IBM Cognos Performance
Better Intelligence. Better Business.

Rolling Forecasts in turbulent times

Stephen Brook
Manager, IBM Cognos Innovation Center for Performance Management

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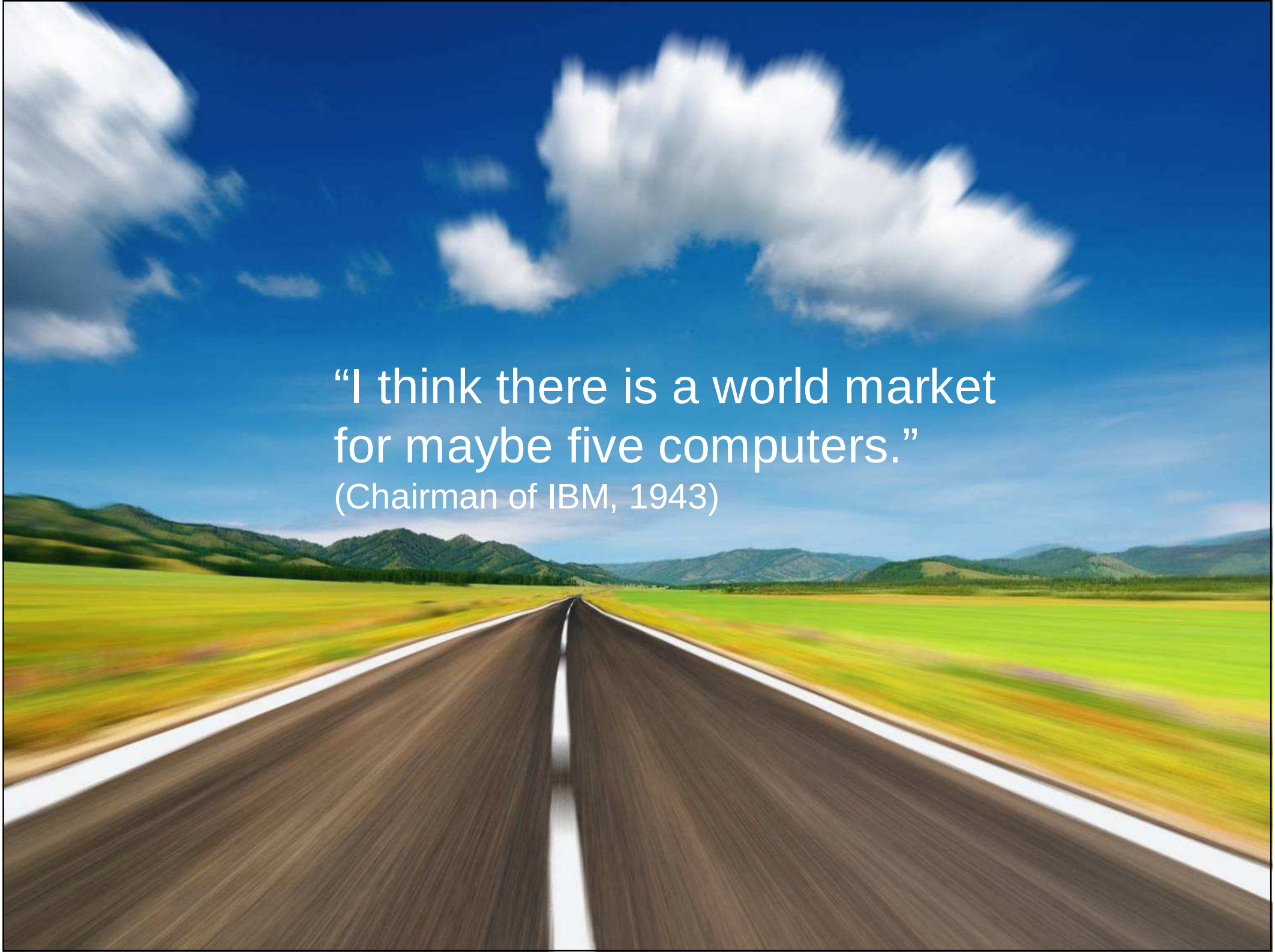
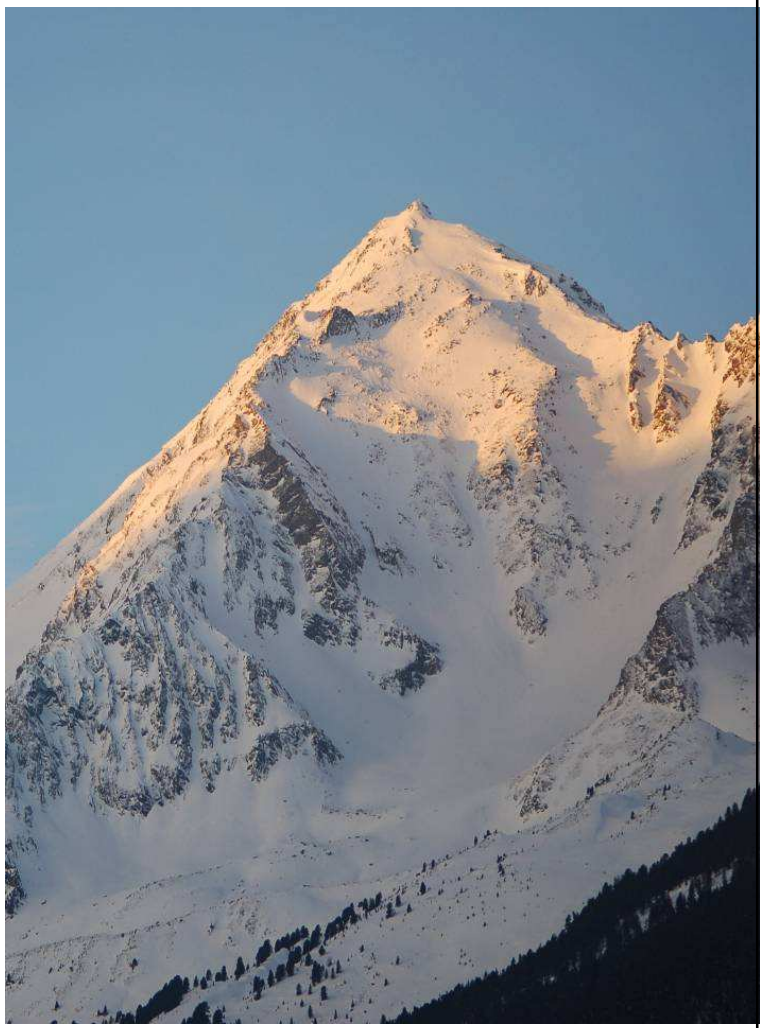

“I think there is a world market for maybe five computers.”
(Chairman of IBM, 1943)

Session Objectives

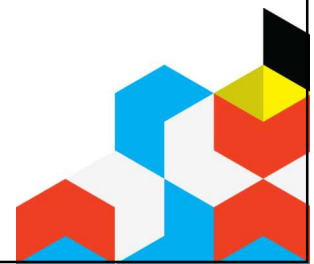
In today's session we will:

- Discuss the relevance of forecasting
- Review best practices for implementing a rolling forecast
- Identify how you can improve a forecasting process using IBM



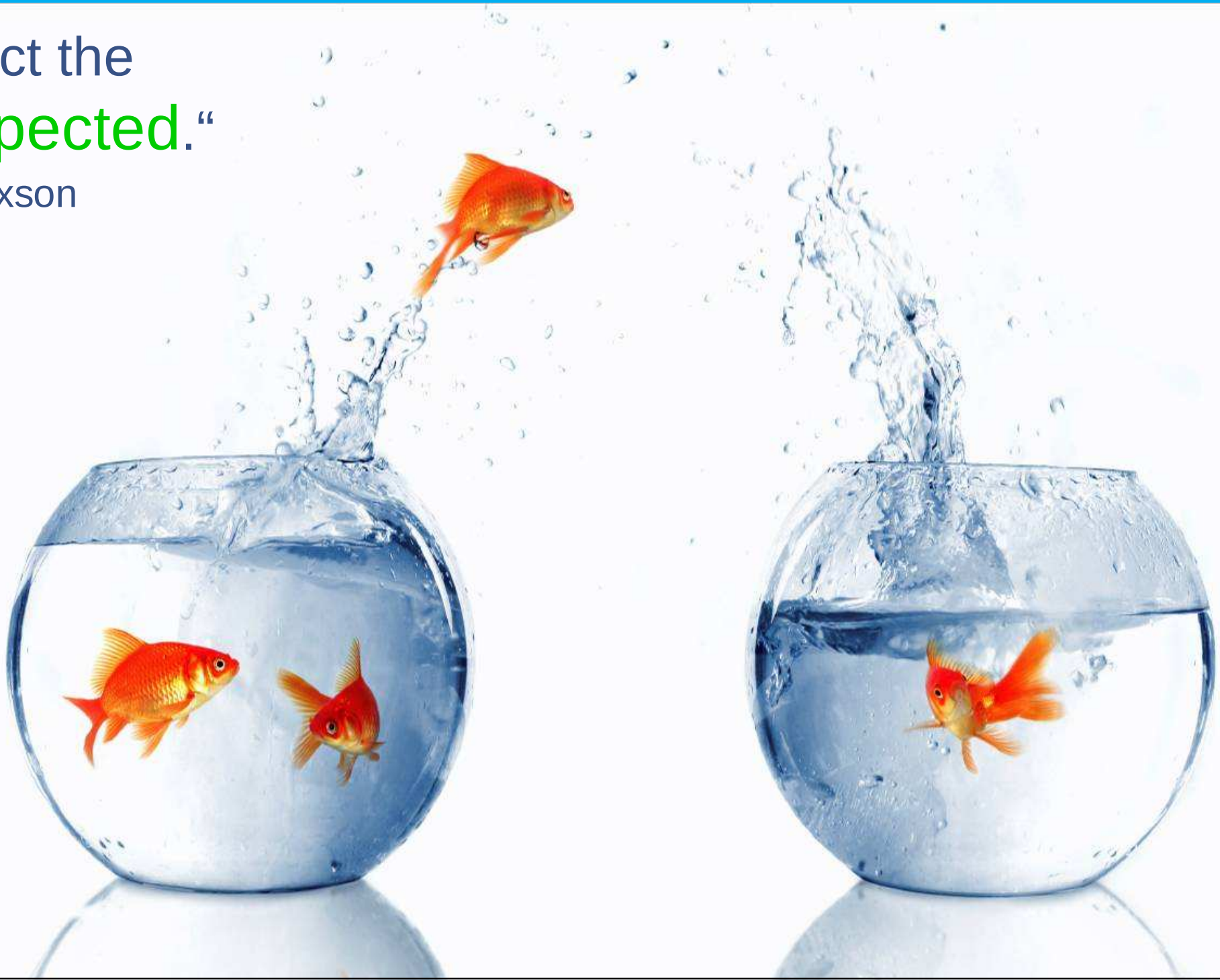
Introductions

- Your **name**
- Your **company**
- Your **interest** in rolling forecasts



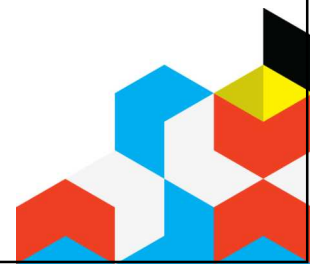
„Expect the unexpected.“

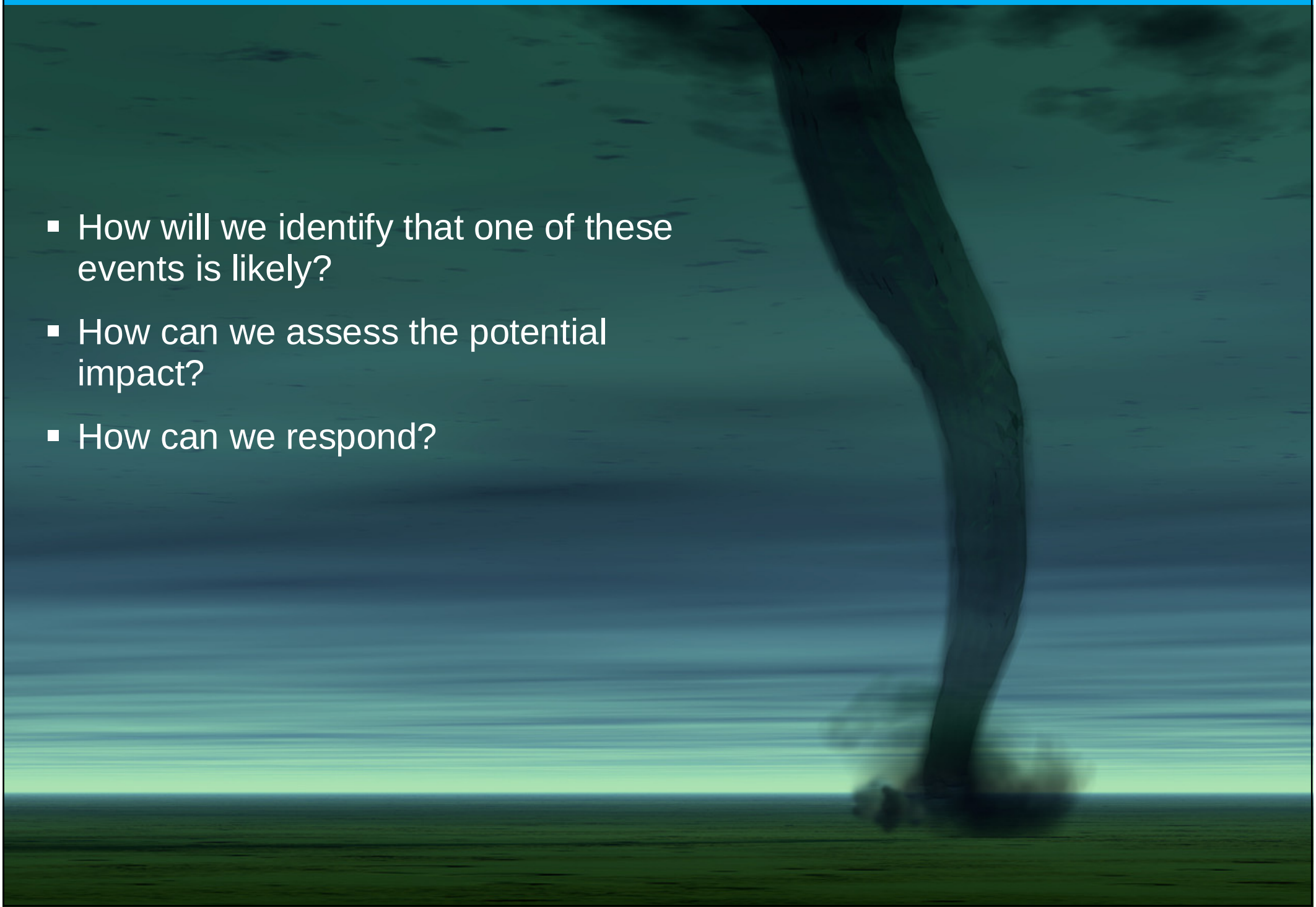
David Axson



2010 – Could any of these things happen to you?

- A 20% decline/ increase in revenue/ demand in a 90 day period.
- The bankruptcy of your biggest customer/ supplier
- A tripling in the price of your most important raw material.
- The merger of your two biggest competitors.
- A four-week disruption to your global supply chain.
- The loss of 20% of your sales force over a six month period.
- A major negative news story that challenges your reputation.
- Ranking bottom in a quality or customer satisfaction survey.
- A major innovation threatens to make your best selling product obsolete in less than five years.
- A significant number of your customers trade down to lower cost alternatives and DO NOT come back when the economy turns around.





- How will we identify that one of these events is likely?
- How can we assess the potential impact?
- How can we respond?

Do we use the right tools for the new reality?

- Detailed annual budget
- Quarterly forecast
- Budget vs Actuals
- 5 year strategy
- Manual processes

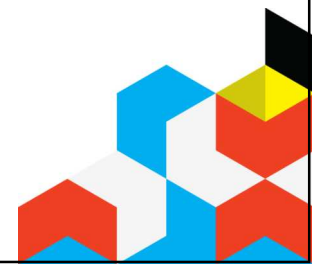
Forecasting is a** critical process **in turbulent times.

Forward Looking

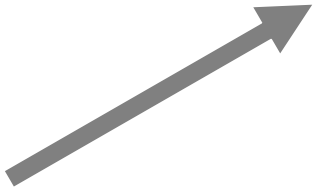
Fact-based

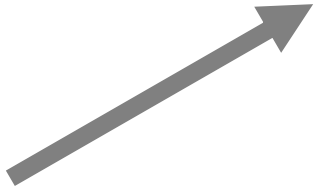
Flexible

Focused on Risks & Opportunities



Forecasts describe what the future will most likely look like



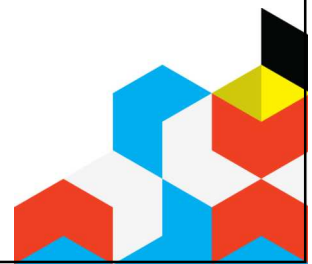


Plans/ Budgets detail how you think the future should look

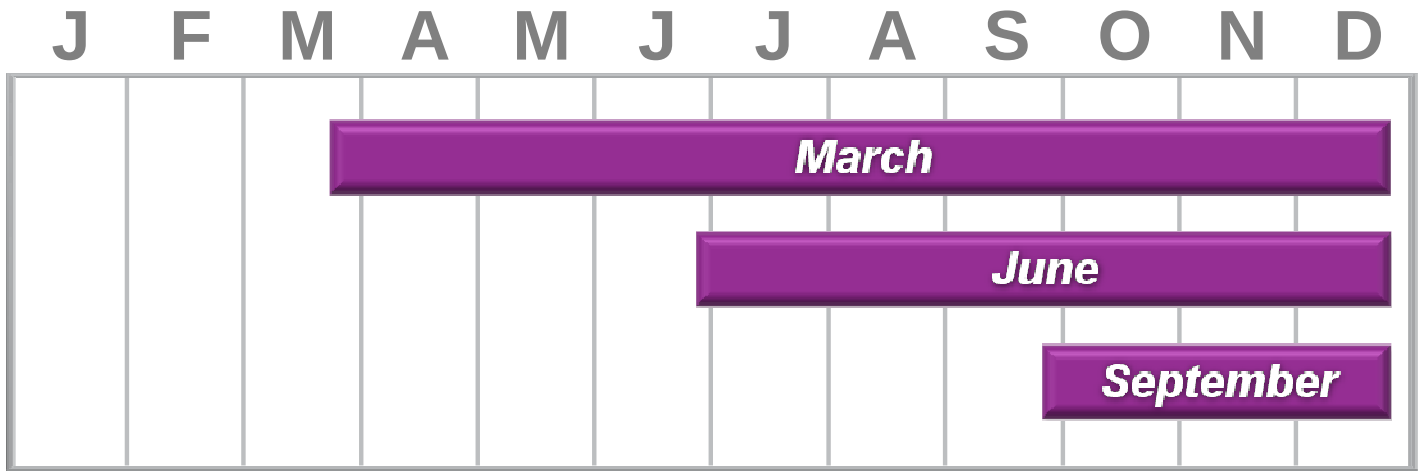
“The end result ... is not an accurate picture of tomorrow, but better decisions about the future.”
Peter Schwartz, The Art of the Long View

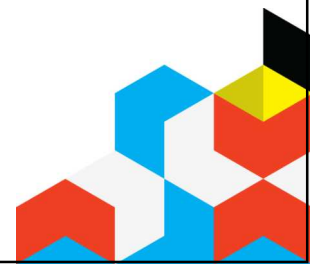
The traditional template?

	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL	YTD Actuals Variance	YTD Act Var %	Total Variance	Total Var %
	Actuals	Actuals	Actuals	Actuals	Actuals	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast					
Revenue	143.00	150.00	176.00	166.00	200.00	180.00	181.00	190.00	200.00	200.00	210.00	260.00	**2256.00**	-65.00	-7%	256.00	13%
COS	92.95	97.00	114.00	108.00	131.00	117.00	117.00	125.00	131.00	132.00	140.00	180.00	**1484.95**	-957.05	-64%	84.95	6%
Margin	50.05	53.00	62.00	58.00	69.00	63.00	64.00	65.00	69.00	68.00	70.00	80.00	**771.05**	-22.95	-7%	71.05	10%
Margin %	35.00%	35.33%	35.23%	34.94%	34.50%	35.00%	35.36%	34.21%	34.50%	34.00%	33.33%	30.77%	**34.35%**	0%		-0.65%	
Salaries	19.00	19.00	19.00	19.00	19.00	19.00	19.00	22.00	22.00	22.00	22.00	22.00	**243.00**	-1.00	-1%	-3.00	-1%
Bonus	1.43	1.50	1.76	1.66	2.00	1.80	1.81	1.90	2.00	2.00	2.10	2.60	**22.56**	-2.35	-39%	2.56	13%
Benefits	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.22	0.22	0.22	0.22	0.22	**2.43**	1.35	59%	-0.07	-3%
Insurance	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	**1.80**	0.00	0%	-0.10	-5%
Rent	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	**34.80**	0.00	0%	-1.20	-3%
Utilities	3.00	2.00	2.50	1.58	1.00	1.00	1.20	1.40	1.59	2.00	2.50	3.00	**22.77**	0.92	8%	-1.23	-5%
Office Supplies	0.11	0.20	0.16	0.20	0.07	0.37	0.14	0.42	0.49	0.34	0.38	0.43	**3.30**	0.07	9%	1.00	43%
Travel - Air	7.15	7.50	8.80	9.00	15.00	9.00	9.05	9.50	10.00	10.00	10.50	13.00	**118.50**	-17.45	-58%	13.50	13%
Travel - Hotels	1.43	1.50	1.76	1.66	2.00	1.80	1.81	1.90	2.00	2.00	2.10	2.60	**22.56**	-3.35	-67%	-7.44	-25%
Travel - Car	0.72	0.75	0.88	0.83	1.00	0.90	0.91	0.95	1.00	1.00	1.05	1.30	**11.28**	-2.68	-178%	6.28	126%
Travel - Train	1.30	1.00	1.50	1.00	1.20	1.00	1.00	3.00	2.00	2.00	2.00	3.00	**20.00**	-1.50	-33%	9.00	82%
Gifts & Misc	0.50	0.00	0.00	0.50	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	**6.00**	0.00	0%	-1.00	-14%
Maintenance & Repair	0.35	0.14	0.06	0.43	0.30	0.36	0.31	0.42	0.03	0.41	0.09	0.13	**3.04**	0.02	1%	0.04	1%
Marketing	2.00	0.00	8.00	9.00	4.00	7.00	8.00	4.00	5.00	2.00	9.00	1.00	**59.00**	-3.00	-15%	5.00	9%
Net Income	**9.83**	**16.17**	**14.35**	**9.90**	**20.18**	**17.53**	**17.53**	**16.24**	**14.62**	**20.98**	**15.01**	**27.66**	**200.01**	**15.43**	**28%**	**0.01**	**0%**



The traditional approach...

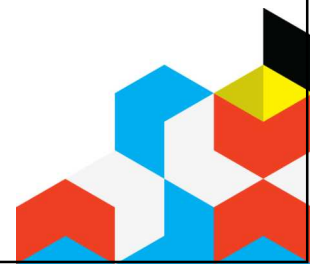




Does this provide the necessary visibility in turbulent times?

Collaborative Workshop

- Let‘s discuss and identify issues and shortcomings of the current forecasting processes that are being utilized. For example:
  - Level of detail in the models
  - Are the models the same as the ones for the budget?
  - Cycle time – how long does it take?
  - Participation – is Finance creating the Forecast?
  - Which technology is being utilized?
  - What is the value gained from the process?



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Rolling Forecasts. A modern approach.

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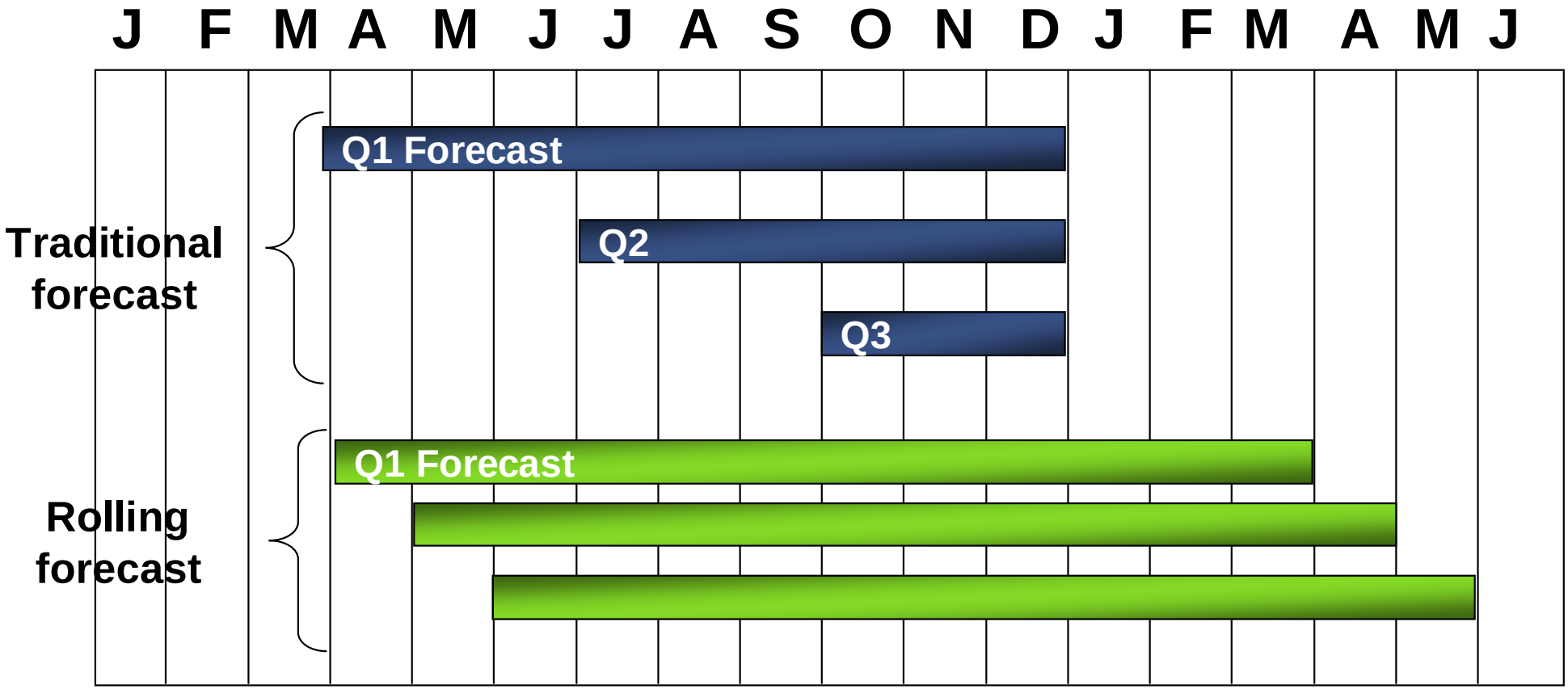
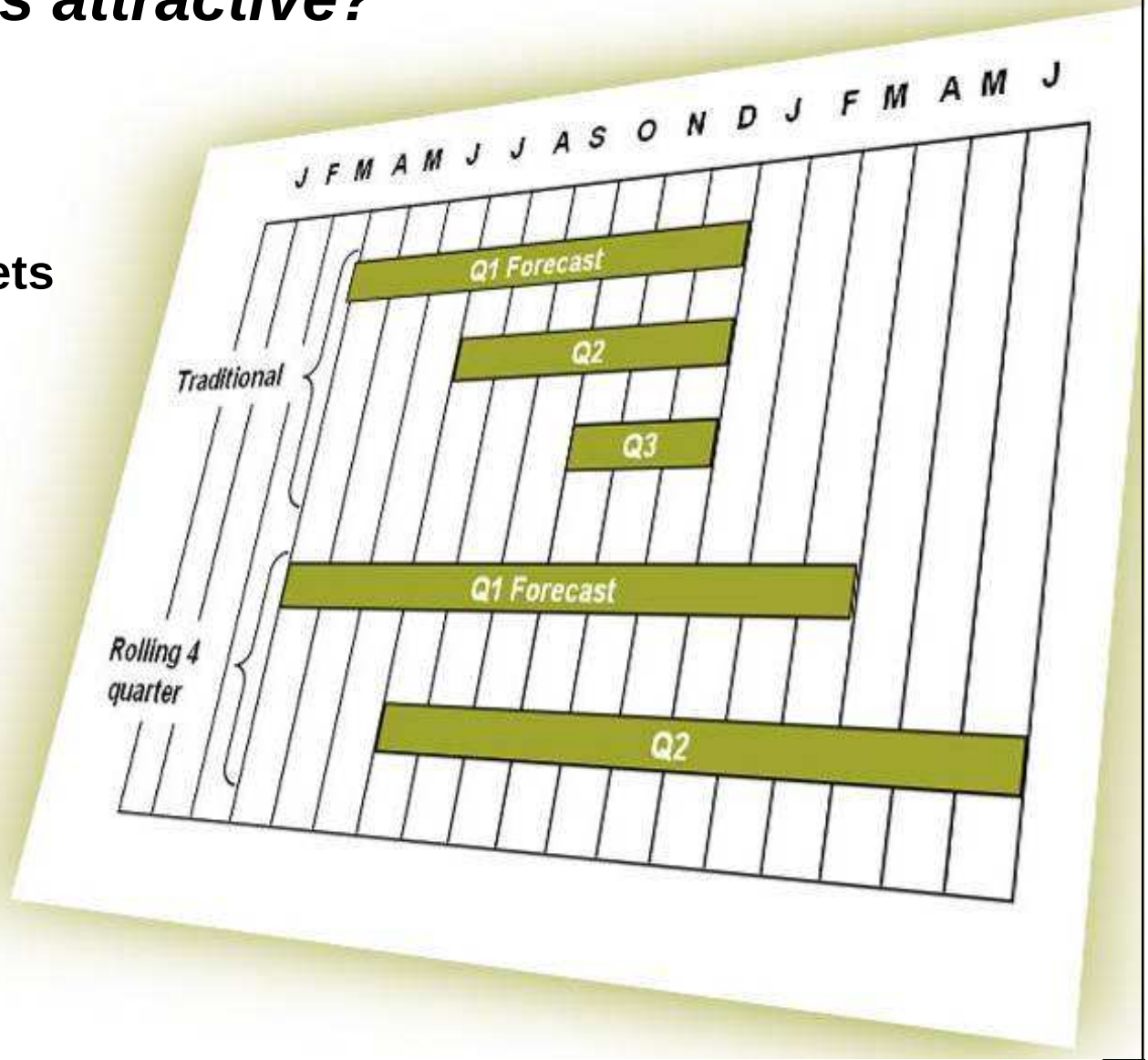
What is a Rolling forecast

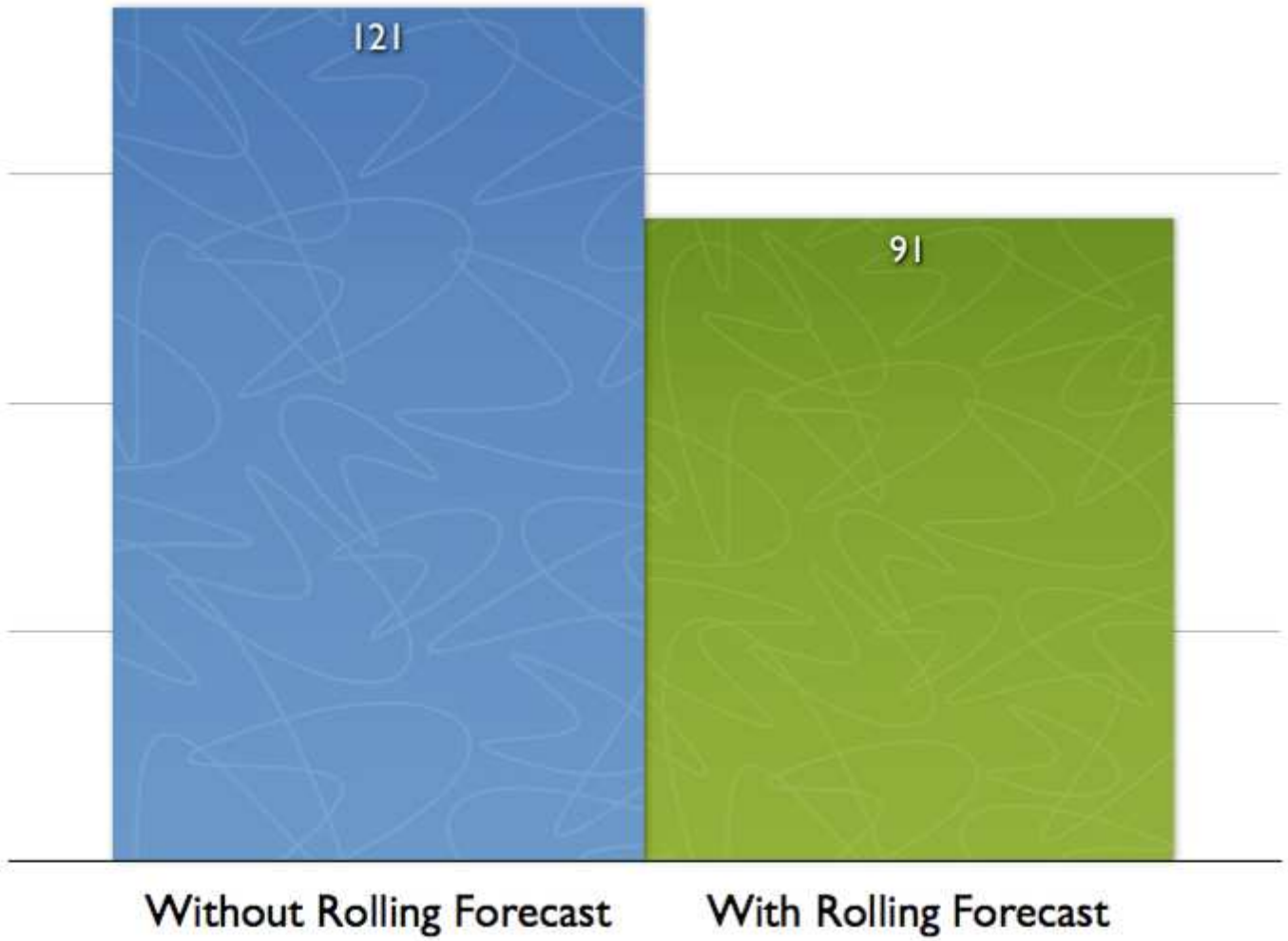


Why are rolling forecasts attractive?

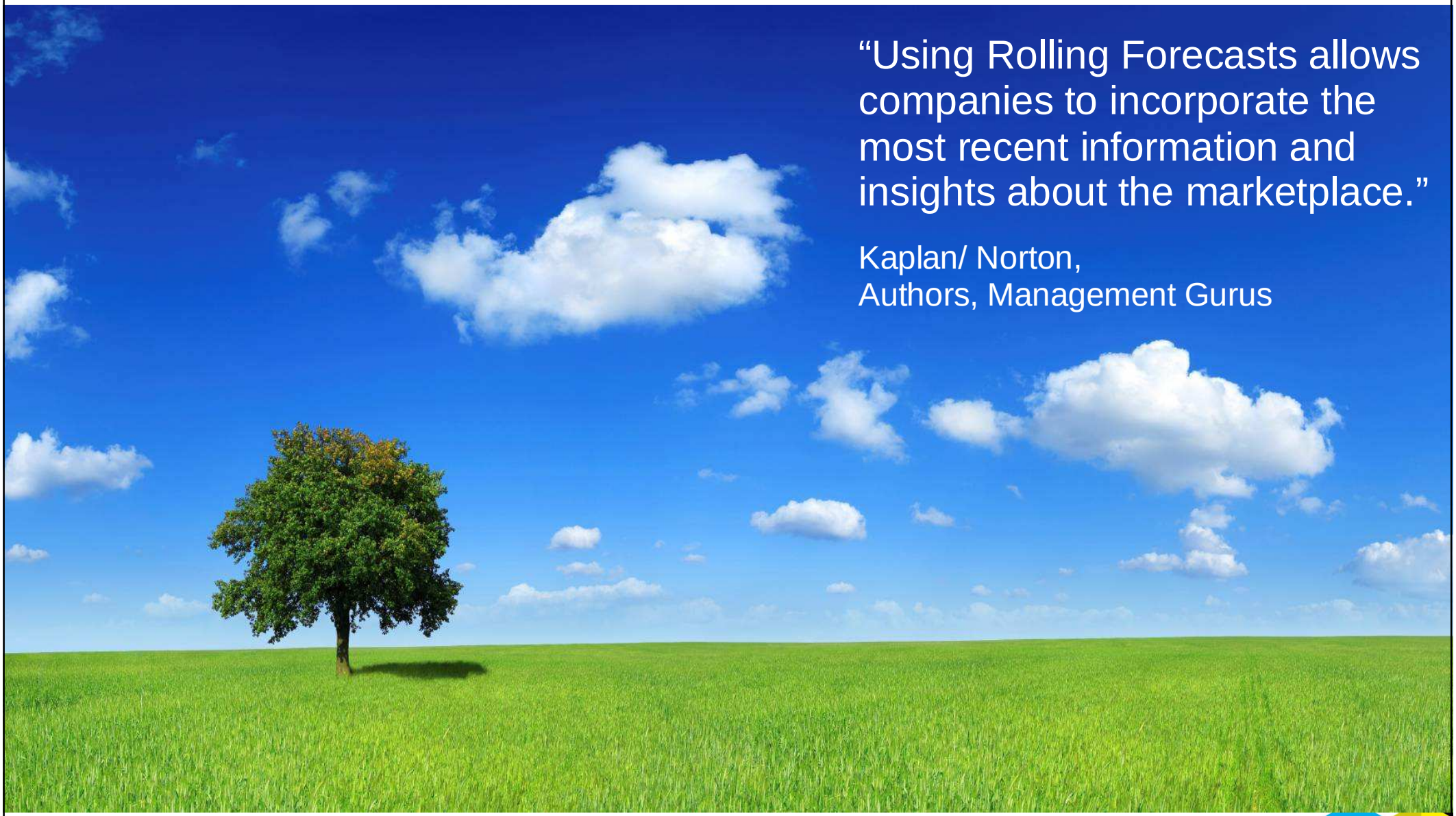
- **Reduced dependency on budgets**
- **Solid baseline for plans**
- **Increased visibility**
- **Consistent time horizon**
- **Consistent process**



Rolling Forecasts speed up the budgeting process

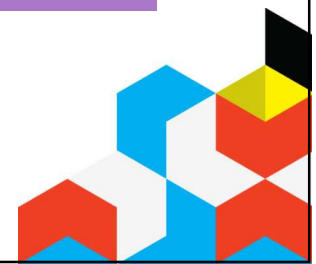


Source: The Hackett Group, 2008


“Using Rolling Forecasts allows companies to incorporate the most recent information and insights about the marketplace.”
Kaplan/ Norton,
Authors, Management Gurus

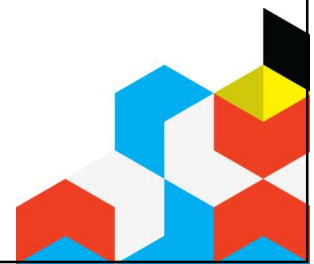
There are several success factors

- Time Horizon
- Participation
- Modeling
- Scenarios
- Process Management
- Culture



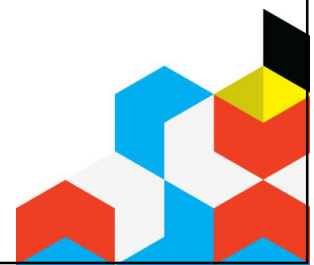
Rolling Forecast = 12 month quarterly?

No. It depends on your business!



Match the time horizon to the rhythm of your business

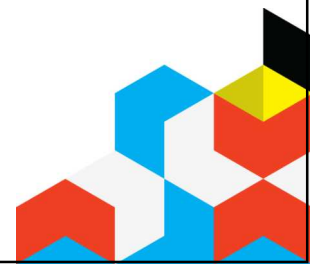
	Short cycles	Long cycles
Industry	▪ Consumer electronics ▪ Retailing ▪ Investment banking	▪ Oil exploration ▪ Pharma development ▪ Infrastructure investment
Function	▪ Advertising ▪ Cash flow ▪ Overtime	▪ Plant construction ▪ Infrastructure investment ▪ Research & development



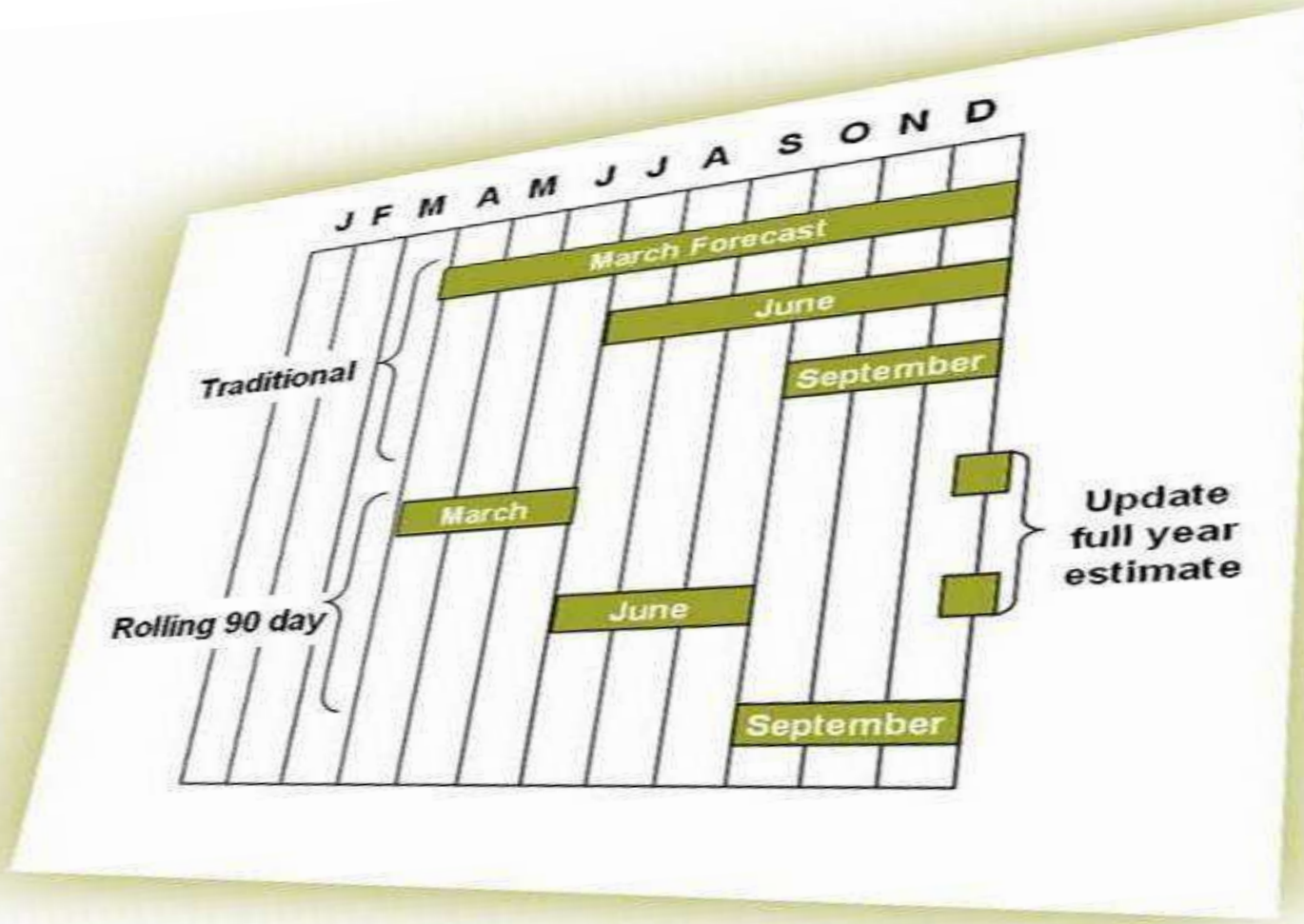
*Common Time Horizon decisions**

- **Airline:** **Rolling 2 quarters; monthly**
- **Semiconductor:** **Rolling 2 quarters; twice per quarter**
- **Automotive:** **Rolling 2 quarters; quarterly**
- **Chemical:** **Rolling 2 quarters; monthly**
- **Telecom:** **Rolling 4 quarters; monthly**
- **Technology:** **Rolling 4 quarters; quarterly**
- **Engineering:** **Rolling 6 quarters; quarterly**
- **Consumer goods** **Rolling 6 quarters; monthly**
- **Pharmaceutical** **Rolling 6 quarters; quarterly**

* The Hackett Group 2008

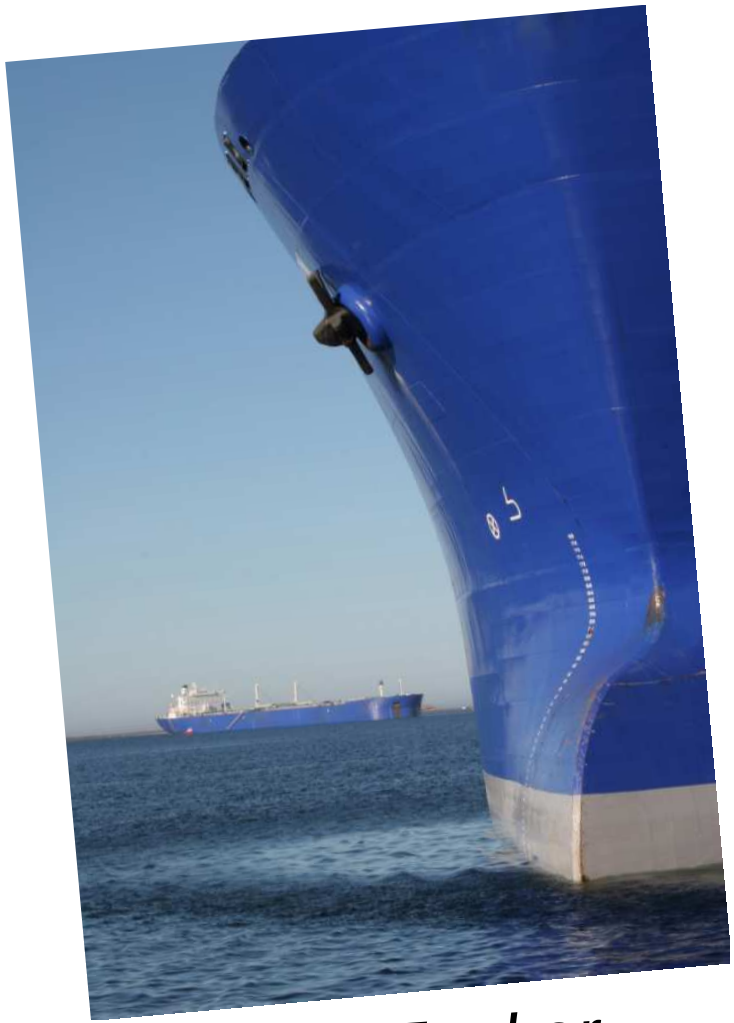


An example of the time horizon decision



"Best practice companies move towards more frequent & event-driven updates."

*Remember this: What kind of ship is your business?**



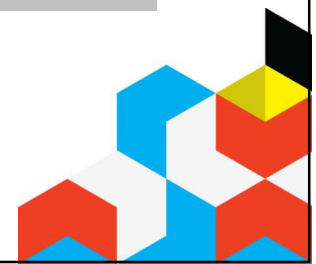
The Tanker

The Speedboat

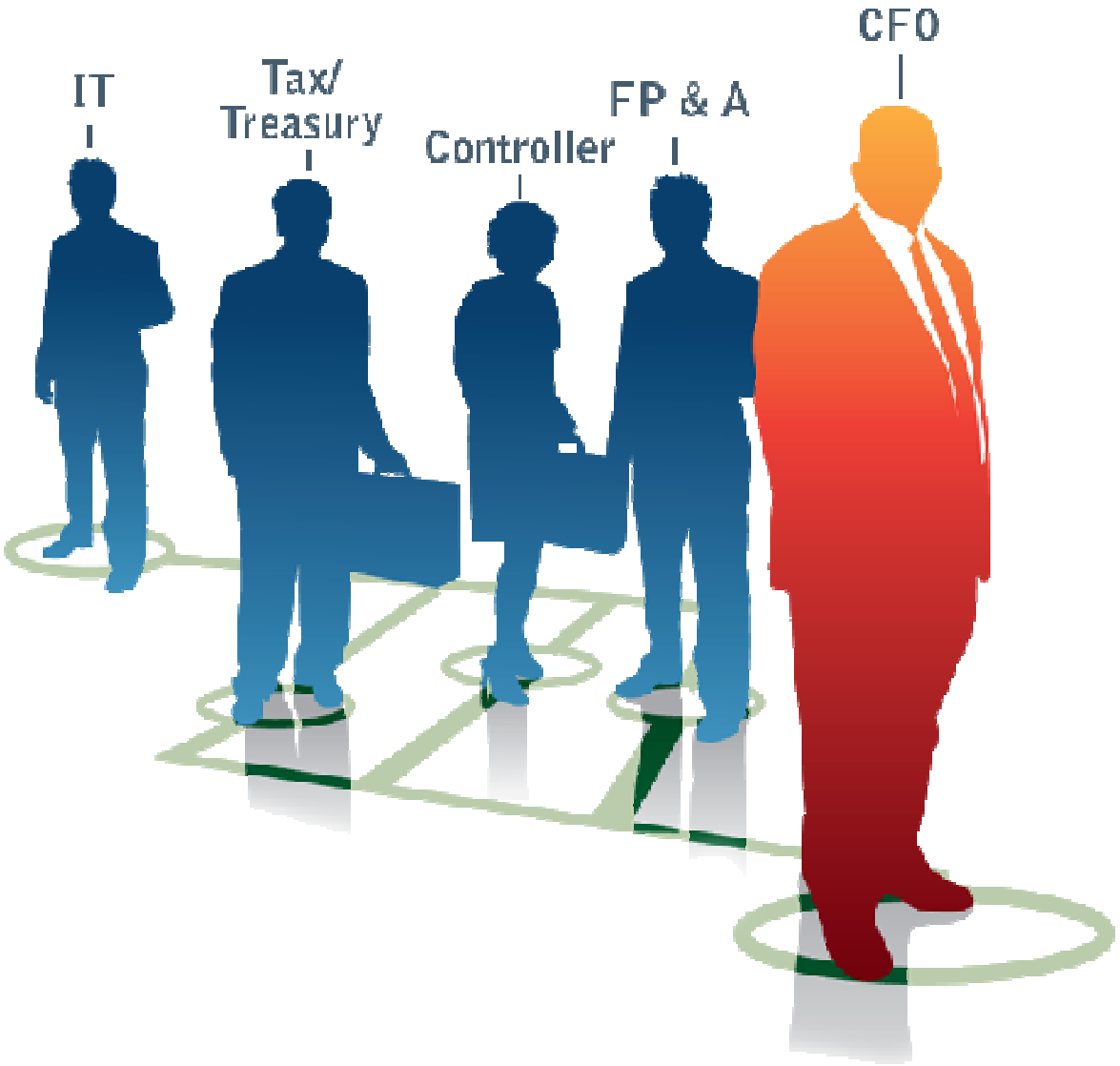
*Beyond Budgeting Roundtable (BBRT)

There are several success factors

Time Horizon	Participation	Modeling
Scenarios	Process Management	Culture

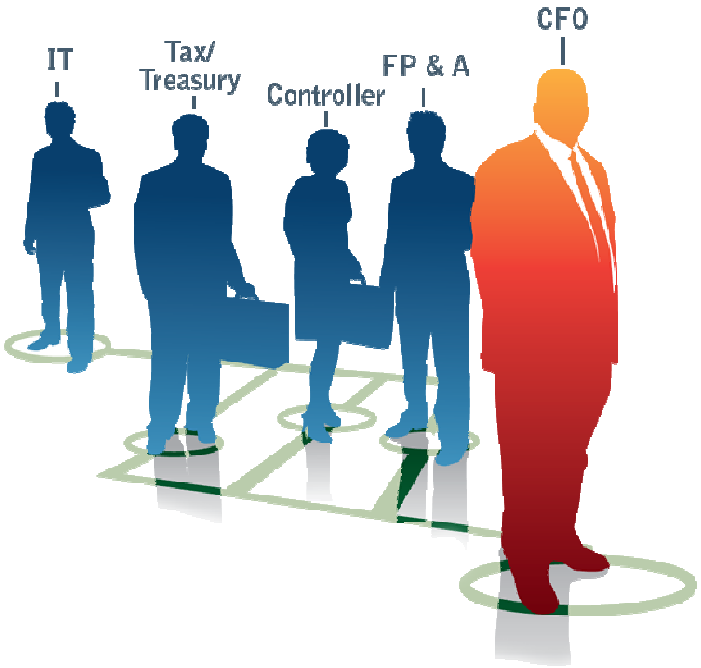


Who creates the forecast?



And what does the business say about that?

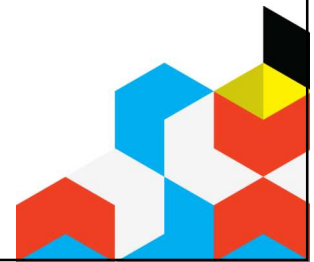
High participation creates value.



Sales

Marketing

HR

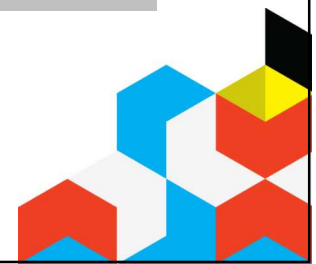


....and drives

ownership & insight

There are several success factors

- Time Horizon
- Participation
- **Modeling**
- Scenarios
- Process Management
- Culture



Remember this model?

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	Actuals	Actuals	Actuals	Actuals	Actuals	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast					
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Margin %	35.00%	35.33%	35.23%	34.94%	34.50%	35.00%	35.36%	34.21%	34.50%	34.00%	33.33%	30.77%	**34.35%**	0%		-0.65%	
Salaries	19.00	19.00	19.00	19.00	19.00	19.00	19.00	22.00	22.00	22.00	22.00	22.00	**243.00**	-1.00	-1%	-3.00	-1%
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Insurance	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	**1.80**	0.00	0%	-0.10	-5%
Rent	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	**34.80**	0.00	0%	-1.20	-3%
Utilities	3.00	2.00	2.50	1.58	1.00	1.00	1.20	1.40	1.59	2.00	2.50	3.00	**22.77**	0.92	8%	-1.23	-5%
Office Supplies	0.11	0.20	0.16	0.20	0.07	0.37	0.14	0.42	0.49	0.34	0.38	0.43	**3.30**	0.07	9%	1.00	43%
Travel - Air	7.15	7.50	8.80	9.00	15.00	9.00	9.05	9.50	10.00	10.00	10.50	13.00	**118.50**	-17.45	-58%	13.50	13%
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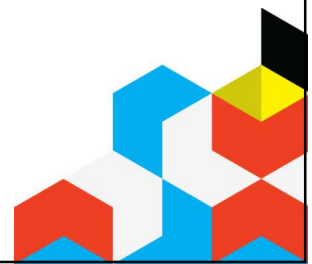
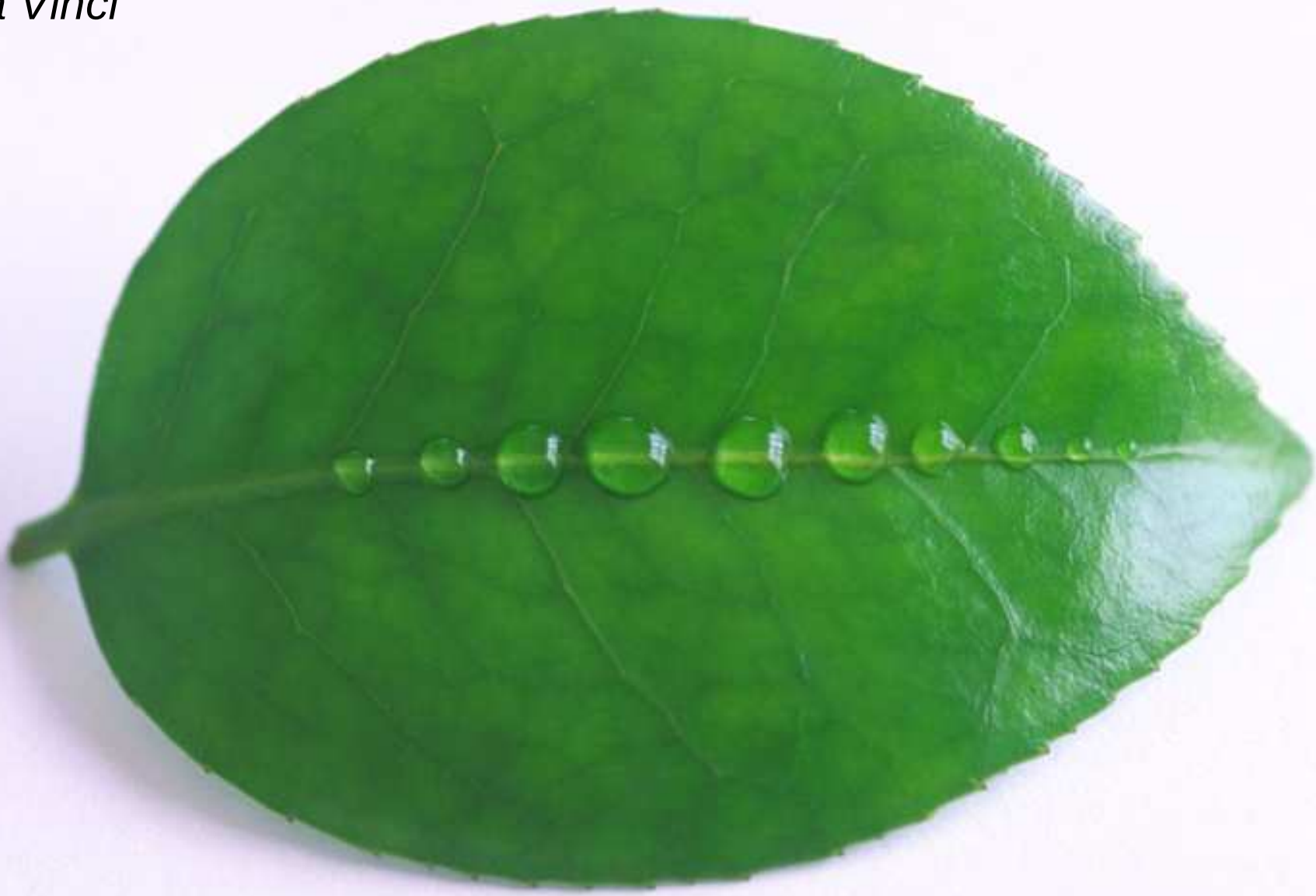
Travel - Train	1.30	1.00	1.50	1.00	1.20	1.00	1.00	3.00	2.00	2.00	2.00	3.00	**20.00**	-1.50	-33%	9.00	82%
Gifts & Misc	0.50	0.00	0.00	0.50	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	**6.00**	0.00	0%	-1.00	-14%
Maintenance & Repair	0.35	0.14	0.06	0.43	0.30	0.36	0.31	0.42	0.03	0.41	0.09	0.13	**3.04**	0.02	1%	0.04	1%
Marketing	2.00	0.00	8.00	9.00	4.00	7.00	8.00	4.00	5.00	2.00	9.00	1.00	**59.00**	-3.00	-15%	5.00	9%
Net Income	**9.83**	**16.17**	**14.35**	**9.90**	**20.18**	**17.53**	**17.53**	**16.24**	**14.62**	**20.98**	**15.01**	**27.66**	**200.01**	**15.43**	**28%**	**0.01**	**0%**



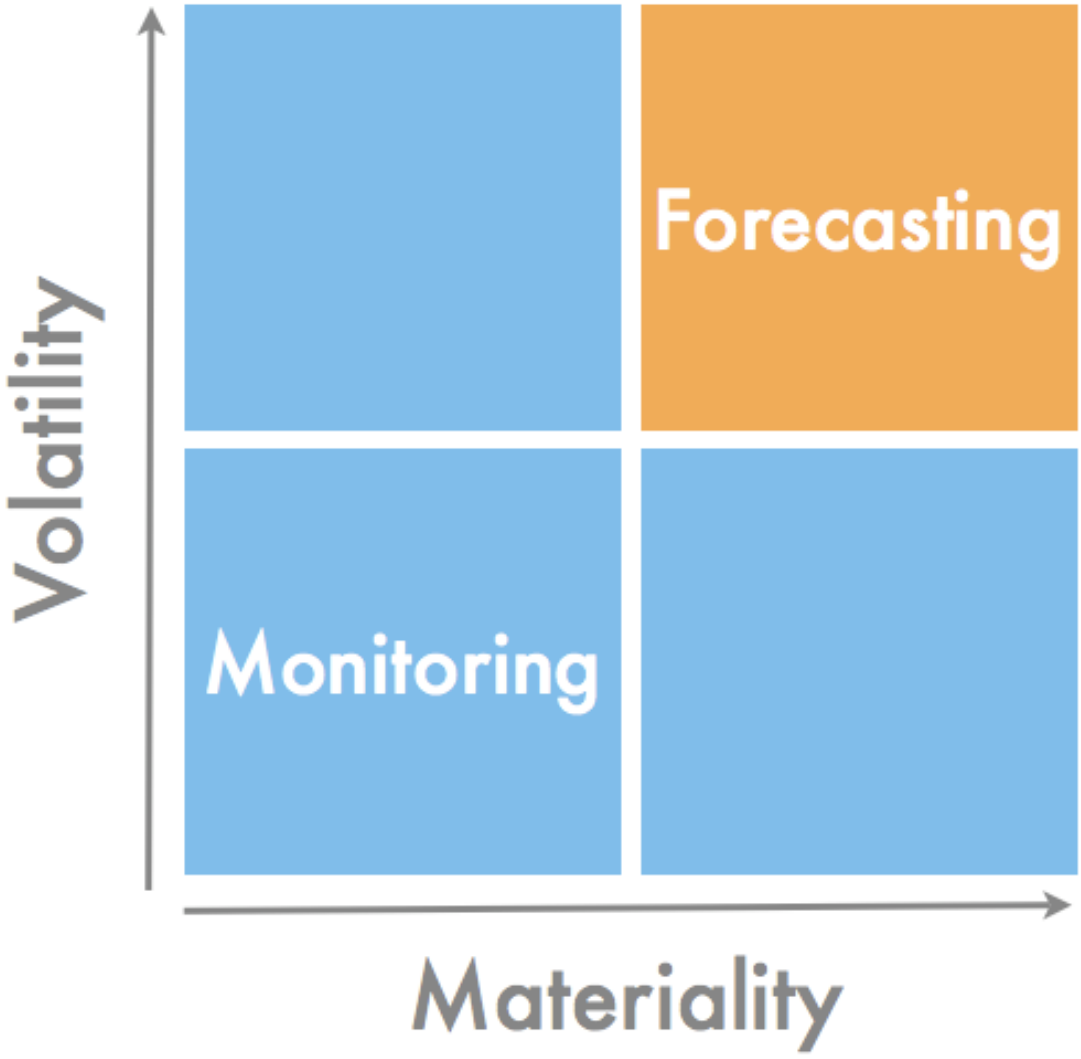
Can we answer critical questions with this information?

„Simplicity is the ultimate sophistication.“

Leonardo da Vinci



A simple test for selecting the right items



The same applies to your time horizon

The language of our forecasts need to change

Opportunities

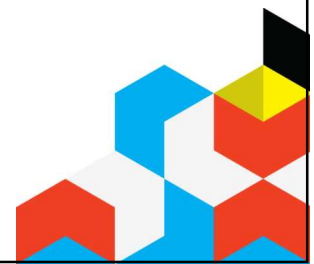
Pipeline

Number of employees

Customer Satisfaction

VS.

```
634172 – Revenue (New Accts)
665891 – Office Supplies (Paper)
665892 – Office Supplies (Pens)
677199 – Gifts, Misc.
```



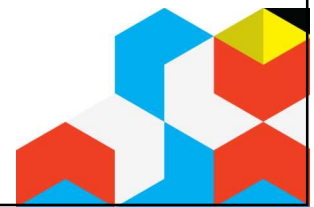
Opportunities → Pipeline → Revenue

Average Opp Size | Conversion Rate

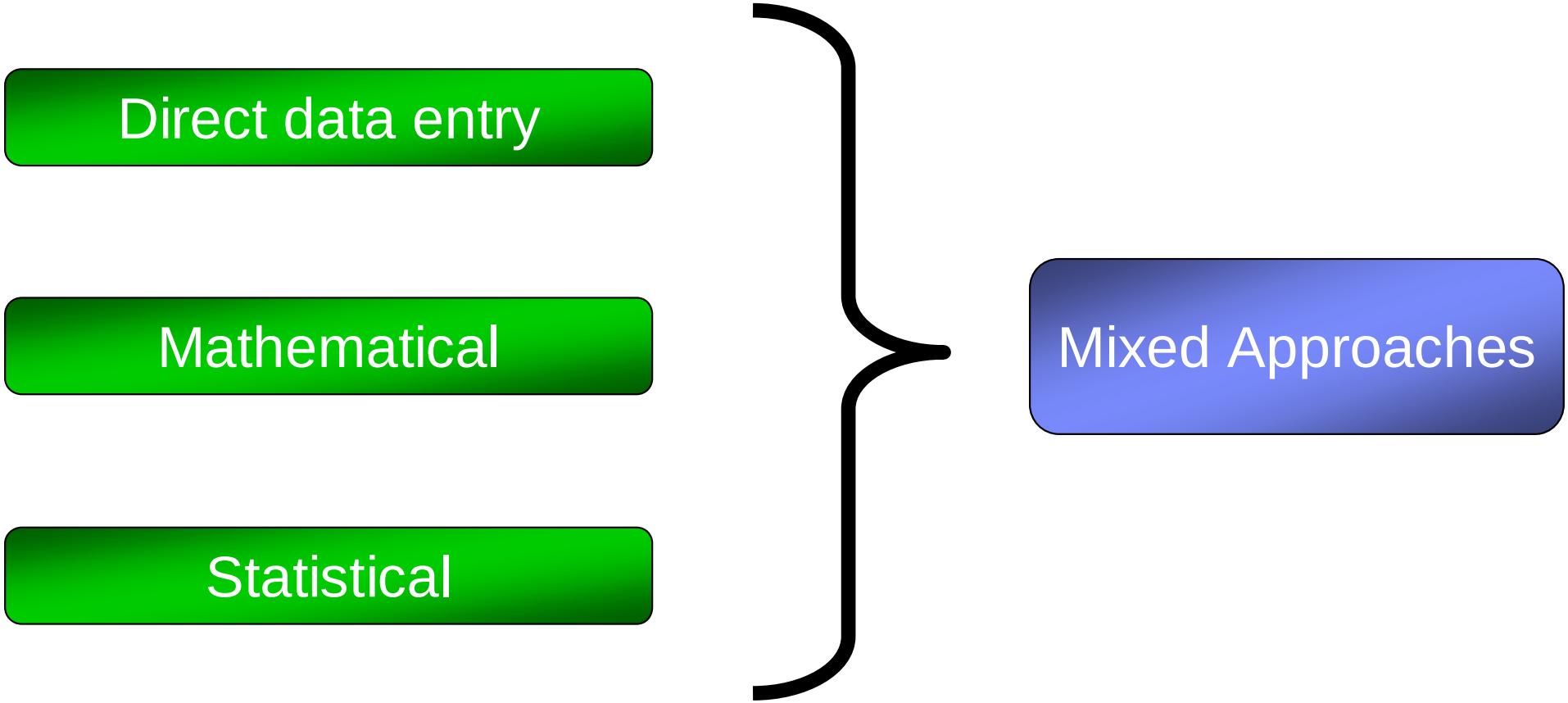
Revenue?

50 Opps → 1M EUR → 200k EUR

20k EUR | 20%

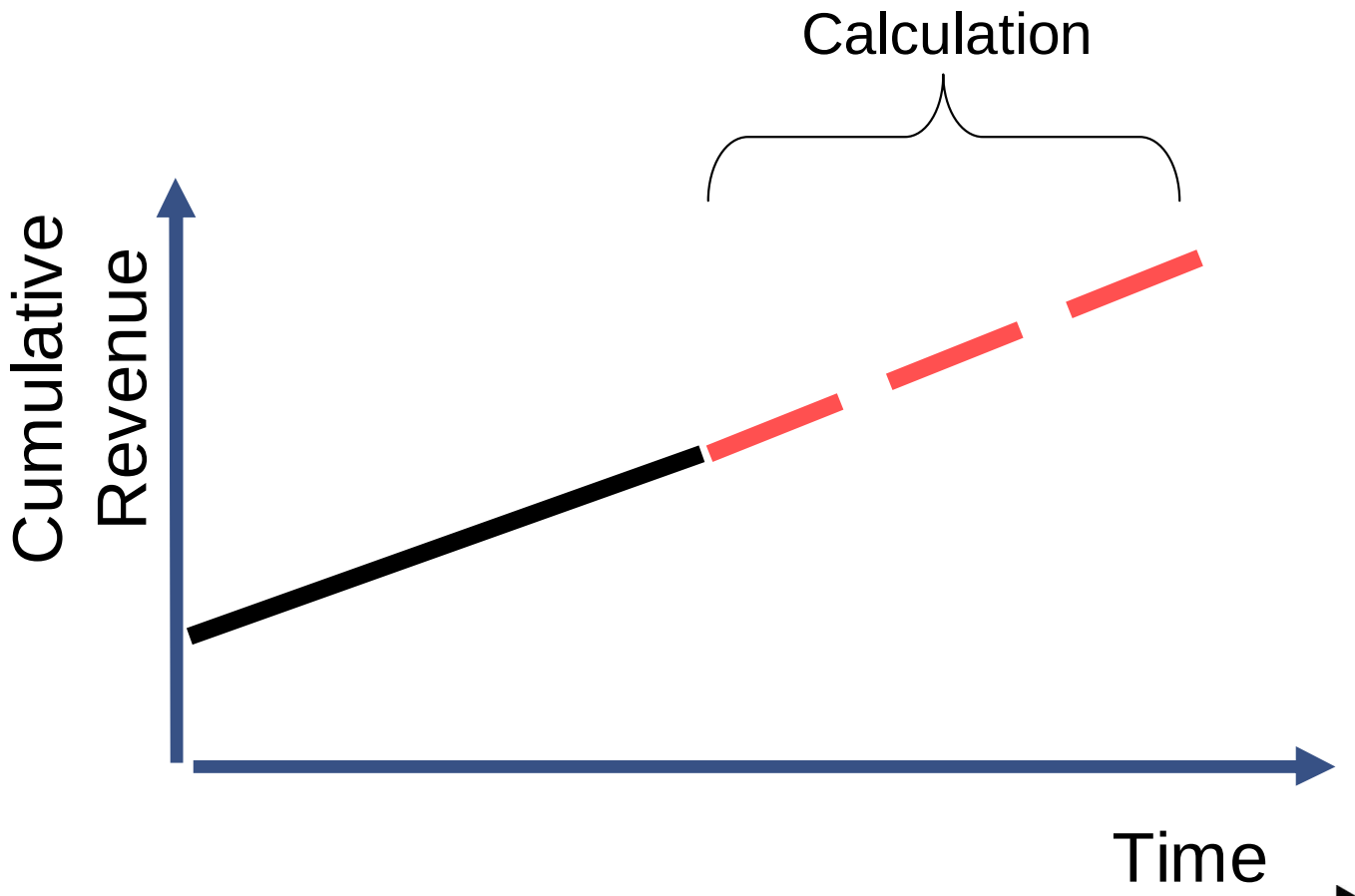


What about automated forecasting?



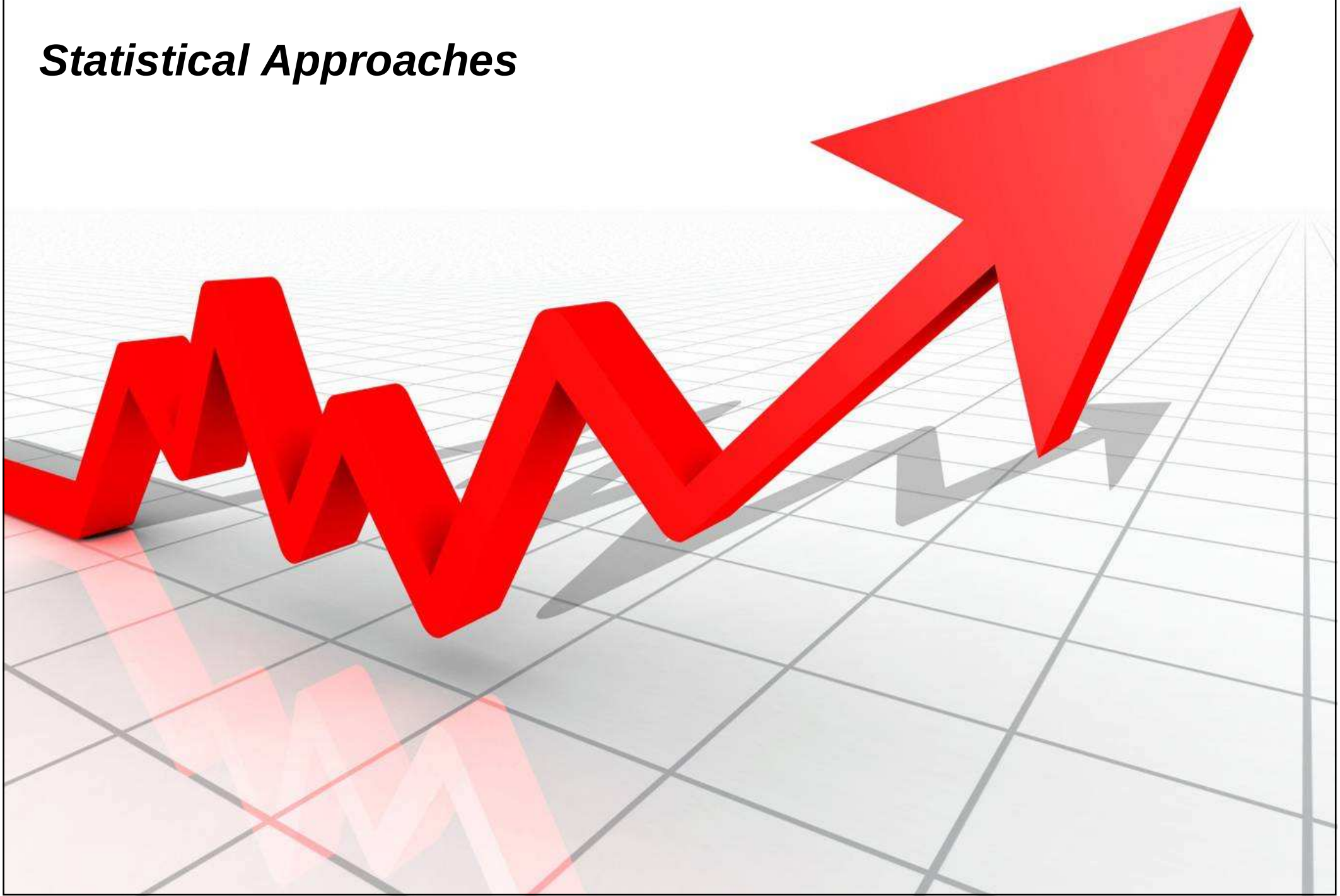
The easiest form: direct data entry

Mathematical approaches

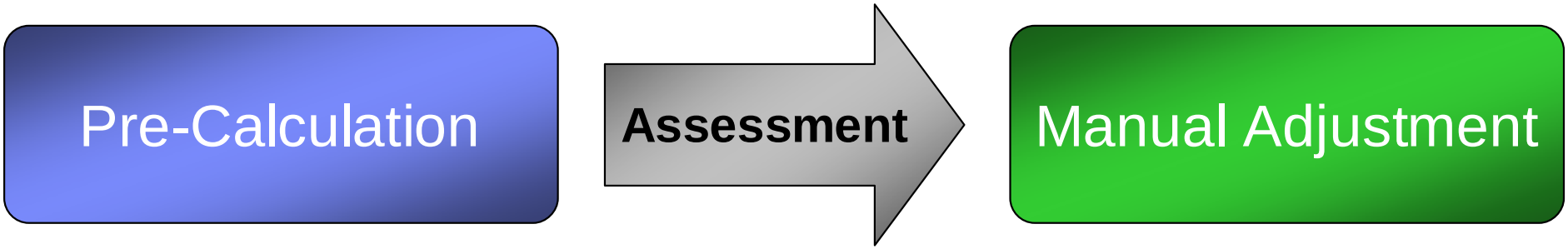


- **Goal**
- **Average**
- **Run rate**

Statistical Approaches

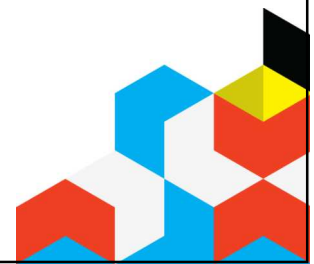


Mixed Approach



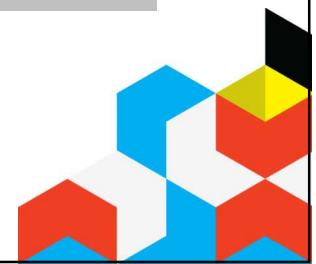
- Stochastic Modeling
- Linear Interpolation
- Run Rate
- Etc..

- Market adjustments
- Latest news
- One-off
- etc

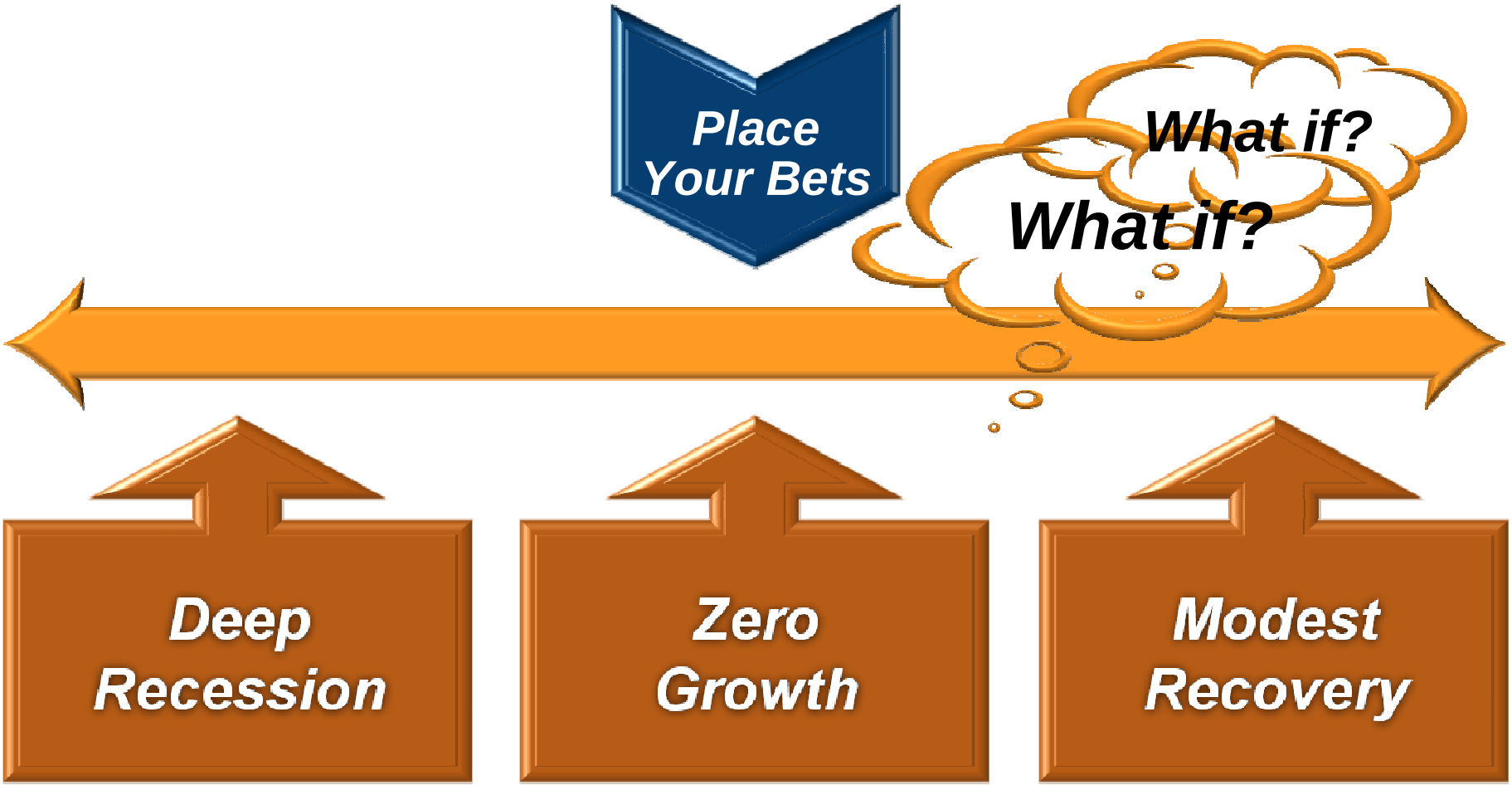


There are several success factors

- Time Horizon
- Participation
- Modeling
- Scenarios
- Process Management
- Culture



Plan for Multiple Scenarios

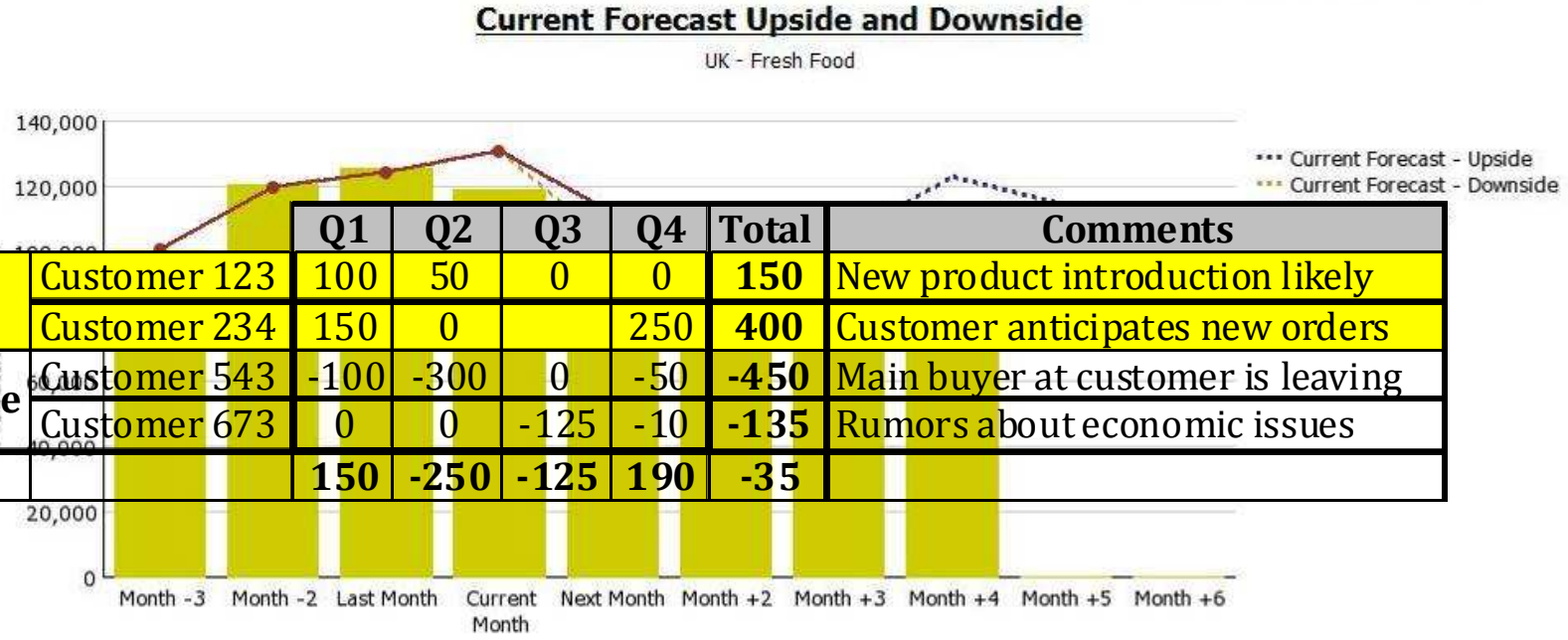


Think different - Scenario planning creates value

But developing scenarios can be very tedious

- Multiple scenarios
- Floating assumptions
- Data volumes

Consider a simpler approach

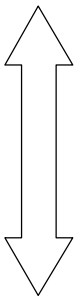


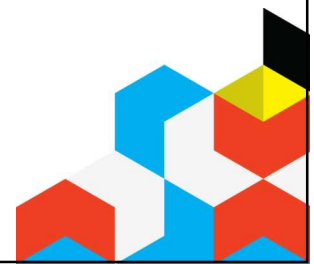
		Q1	Q2	Q3	Q4	Total	Comments
Upside	Customer 123	100	50	0	0	**150**	New product introduction likely
	Customer 234	150	0		250	**400**	Customer anticipates new orders
Downside	Customer 543	-100	-300	0	-50	**-450**	Main buyer at customer is leaving
	Customer 673	0	0	-125	-10	**-135**	Rumors about economic issues
Total		**150**	**-250**	**-125**	**190**	**-35**	

Upside Exceptions

Base Case (most likely)

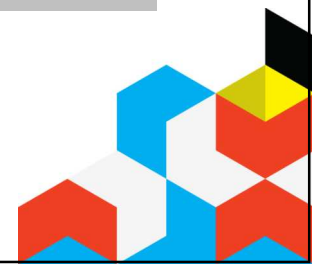
Downside Exceptions





There are several success factors

Time Horizon	Participation	Modeling
Scenarios	**Process Management**	Culture



Process management is critical

Critical elements of the process

- **Aim for repeatability**
- **Measure the quality**
- **Set strict goals**

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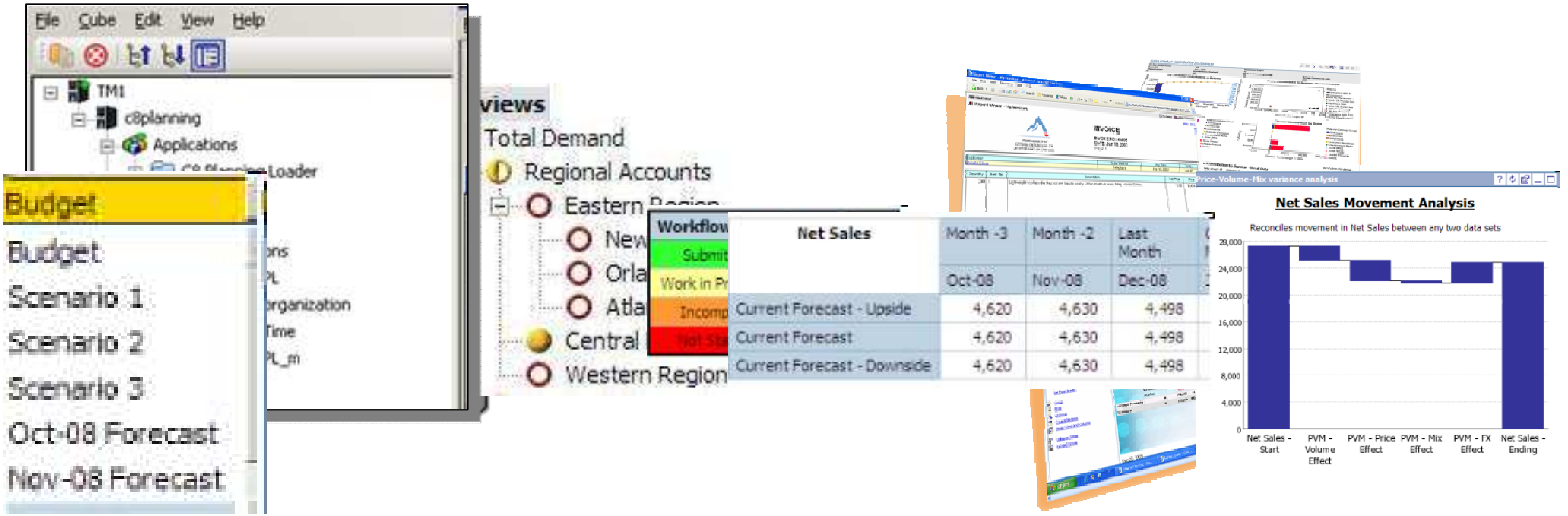


Update Models

Distribute Models

Aggregate data

What-if & Optimize

New version

Load Actuals

Collect Data

Report & Analyze

Management Meetings

Decision Making!

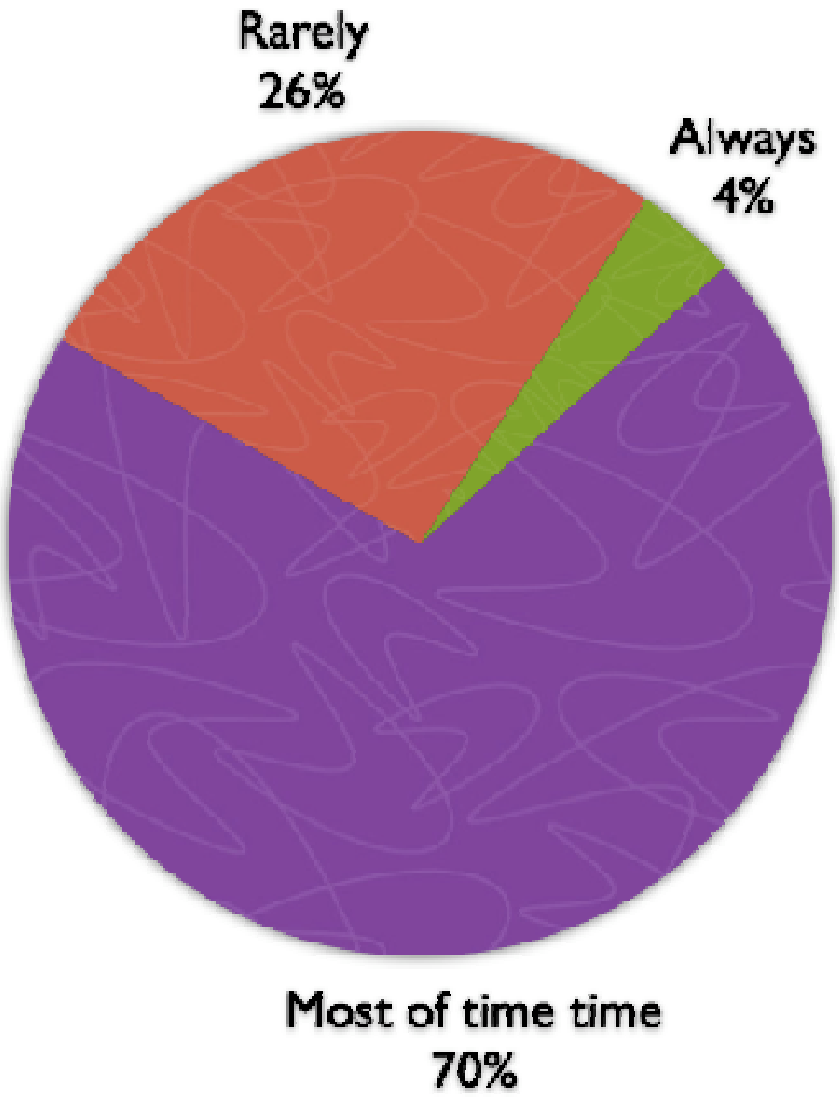
Some measures you should consider

Forecast Accuracy

Cycle Time

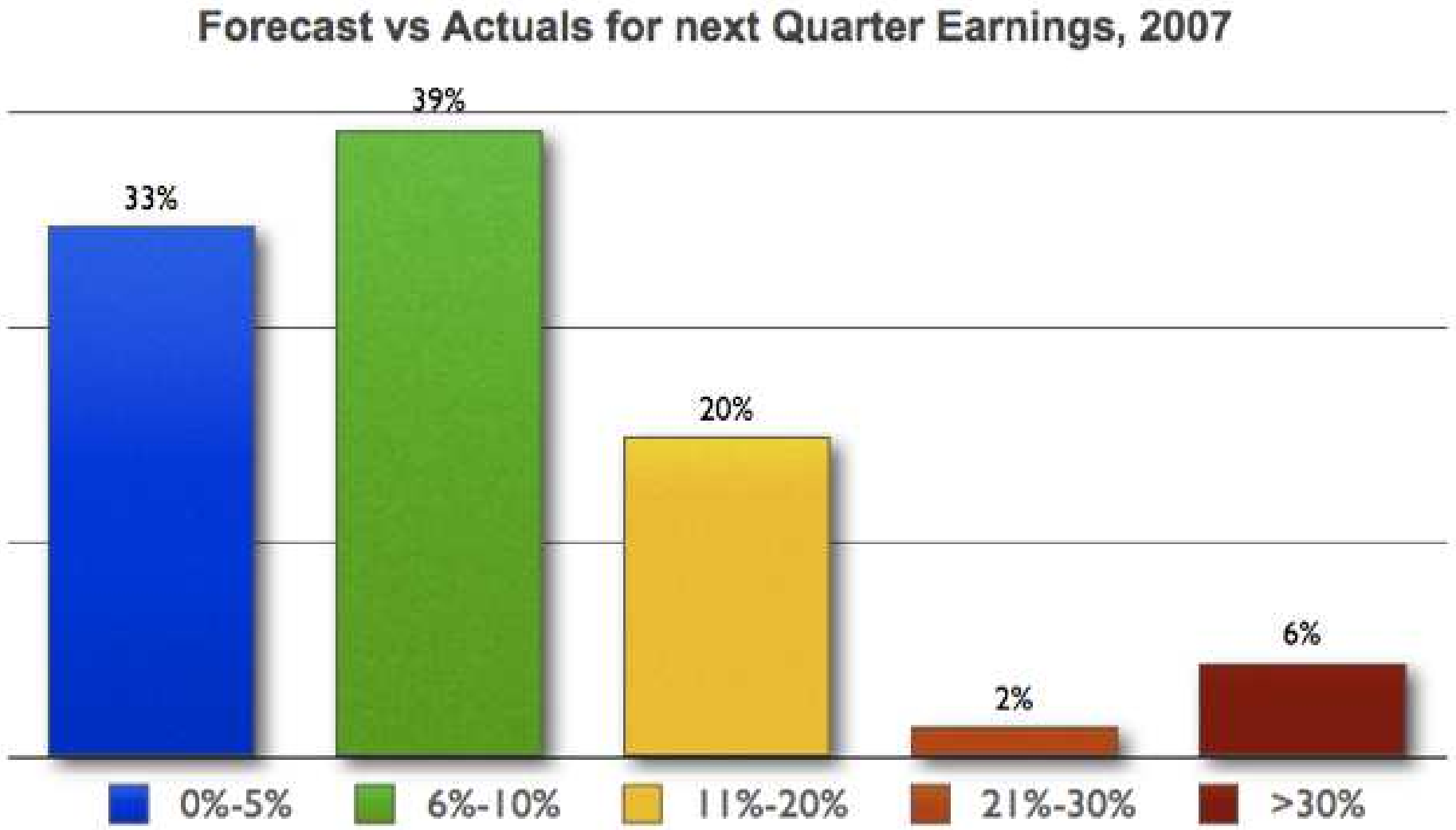
Confidence Levels

Do business managers have confidence in the outputs?



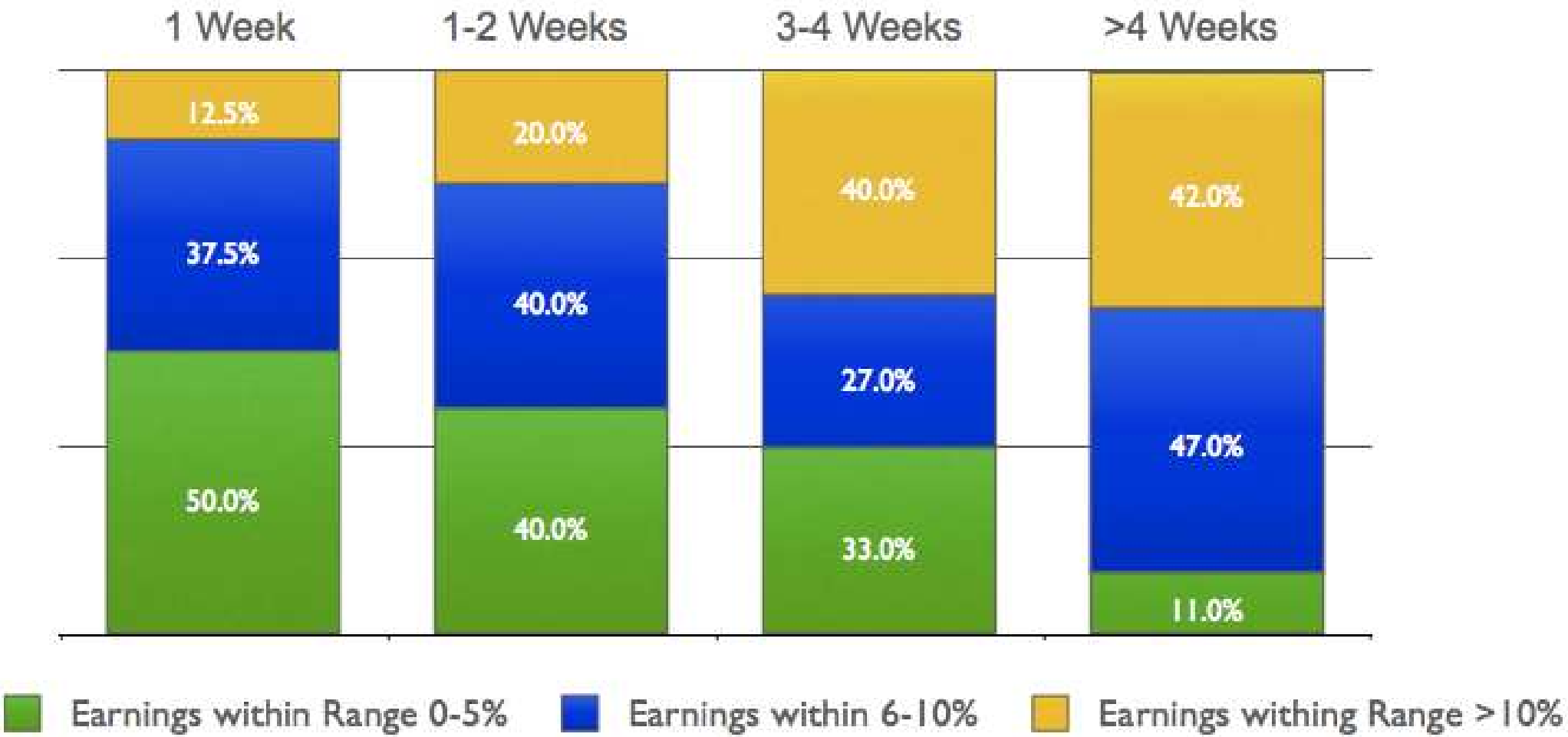
Source: Cognos Forecast Survey – September 2008

Let's look at the market – Forecast Accuracy



Source: Hackett Group, 2007

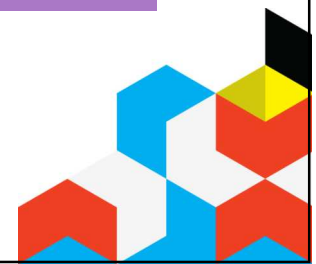
Do accurate forecasts take a long time?



Source: Hackett Group, 2007

There are several success factors

- Time Horizon
- Participation
- Modeling
- Scenarios
- Process Management
- **Culture**



But this is the most **realistic** estimate I can provide!

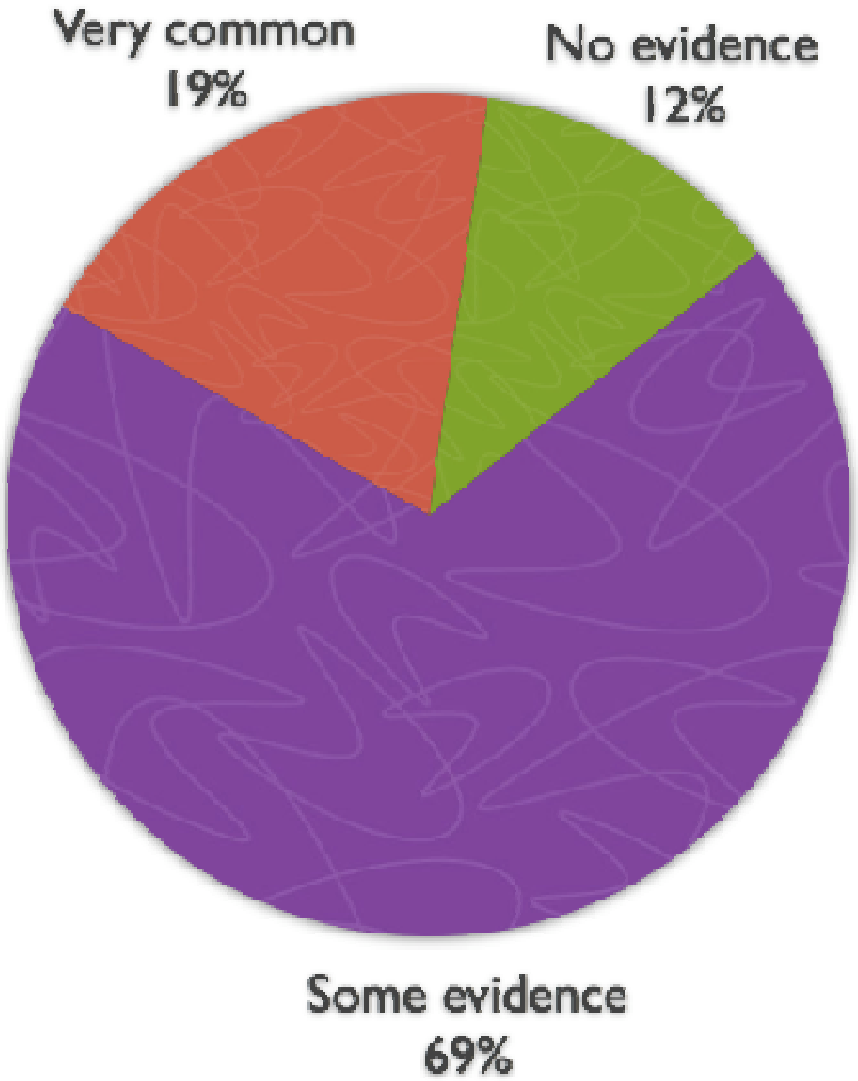
Business Manager

Nice forecast. But I don‘t like the revenue numbers. They are **too low**.

Executive

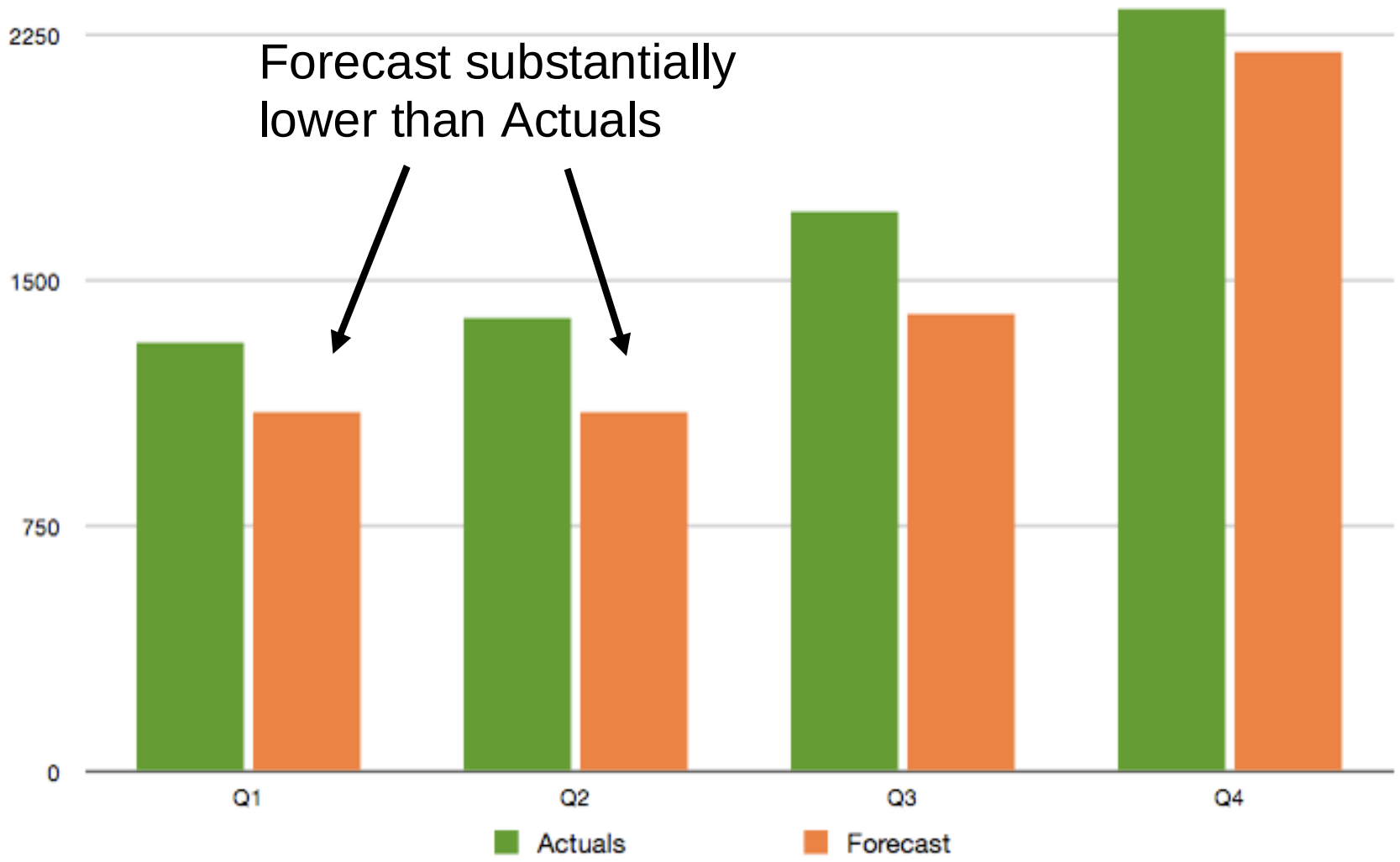
Please go back to your office and come back with **new numbers**.

Is there evidence of sandbagging?



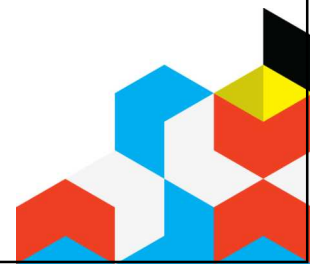
Source: Cognos Forecast Survey – September 2008

A typical case of sandbagging: Revenue forecast



"There are two things about a budget: one is that it **predicts the future**, and does a particularly poor job of that, but secondly, it **defines a measure** of what is good. If you make budget, that's good. And if you don't, you've done a bad job. Unfortunately, trying to predict the future and define what is good are two fairly **different processes**.

- John Landis, CFO, Foster Farms

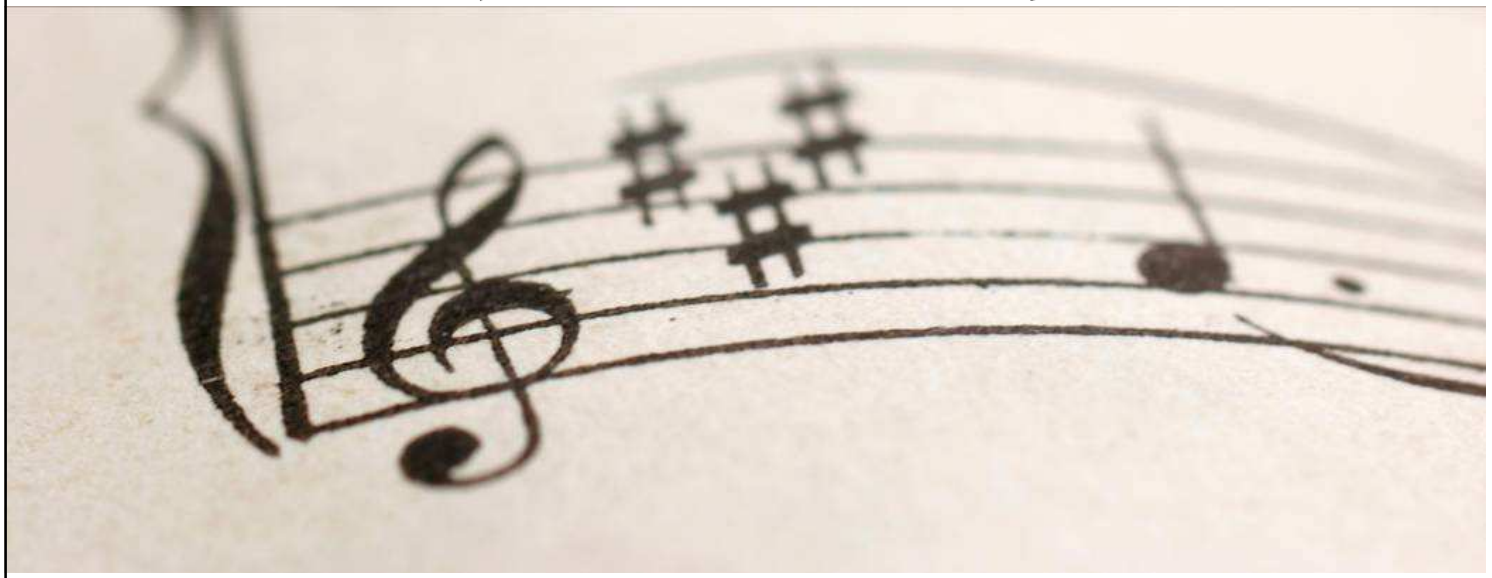


Management sets the tone

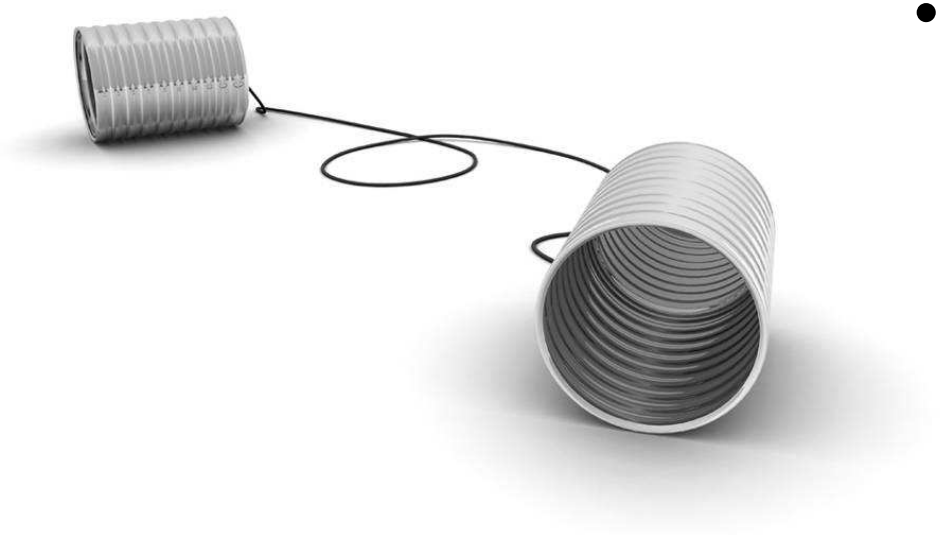
"Why didn't we anticipate that in the budget? Who **screwed up**?"

"Okay, clearly things have changed.

- What are the drivers of the change?
- What is the impact on our business?
- What actions should we be taking?"



Clarify the purpose & communicate



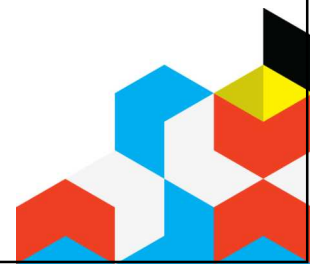
- Purpose of the forecast
- Relationship to decision-making
- Relationship to budget

Measure the process & the output

- Forecast Accuracy
- Cycle Time
- Confidence Levels

Adjust the compensation scheme

- Away from budget focus
- New success measures:
  - Forecast accuracy
  - Relative measures
  - Global measures



There are several success factors

- Time Horizon
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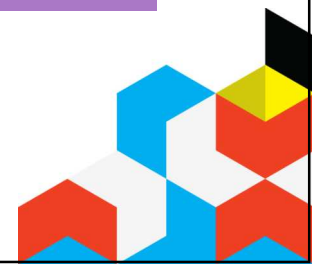
- Culture



But Rolling Forecasts are not a silver bullet

- **No one-size-fits-all approach**
- **Forecast culture required**
- **Changes to models required**
- **Technology upgrades**

IBM

IBM Cognos Performance

Better Intelligence. Better Business.

Implementing a Rolling Forecast with IBM Cognos

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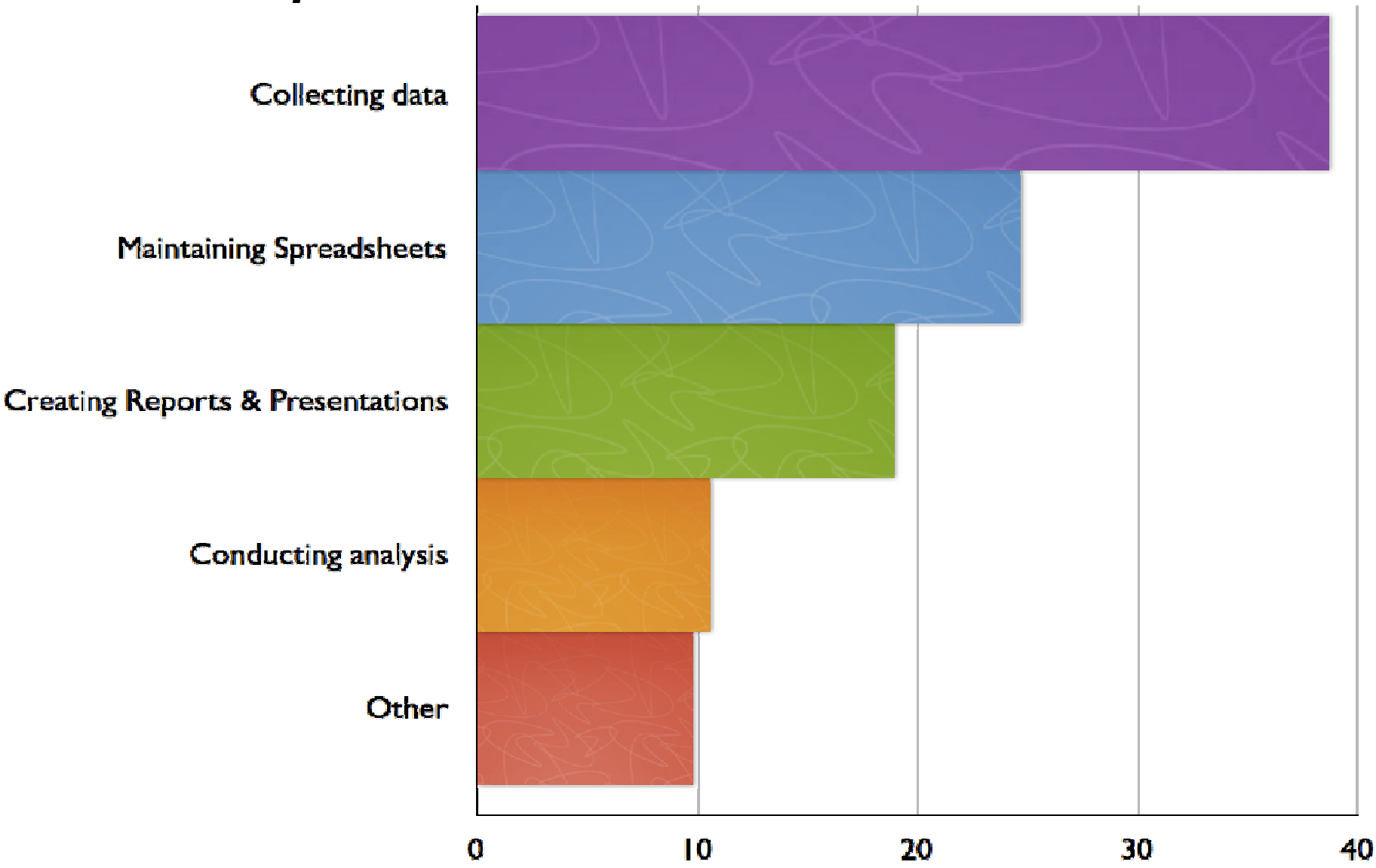
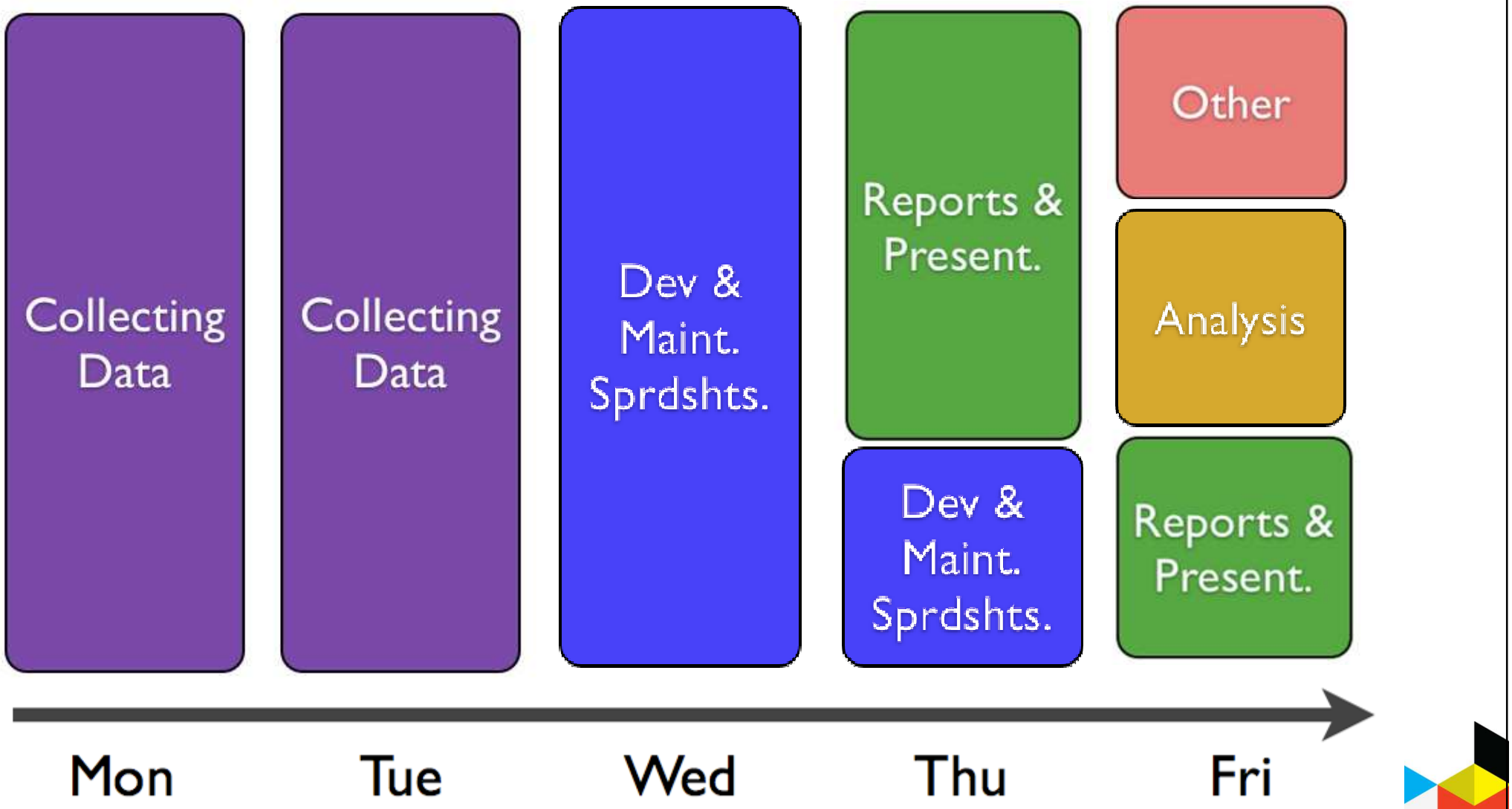
How do we spend our time?



Cognos Forecast Survey 2008

Same data – different perspective



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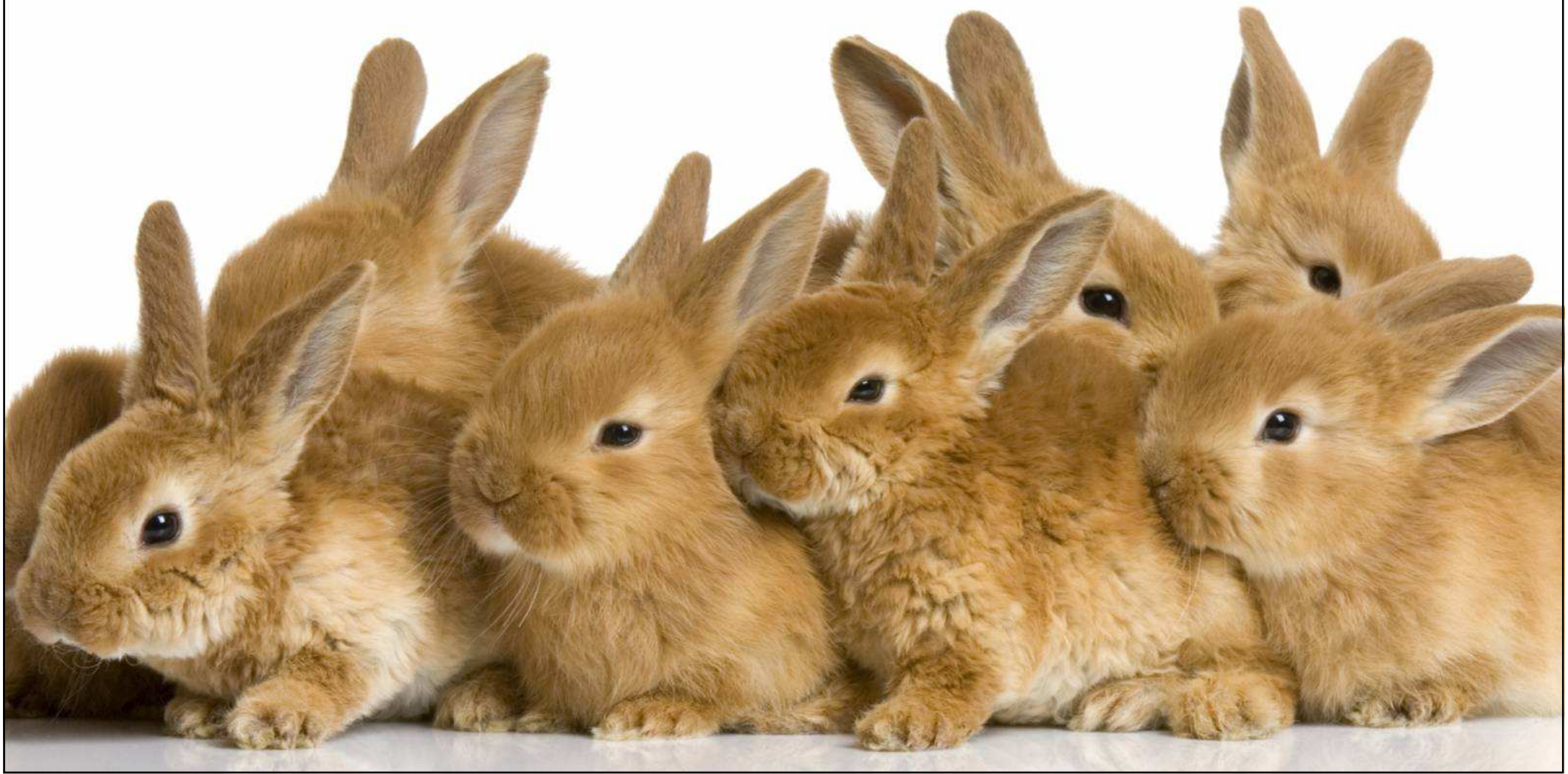
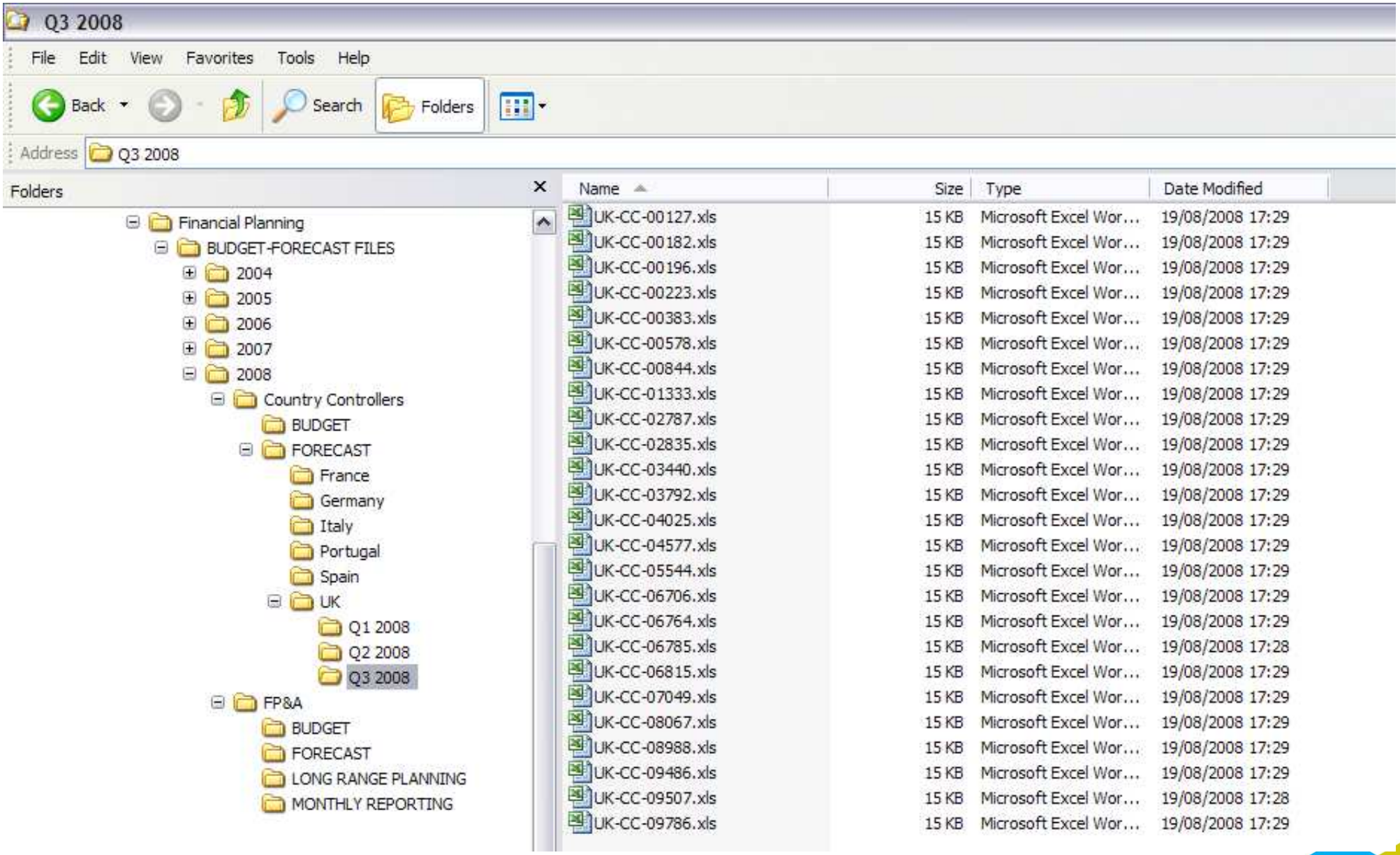
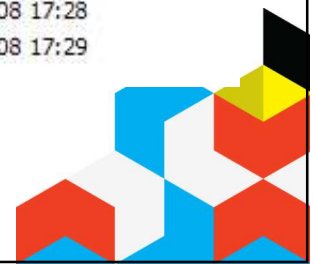


IBM Cognos Performance

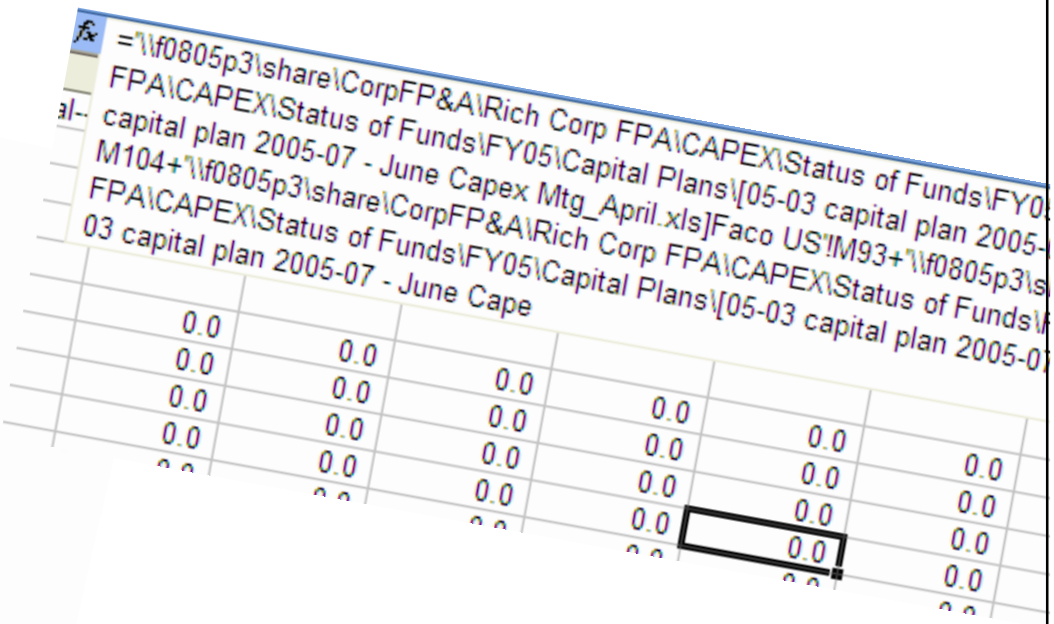




It's not only about the effort – consider the errors!

„90% of the spreadsheets analyzed contained significant errors."

PricewaterhouseCoopers

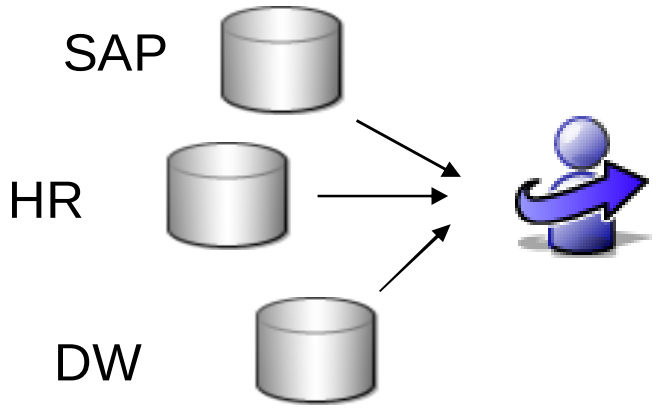


IBM COGNOS 8 v4

- Strategy Management & Scorecarding
- Enterprise Planning & Analytics
- Financial Reporting, Analytics & Profitability
- Consolidation and Corporate Reporting
- Finance Operations (GL, AR, AP)
- Performance Reporting
  - Reporting
  - Dashboards
  - Analysis
  - Mobile, Office, and Search
- Data Integration, Business Modeling, and IBM Synergy

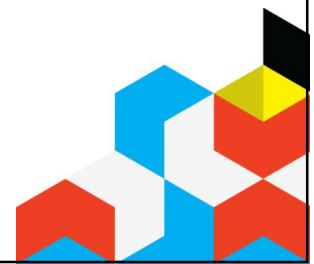
More time on Monday & Tuesday

Collecting Data



Automated Interfaces

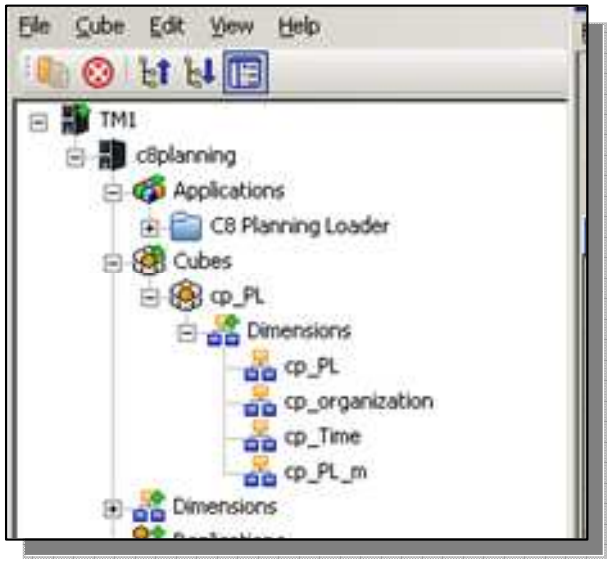
Workflow &
High Participation



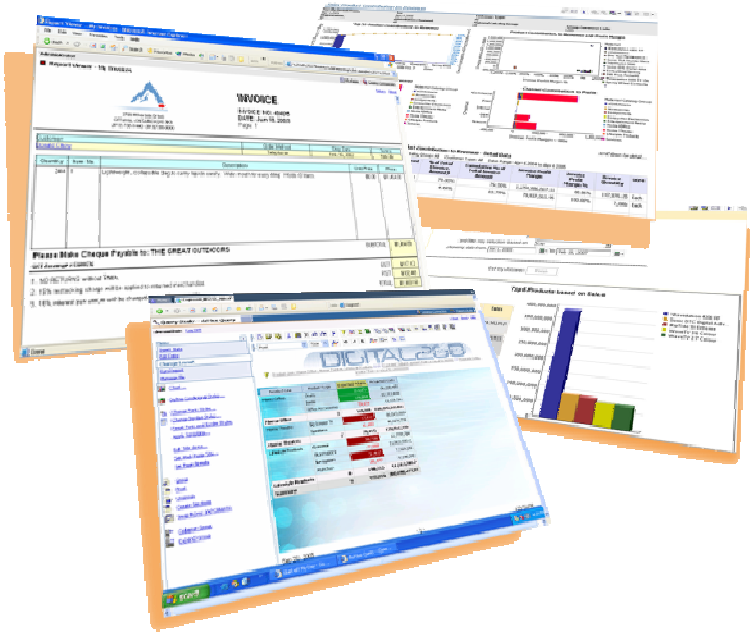
Wednesday and Thursday can look better as well

Reports & Present.

Dev & Maint. Sprdshts.



Centralized model maintenance



Automated reporting

Let‘s stop talking and look at this in real life.

- Review progress of my team
- Review last quarter‘s actuals
- Create new sales forecast
- Perform sensitivity analysis

Select Forecast Versions to analyse

Dataset 1 Dec-08 Forecast
Dataset 2 Jan-09 Forecast

Customers DE - Distributor
Months Mar-09
Products Prepared Whole Meals

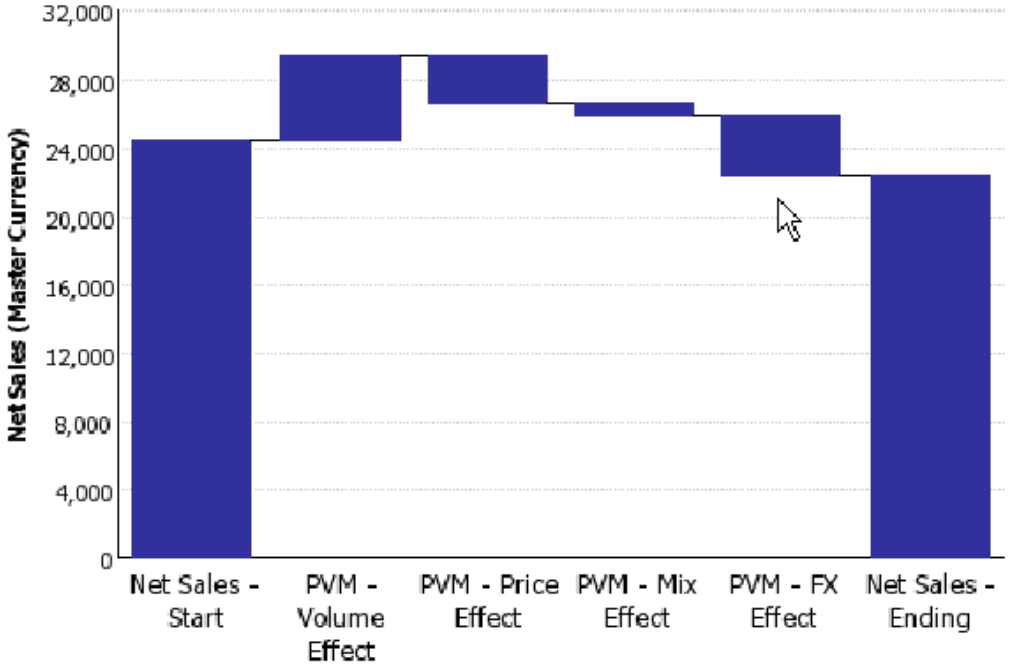
	Dec-08 Forecast	Jan-09 Forecast	PVM Effects
Sales Quantity	4200	5040	
Price - Local Currency	4.50	4.00	
Price - Master Currency	5.82	4.44	
Currency	EUR	EUR	
FX Rate	0.773	0.900	
PVM - Volume Effect			4890
PVM - Price Effect			-2717
PVM - Mix Effect			-773
PVM - FX Effect			-3450
Net Sales - Local Currency	18900	20160	
Net Sales - Master Currency	24450	22400	

	Exchange Rate
Budget	0.900
Scenario 1	0.600
Scenario 2	0.900
Scenario 3	0.800
Oct-08 Forecast	0.900
Nov-08 Forecast	0.773
Dec-08 Forecast	0.773
Jan-09 Forecast	0.900

Price-Volume-Mix variance analysis

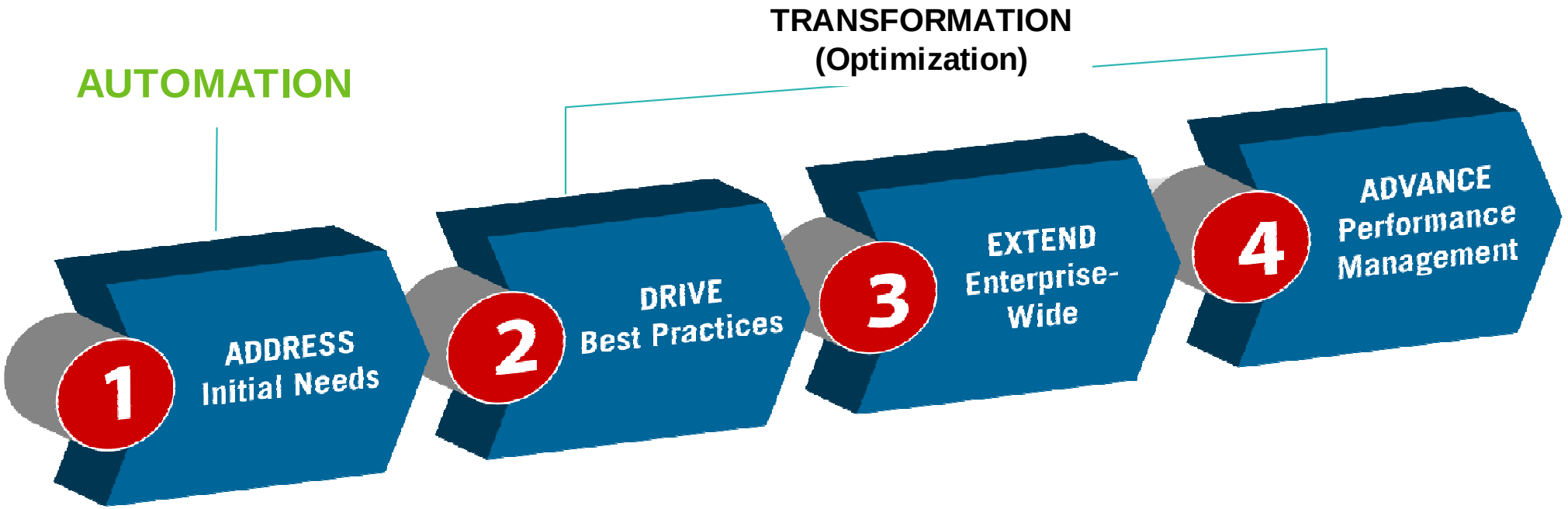
Net Sales Movement Analysis

Reconciles movement in Net Sales between any two data sets



Feb 10, 2009 1 3:41:43 PM

Start small and grow big



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Wrap-up

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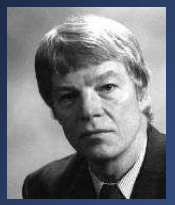
We are here to help you: Cognos Innovation Center

Customer Community

Pfizer, Best Buy, Manpower, Marathon, Amgen, Staples, Target, IKEA, 7-Eleven, Novartis, Thomson, Time Life, Tyson, Genentech, DHL, Lucent Technologies Bell Labs Innovations, Princess

Thought Leadership

David Axson, Sonax Group



Jeremy Hope, BBRT

David Norton, BSCOL

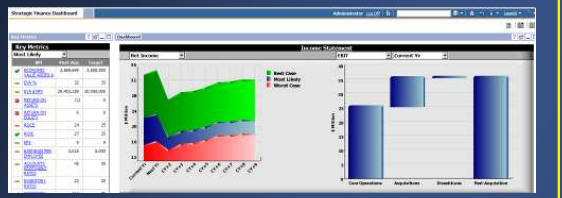
Steve Lukens, IBM GBS

Wilfried Lux FH St. Gallen

Innovation Center Experts

=

Valuable Output



Blueprints

Best Practices

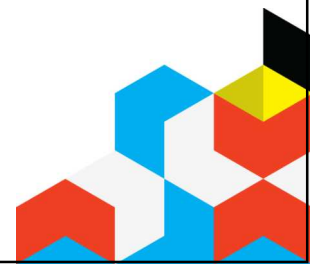
Events

Next Steps...

- **Come and talk to us**
- **Download our white papers**
- **Connect with your local IBM colleagues**

Session Summary

- **Meaningful forecasts are required in turbulent times**
- **Rolling forecasts provide a proven approach for gaining better business insight**
- **IBM Cognos provides the software & best practices and for implementing a better forecasting approach**



More info?

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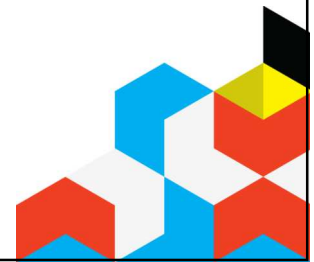
New website:

www.ibm.com/cognos/innovation-center

Twitter:

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