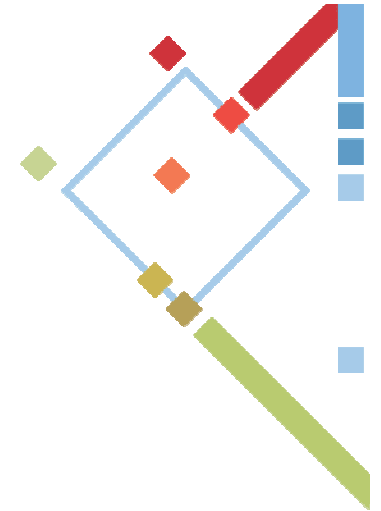
What are CFOs worried about?



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- Millennium Bridge – London
- Opened 2000 / cost GBP 18M
- Closed for 2 years - Excessive movement
- 80 dampeners fitted at a cost of GBP 5M



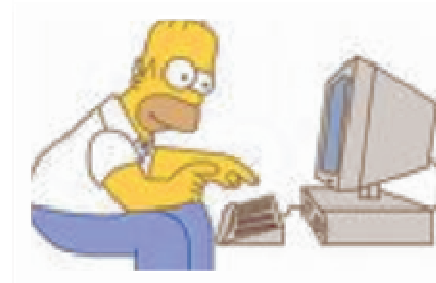
Beyond  
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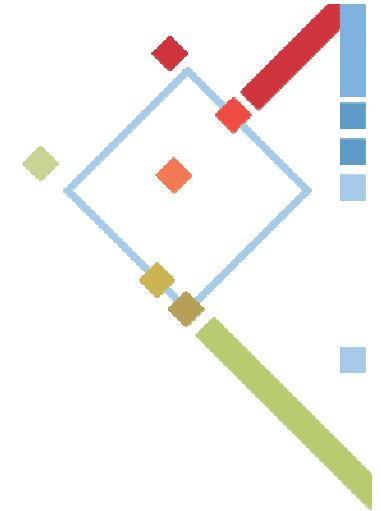
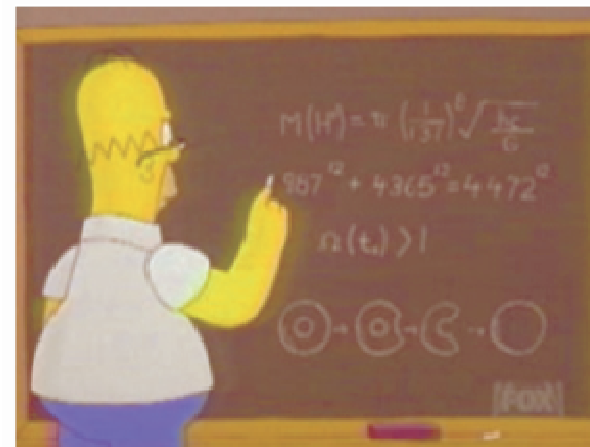
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Another misconception:

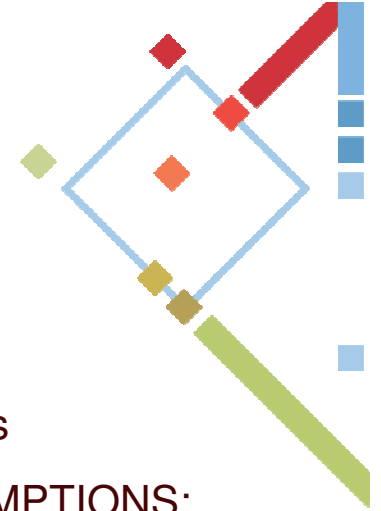
*"It's just common sense."*



*"It's highly specialized."*



## Is it safe to cross the Road?



Speed of cars

PLUS ASSUMPTIONS:

- Change in speed
- Speed of crossing road
- Hidden hazards
- Intentions of driver
- Eyesight of driver
- Road conditions
- Road features
- Our margin of error

..all continuously validated

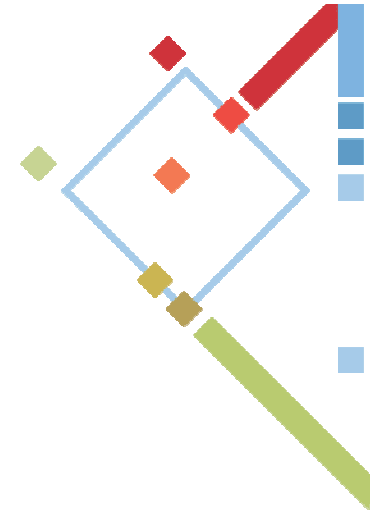


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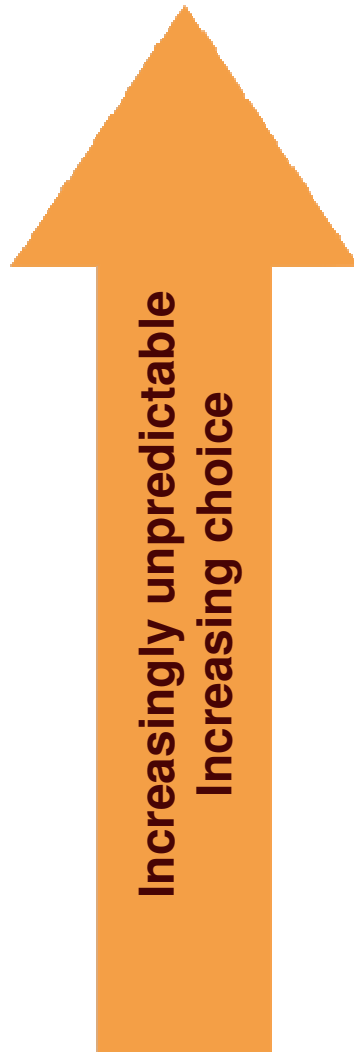
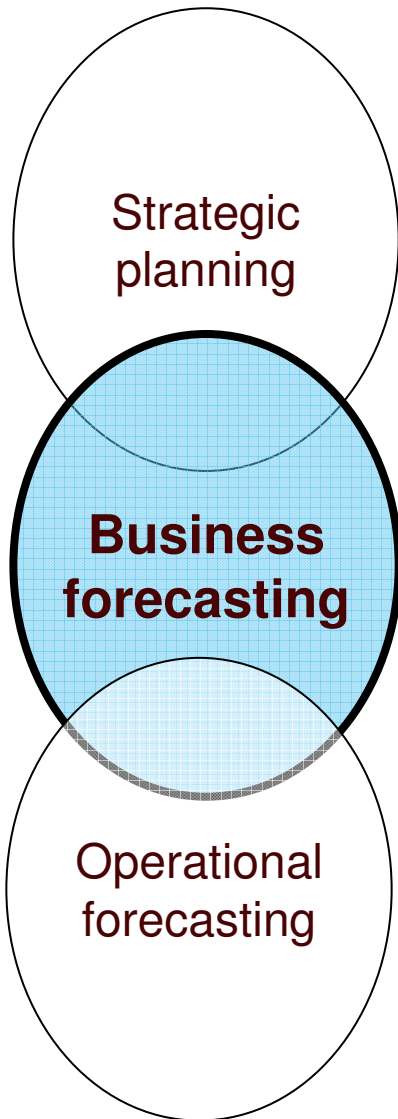
## Mastering forecasting

1. Mastering purpose
2. Mastering time
3. Mastering models
4. Mastering measurement
5. Mastering risk
6. Mastering process



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NOW

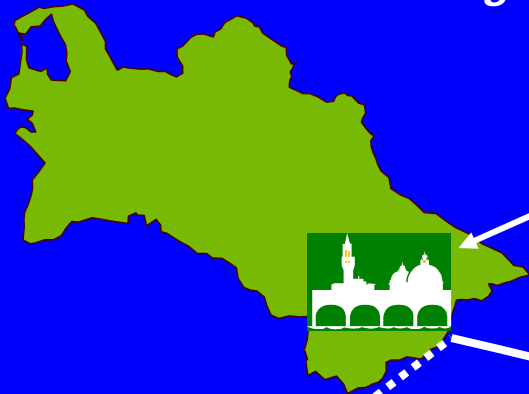


<b>PURPOSE</b>	<b>PROCESS</b>
<p><b>ADAPTATION</b></p> <p><i>How do we structure the business to compete most effectively?</i></p> <p><b>CREATE THE FUTURE</b></p> <p><u>Creating options</u></p>	<p><b>ADAPTATION</b></p> <p><i>Freedom of action Alternative scenarios on a future environment</i></p> <p><b>CREATE THE FUTURE</b></p> <p><i>Broad-brush estimates</i></p>
<p><b>NAVIGATION</b></p> <p><i>How do we deploy our resources to best effect?</i></p> <p><b>SHAPE THE FUTURE</b></p> <p><u>Decision making</u></p>	<p><b>NAVIGATION</b></p> <p><i>Choice of response limited</i></p> <p><b>SHAPE THE FUTURE</b></p> <p><i>Best estimate of what will happen (based on current assumptions) Detailed enough (with ranges)</i></p>
<p><b>RESPONSE</b></p> <p><i>How do we serve demand efficiently?</i></p> <p><b>PREDICT THE FUTURE</b></p> <p><u>Execution</u></p>	<p><b>RESPONSE</b></p> <p><i>Figure out what we</i></p> <p><b>PREDICT THE FUTURE</b></p> <p><i>Prediction of what will happen Detailed forecasts</i></p>

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*Forecasting is about decision making, because...*

*...you first need to work out where you are heading (FORECAST)....*



**TARGET**



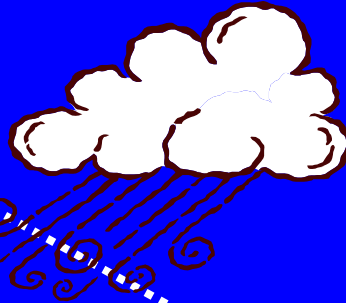
**FORECAST**

*And then what you have to do differently to get back on track. (TARGET)*

**BUDGET**



**QUARTER**



**QUARTER**



*While it is necessary to have a plan ...*



*... the world often turns out different to the way you expected so ...*



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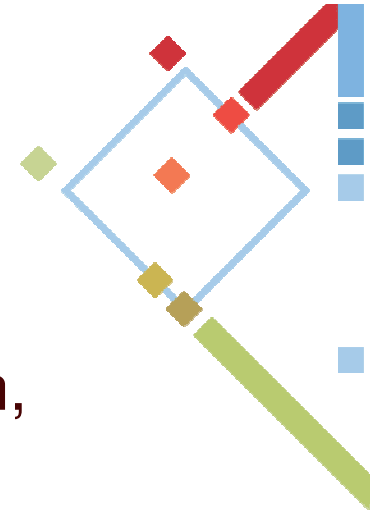
Anticipate and shape business outcomes

## Key concepts:

A **target** is what we would *like* to happen,  
*which we achieve by producing:*

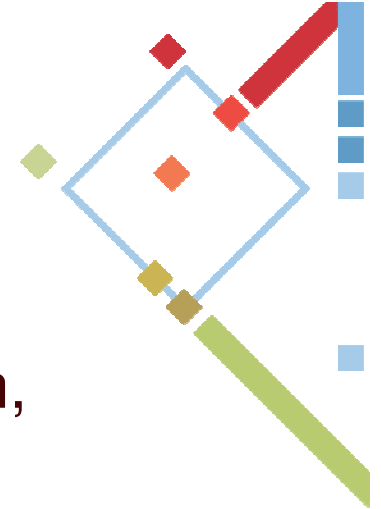
A **forecast** is what we think *will* happen  
*based on:*

A set of **plans**: what we *intend* to do,  
*which we change to achieve our target.*



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## Key concepts:

A **target** is what we would *like* to happen,  
*which we achieve by producing:*

A **forecast** is what we think *will* happen  
*based on:*

A set of **plans**: what we *intend* to do,  
*which we change to achieve our target.*

## Specification for a forecast:

- T** = timely
- A** = actionable
- R** = reliable
- A** = aligned
- C** = cost-effective

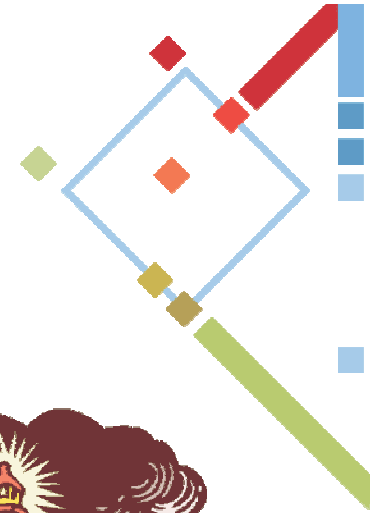
TARAC → CARAT



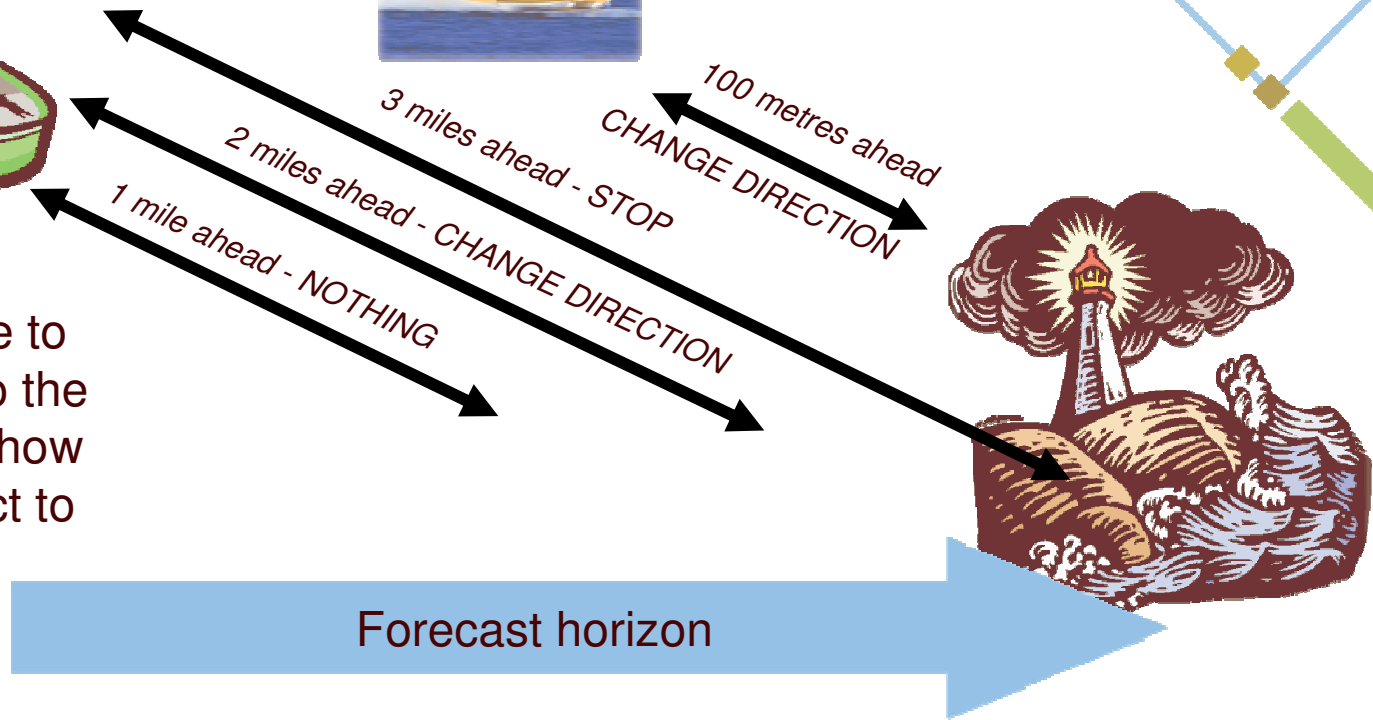
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**T**imely



Our need to be able to forecast, to see into the future, is driven by how quickly we can react to what lies ahead.



(Minimum) decision-making lead time



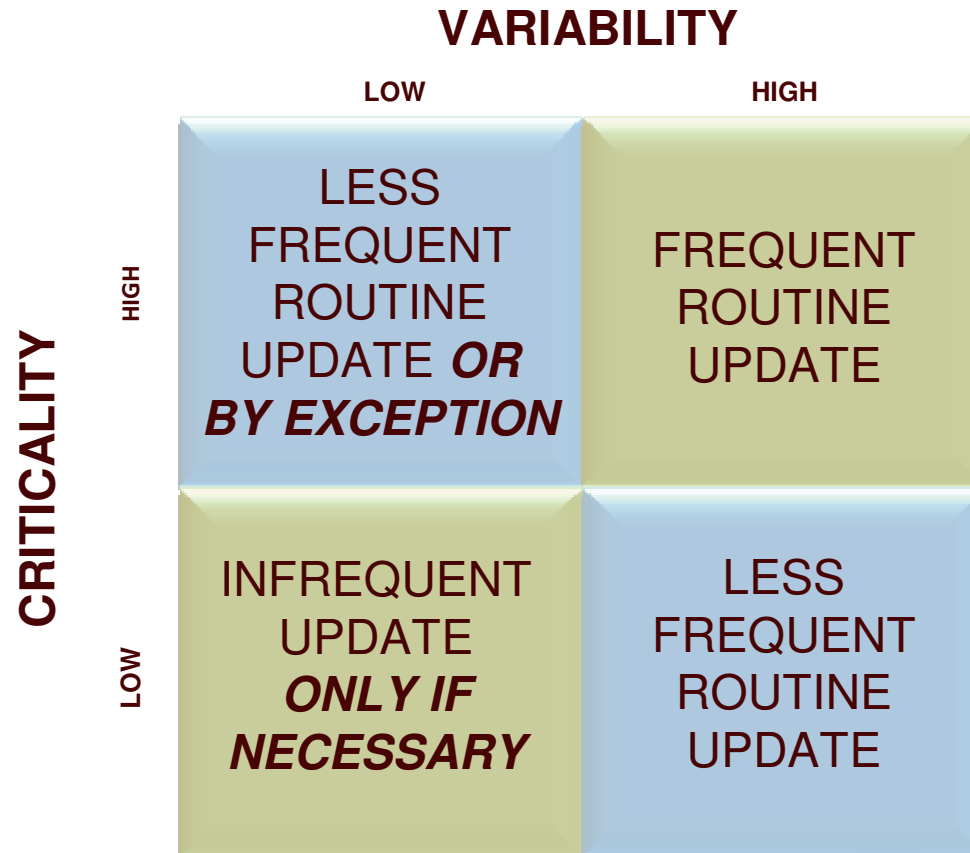
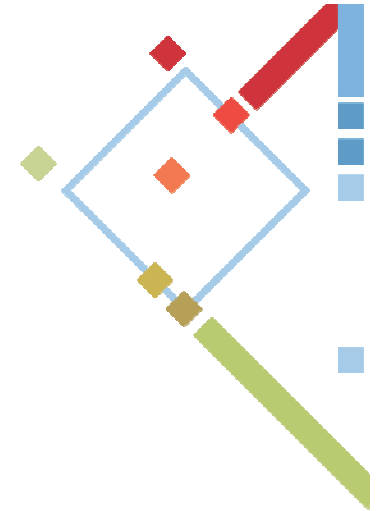
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**T**imely

The frequency at which we forecast is driven by the rate of change in key variables.



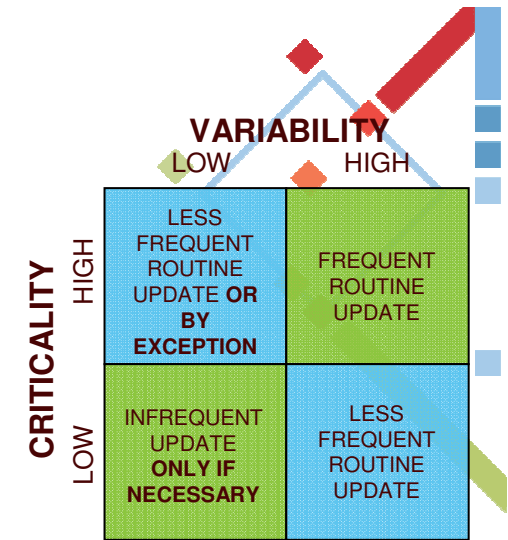
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**T**imely

The frequency at which we forecast is driven by the rate of change in key variables.

	Economic relevance	Variability	Speed of response	Update frequency	Forecast horizon
Revenues	High	High	High	Daily	Quarter
Labor costs	High	Low	Medium	Twice monthly	Six months
Fuel costs	High	High	Medium	Weekly	Quarter
Maintenance spending	Medium	Medium	Medium	Twice monthly	Six months
Advertising spending	Medium	Medium	High	Monthly	Six months
Aircraft ownership costs	Medium	Low	Low	Quarterly	Year
Airport rates and charges	Medium	Medium	Low	Weekly	Six months
Other operating	Medium	Medium	Medium	Twice monthly	Quarter



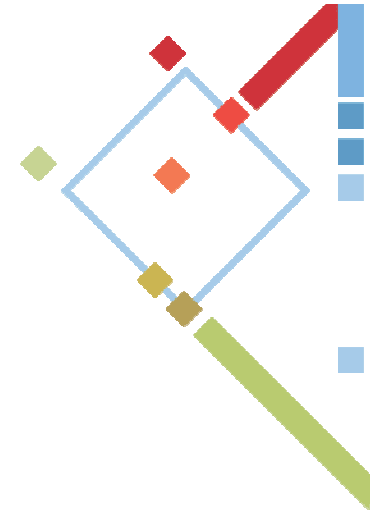


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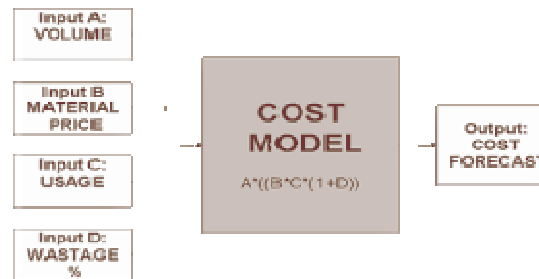
**A**ctionable

Every forecast is based on a model, and different approaches have different strengths and weaknesses.

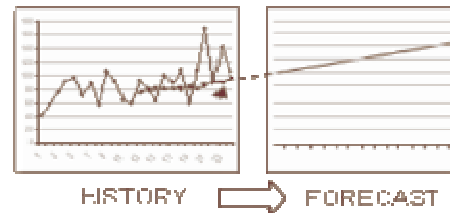


## Three types of model

**Mathematical**



**Statistical**



**Judgmental**

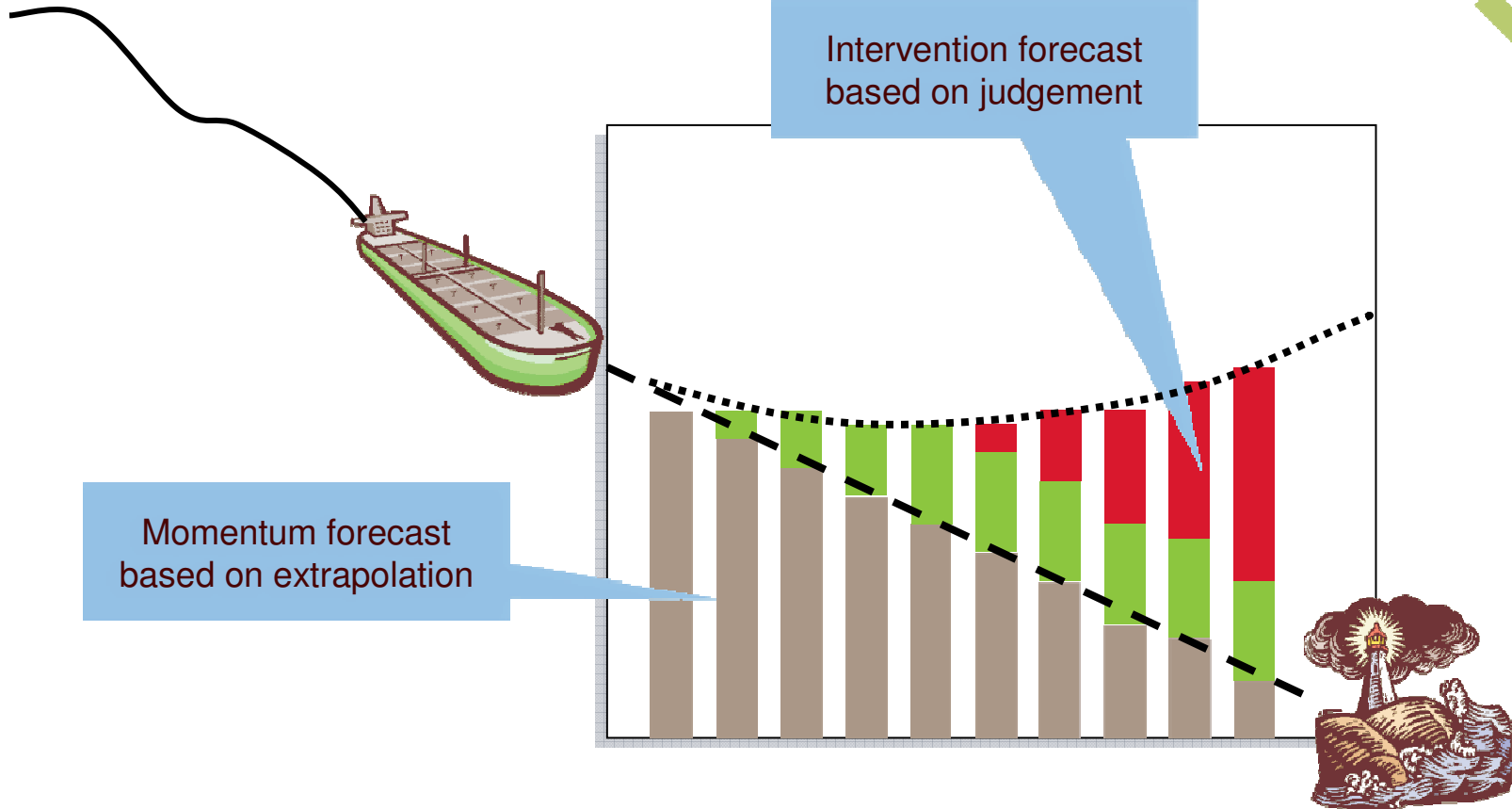
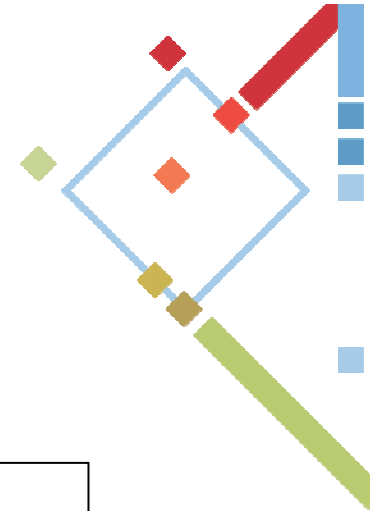


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## **A**ctionable

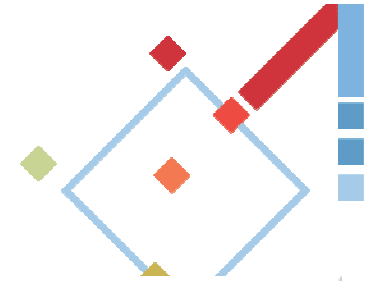
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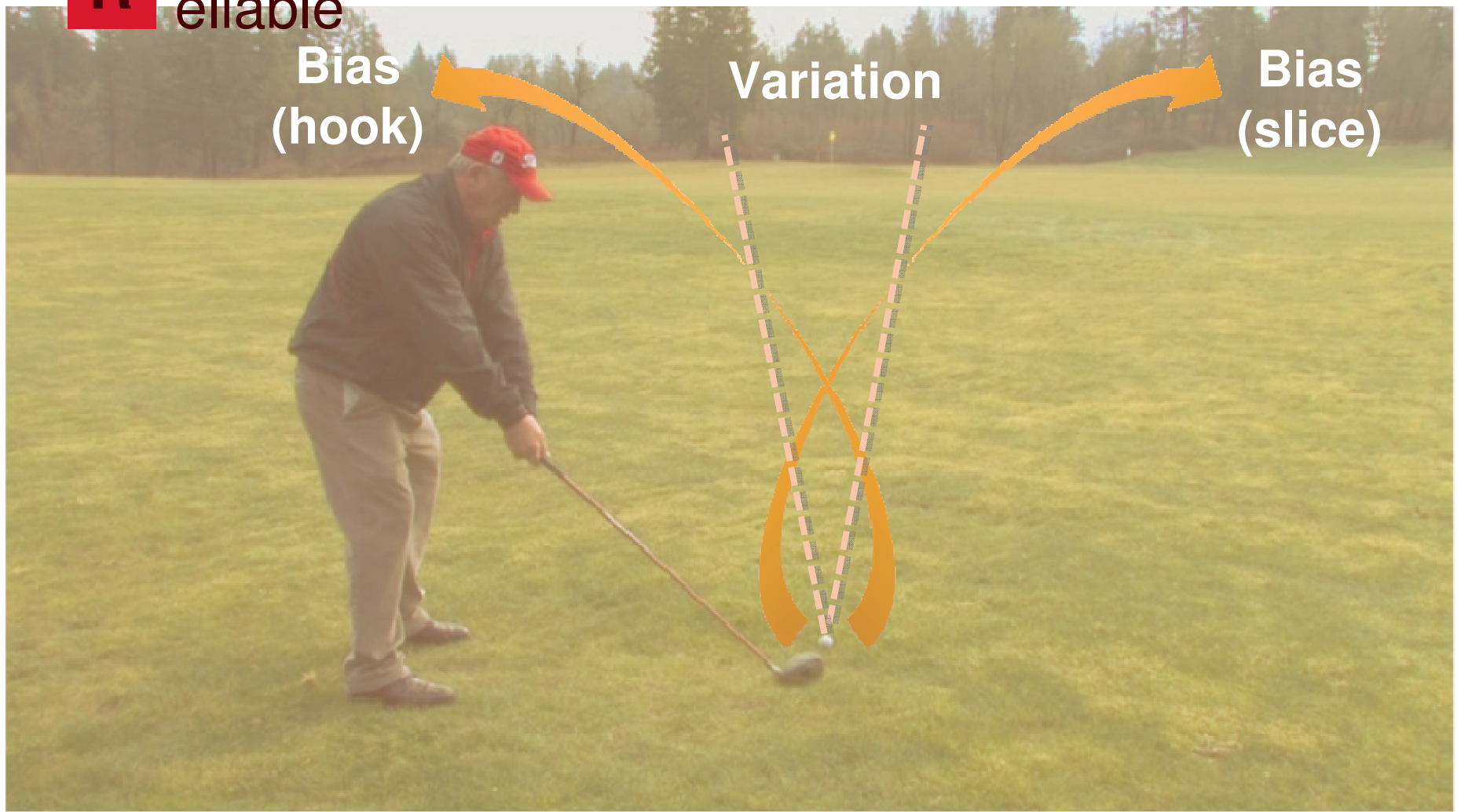
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Forecasts are reliable if they are **unbiased** and have an acceptable level of **variation**.



**R**eliable

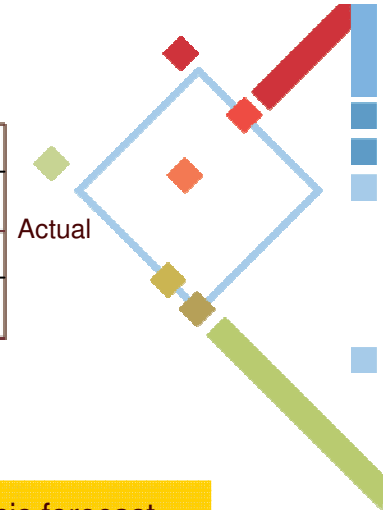
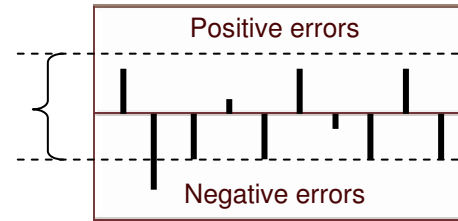


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**R**eliable

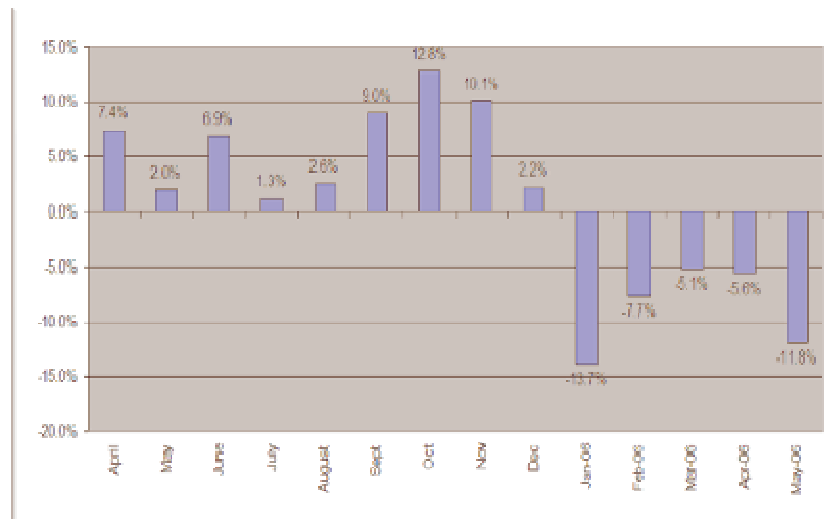
Forecasts are reliable if they are unbiased and have an acceptable level of variation.



	TARGET	ACTUAL
Average net error (bias)	<1%	0.8%
Average gross error (variation)	+/- 5%	<14%

Is this forecast biased?

Is there too much variation?

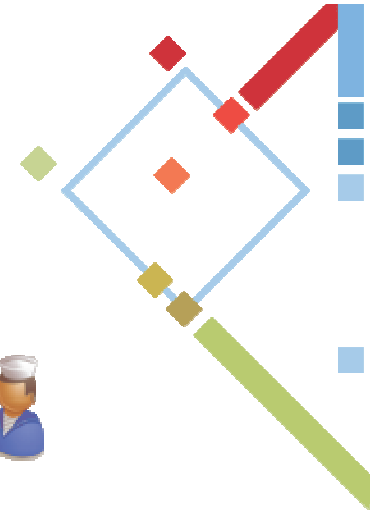
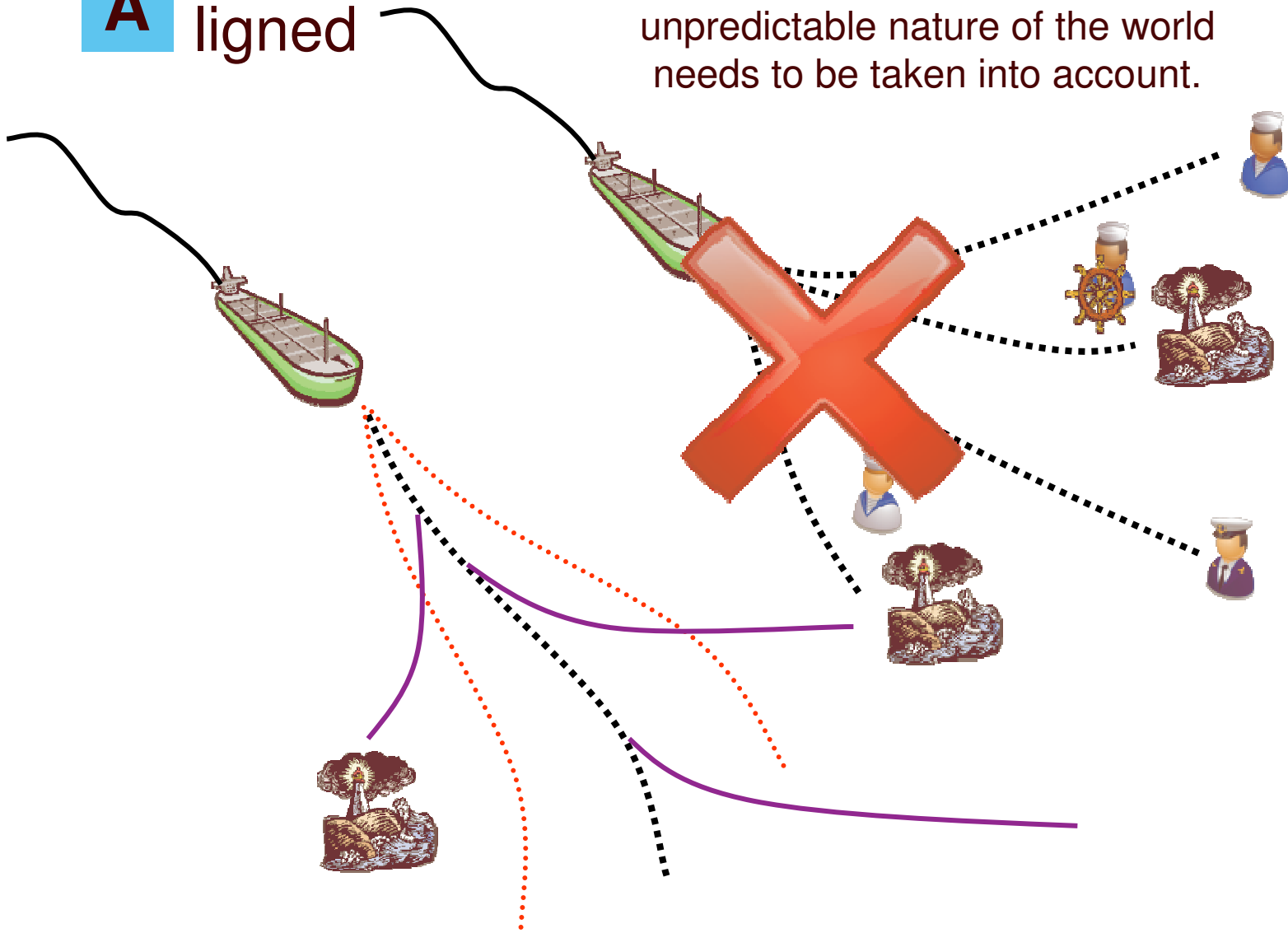


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**A** ligned

There should be only one set of forecast numbers. But the unpredictable nature of the world needs to be taken into account.

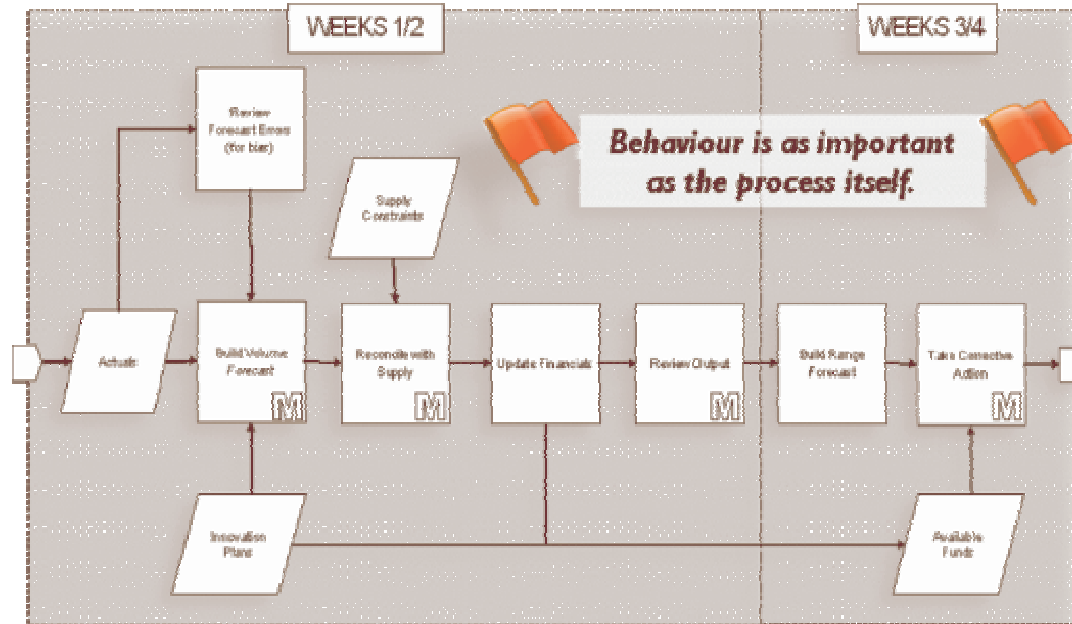
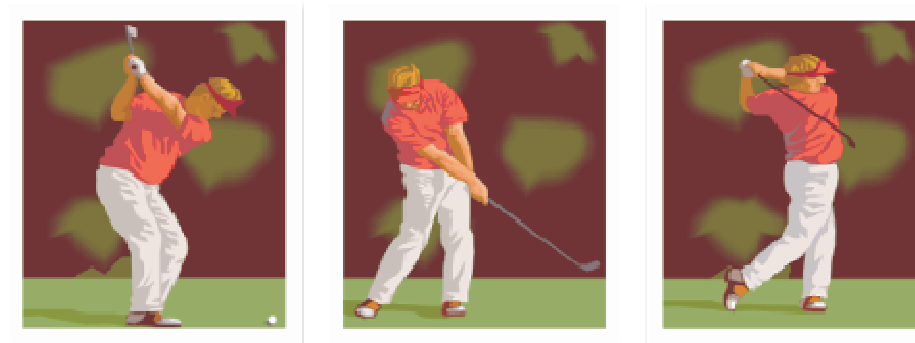
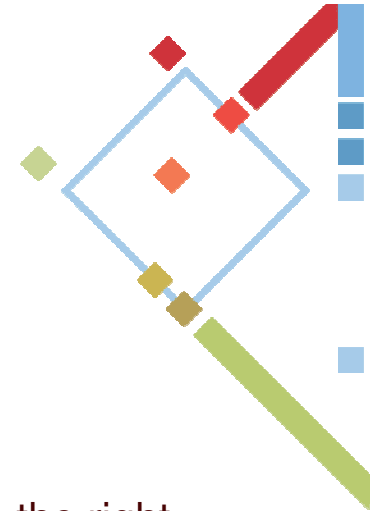


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## Cost-effective

An effective forecast process is also an efficient forecast process.



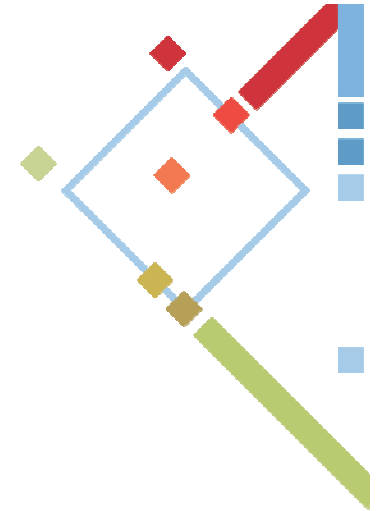
1. Do things in the right order, at the right speed.
2. Do it often, and in the same way.
3. Observe the results, separating bias (hook or slice) from variation.
4. Make adjustments, improve the process.

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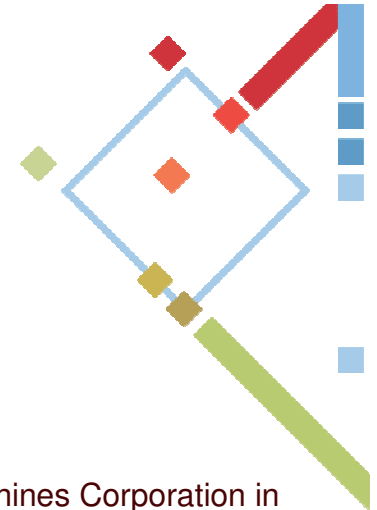
## What is next?

- First steps
  - Engage all levels
  - Measure forecast quality
- Next steps
  - Design your new forecast process
  - Implement, automate, integrate
  - Educate
  - Measure
  - Learn and improve



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