Scenarios Made Simple

Rich Clayton
Vice President Product Strategy
Oracle Corporation
@richardmclayton

ORACLE®

CPE Credits

Today's webinar is worth 1 Continuing Professional Education (CPE) credit.

To be eligible for CPE credit, you must:

- Answer **at least 3 of the 4** polling questions (during the webinar)
  and have a total viewing time of **at least 50** minutes.

- Participants will have the opportunity to download their CPE certificate immediately following the webinar if above requirements are met.

- In accordance with the standards for the National Registry of CPE
  Sponsors, CPE credit will be granted based on a 50-minute hour.

- We are unable to grant CPE credit in cases where technical difficulties preclude eligibility. CPE Program Sponsorship guidelines prohibit us from issuing credit to those not verified by the technology to have satisfied the minimum requirements listed above.

Today's Agenda

- Agile scenario modeling
- What great looks like
- Common obstacles
- Scenarios made simple
- Getting started

National Airline Post 9/11 Crisis

- 80 million passengers a year
- 3000 flights per day to 60 destinations

SITUATION

- Determine how long cash balances of $1 billion would last – immediately
- Develop capital spending plans and 15 month rolling forecasts in 1 day
- Create business cockpits for executives and other functional areas to track key metrics

RESULTS

- Ability to forecast within 98% of outcome, providing top-bottom and bottom-top analysis
- Analysis provided comfort level (no employees laid off; no need for government funding)
- Finance moved to spending 10% accumulating data and 90% analyzing (75%/25% before)

ORACLE®

What is agile scenario modeling?

Scenario planning is as much art as science, and prone to a variety of traps
(both in process and content)

Paul J.H. Schoemaker

# What Makes Scenario Modeling Agile

- Time to produce, time to adjust
- Financial integrity of scenario
- Carefully selected drivers
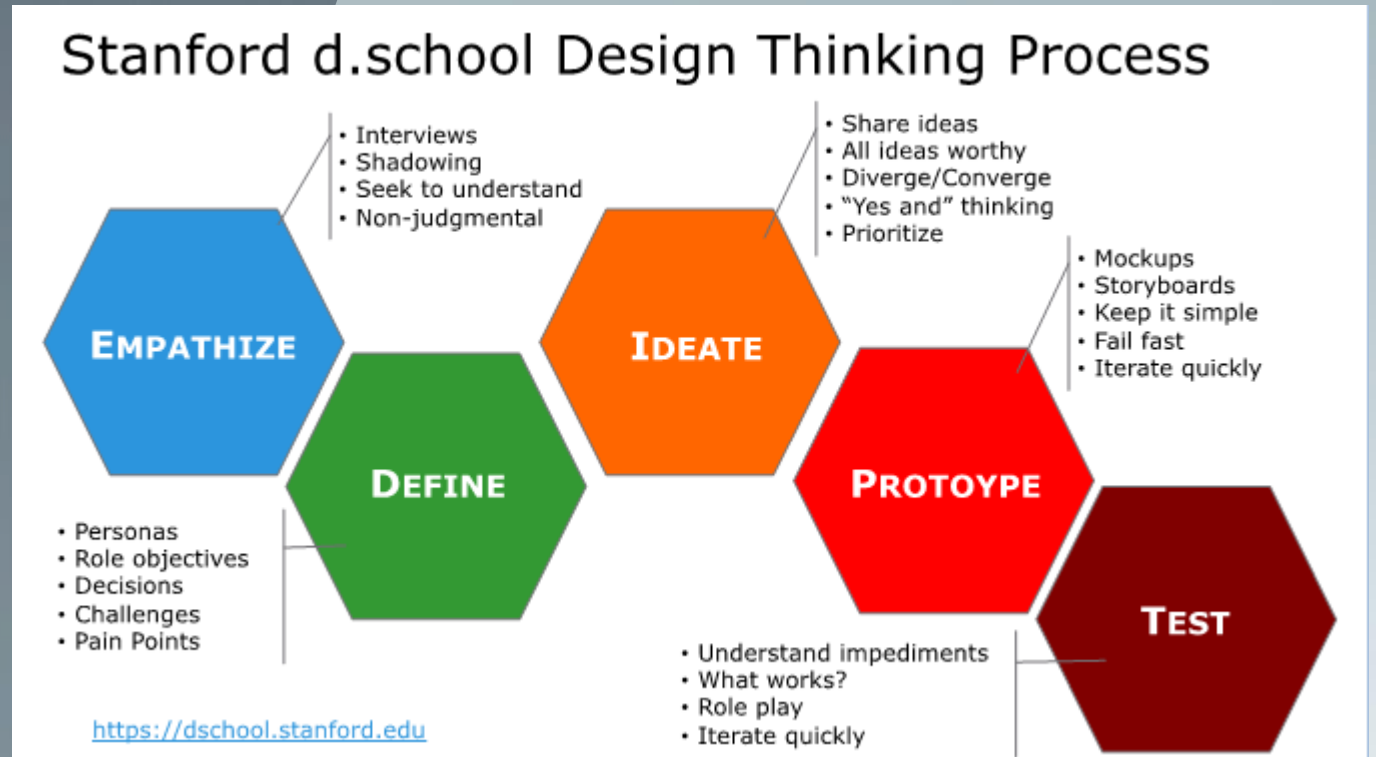- Stakeholder alignment
- Clear feedback loop
- Easy to grasp

ORACLE
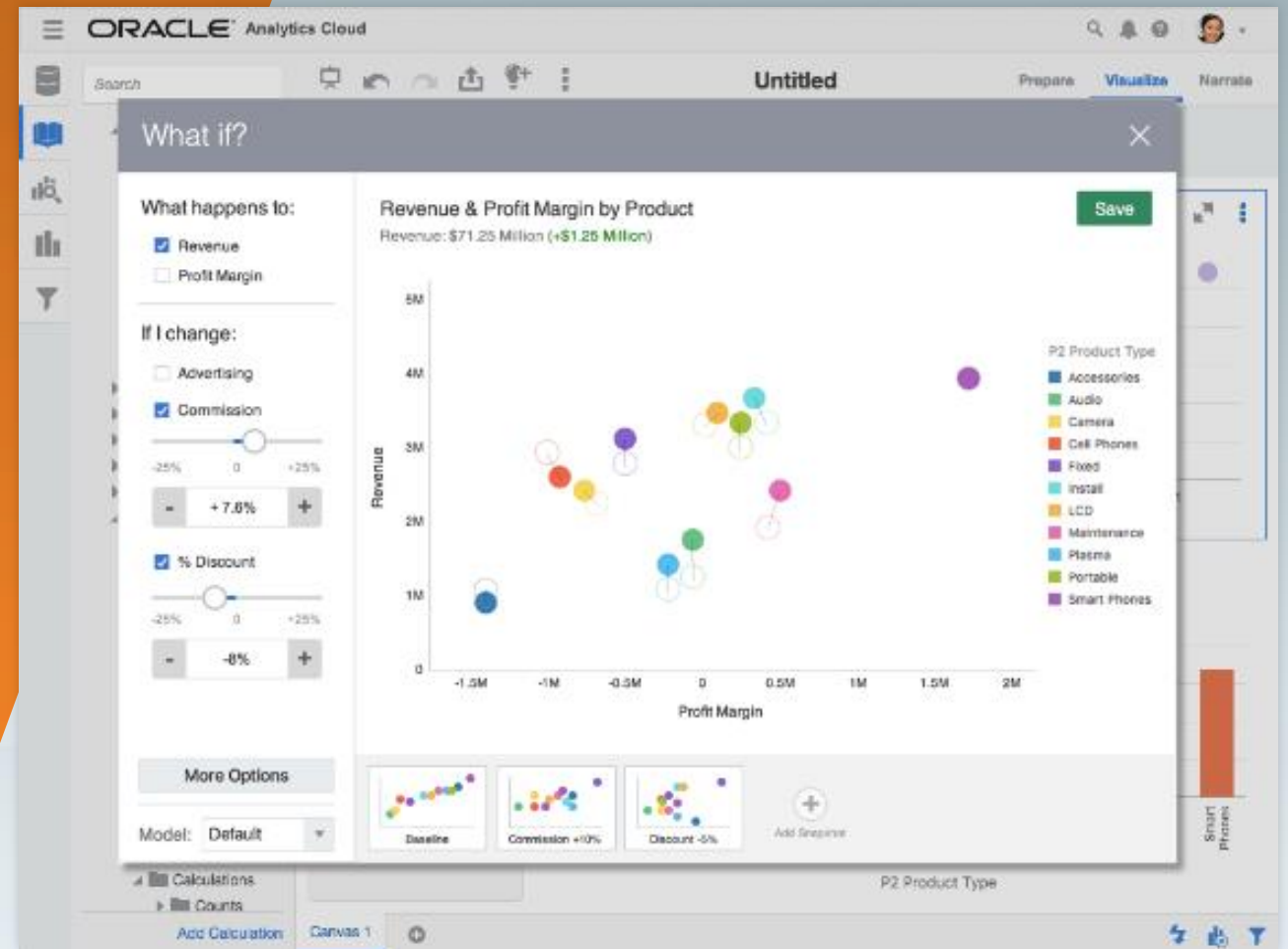
Unlike analytical thinking, **design thinking** includes "building up" ideas, with few, or no, limits on breadth during a "brainstorming" phase.

The phrase "thinking outside the box" describes the brainstorming phase and is encouraged, since this can aid in the discovery of hidden elements and ambiguities in the situation and discovering potentially **faulty assumptions.**
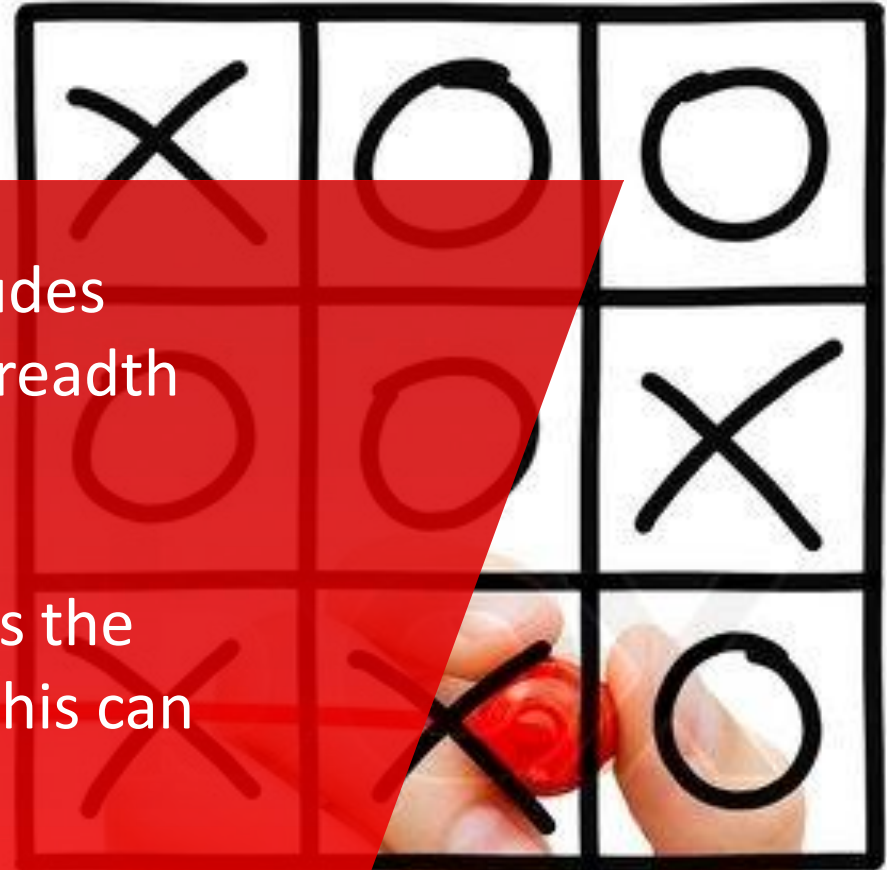
A Process for Problem Solving

Design thinking processes has been shown to produce more innovative solutions than more traditional perspectives of non-group based stakeholder consultation.

Stanford d.school Design Thinking Process

EMPATHIZE
- Interviews
- Shadowing
- Seek to understand
- Non-judgmental

DEFINE
- Personas
- Role objectives
- Decisions
- Challenges
- Pain Points

IDEATE
- Share ideas
- All ideas worthy
- Diverge/Converge
- "Yes and" thinking
- Prioritize

PROTOYPE
- Mockups
- Storyboards
- Keep it simple
- Fail fast
- Iterate quickly

TEST
- Understand impediments
- What works?
- Role play
- Iterate quickly

https://dschool.stanford.edu

ORACLE®

Many Parallels to Design Thinking

1. Decide on the key questions
2. Set the time and scope of the analysis
3. Identify major stakeholders
4. Map basic trends and driving forces
5. Find key uncertainties
6. Check for the possibility to group the linked forces
7. Identify extreme possible outcomes of the driving forces
8. Define a range of scenarios
9. Name and narrate each scenario
10. Assess the scenarios on relevancy and stability
11. Identify research additional data needs.
12. Develop quantitative methods for measuring consequences
13. Converge towards decision by retracing steps

Why is agile scenario modeling needed?

The Many Reasons to Master Scenario Modeling
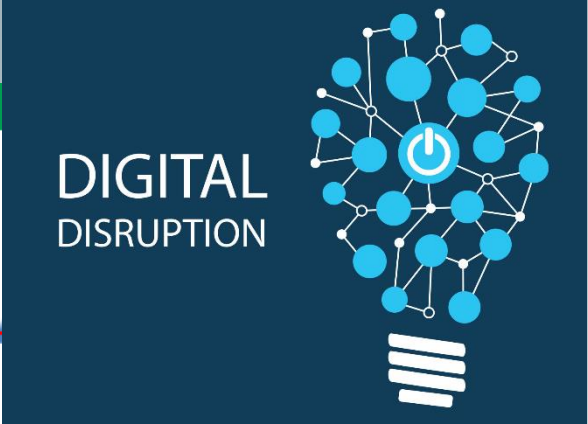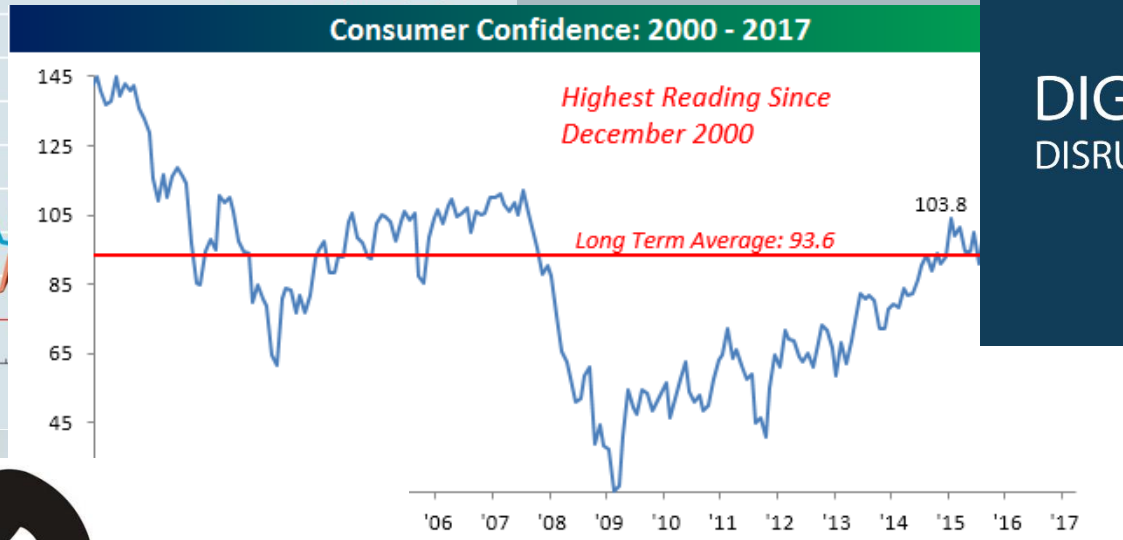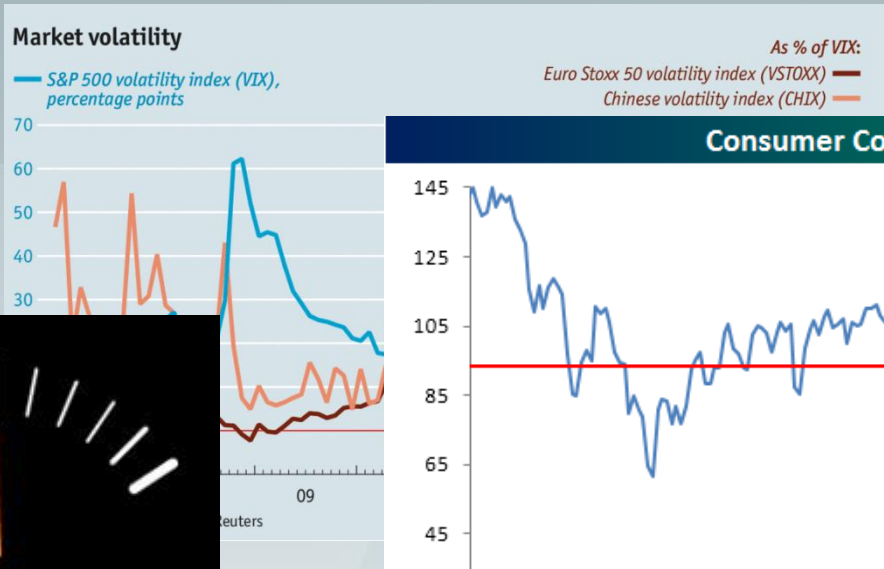
[challenging the value of detailed budgeting]

Participation and Scenarios Beat Detailed Analysis

Share of Performance Explained by Given Element

Quantity and Detail of Analysis

Detailed financial modeling, sensitivity analysis

8

39

53

Industry & Company Variables

Number of investment opps, Resource and capital availability, Predicting consumer preference

Quality of process to reach decision

Explicit exploration of major uncertainties, inclusion of perspectives that contradict management point of view

Source: McKinsey

ORACLE®

If you fail to plan, you are planning to fail.

ORACLE
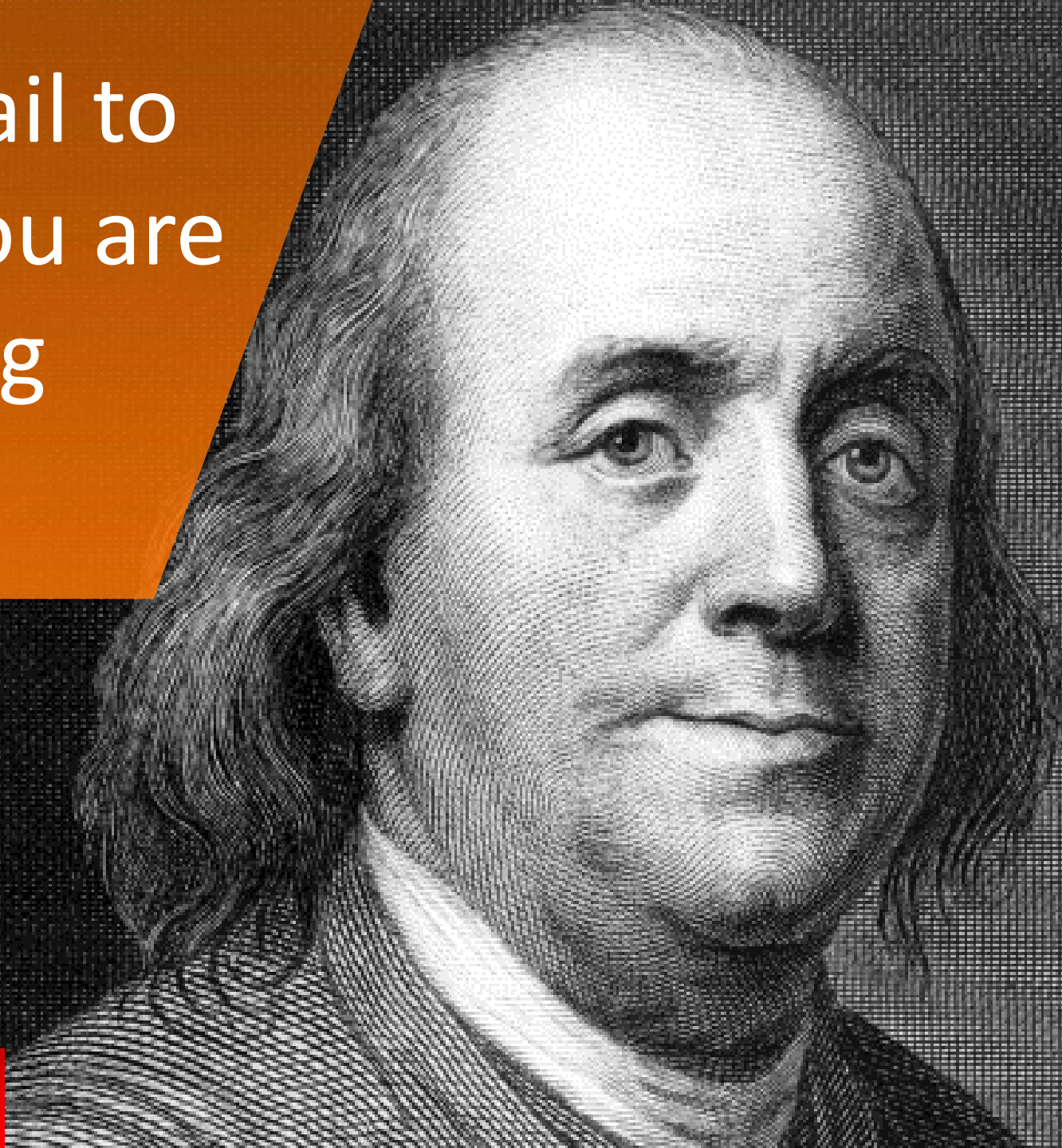
High Variability of Scenarios

- Strategic, Operational, Tactical

- Episodic or Periodic

- Tolerance for error / accuracy

- Level of detail

- Scale and scope

- Stakeholders

ORACLE®

Some Common Examples

- Cashflow / FX Modeling

- Supplier Substitution

- Sales & Operations Planning

- Customer Lifetime Value

- Growth & Expansion Planning

- Sales Capacity Modeling

- Subscription Revenues

- LRP / Econometric

- Promotional Response Modeling

- Push/Pull CapEx

ORACLE®

What does great look like?

ORACLE®

NEW LENS SCENARIOS

A SHIFT IN PERSPECTIVE FOR
A WORLD IN TRANSITION
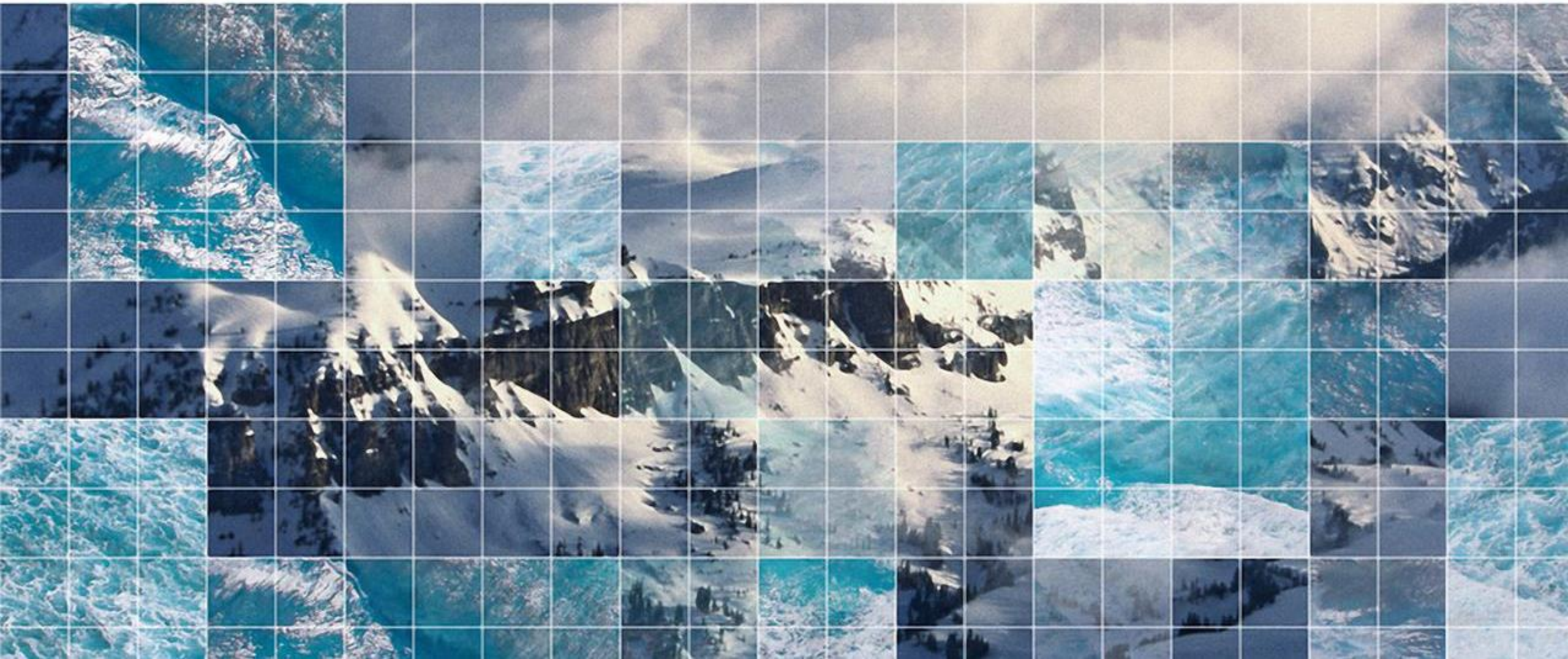
Exploring alternative futures

- Energy system was complicated
- Energy transition and digital: major disruptors
- Past does not predict the future
- Forecasts are inappropriate

- Radically uncertain future
- Complex future: needs agility
  - Scenario thinking
  - Decision-making
- Scenarios are a distinctive Shell capability

From complicated to complex

The Present   **The Path**   **The Future**

FORECAST

SCENARIOS

ORACLE®

Scenarios are neither forecasts nor plans

- Scenarios are not forecasts; neither are they our business plan
- Shell considers multiple, bespoke scenarios relevant to decisions
- Scenarios usage ranges from evaluation of individual opportunities, to portfolio choices, to overarching strategy development

Multiple forces may push towards or pull away from the envisaged futures

Scenarios stretch our perspectives

ORACLE®

Using scenarios
Recognising a range of uncertain outcomes

Future worls

Pace of new technology

Pace of demand growth

Value chain assessment*

Future World
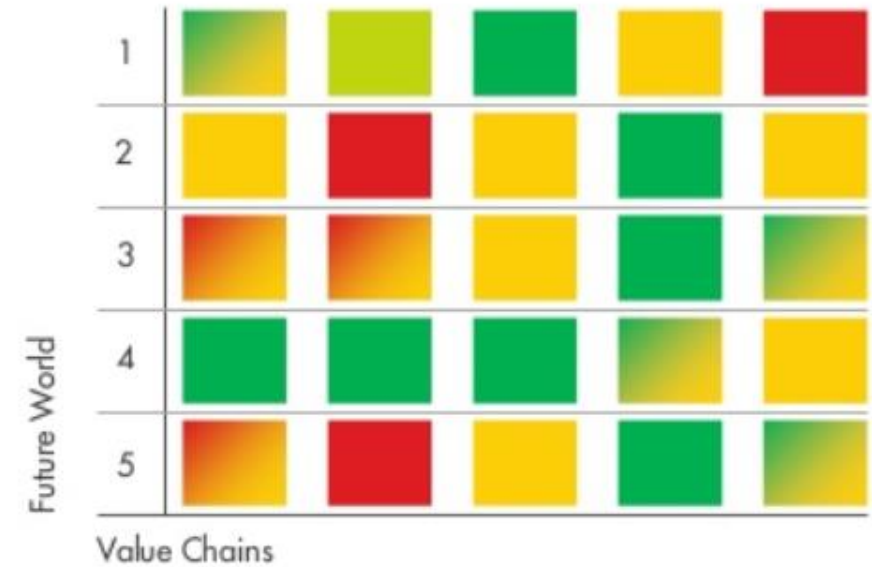
Value Chains

- Explore potential future worlds
- Understand potential value chain impacts

- Consider a range of plausible futures
  - Explore social, political + economic factors
  - Determine context for business environment
- Model the Future World's energy systems

- Consider existing and new energy value chains
  - Elements within the value chain
- Assess investment attractiveness over time
- Consider the Future Worlds

*This is an example diagram of graphic representations that are considered by the Board. Not based on Shell's actual portfolio.

Secret to Shell's Success in Scenario Analysis

1. Decide drivers for change/assumptions
2. Bring drivers together into a viable framework
3. Produce 7–9 initial mini-scenarios
4. Reduce to 2–3 scenarios
5. Draft the scenarios
6. Identify the issues arising

ORACLE®

What are common obstacles?

ORACLE®

Most Common Challenges

DATA SILOS

ANALYTIC SKILLS

Source: McKinsey Global Institute

Every Business is Multi-dimensional

- Products
- Customers
- Geographies
- Suppliers
- Markets
- Channels
- Organization
- Legal Entities
- Measures

Market

Product

Time

Scenario

Measures

	A	B	C	D	E
1			Market		
2			Product		
3	Actual				Actual
4	Jan				Qtr1
5	31,538		Sales		95,820
6	14,160		COGS		42,877
7	17,378		Margin		52,943
8					
9	5,223		Marketing		15,839
10	4,056		Payroll		12,168
11	75		Misc		233
12	9,354		Total Expenses		28,240
13					
14	8,024		Profit		24,703
15					

ORACLE®

Yet Most Models Are Done in Excel

Excel is a great tool, but...

- Disconnected
- Data Security Risks
- Error-prone
- Doesn't scale
- No controls / audit trails
- Multiple calculations
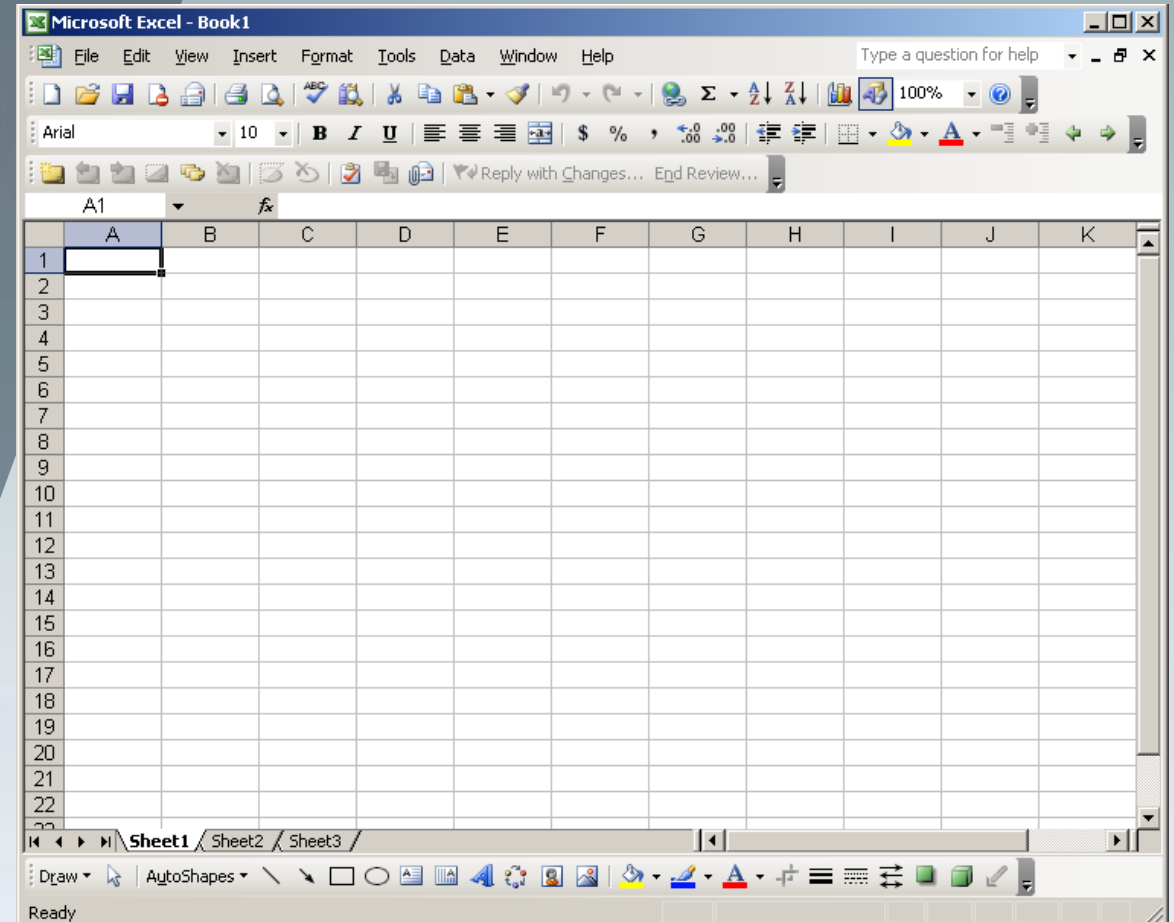
With Excel, Formula Maintenance Becomes Full-time Job

And we haven't even talked about hierarchies yet...

Market(s)

Product

ORACLE®

How can we make scenarios simple?

ORACLE®

Scenarios Made Simple – IDAHO Style

Inputs – internal and external

Dimensions – shape of the analysis

Assumptions – key drivers

Horizon – time considerations

Outputs – purpose

ORACLE®
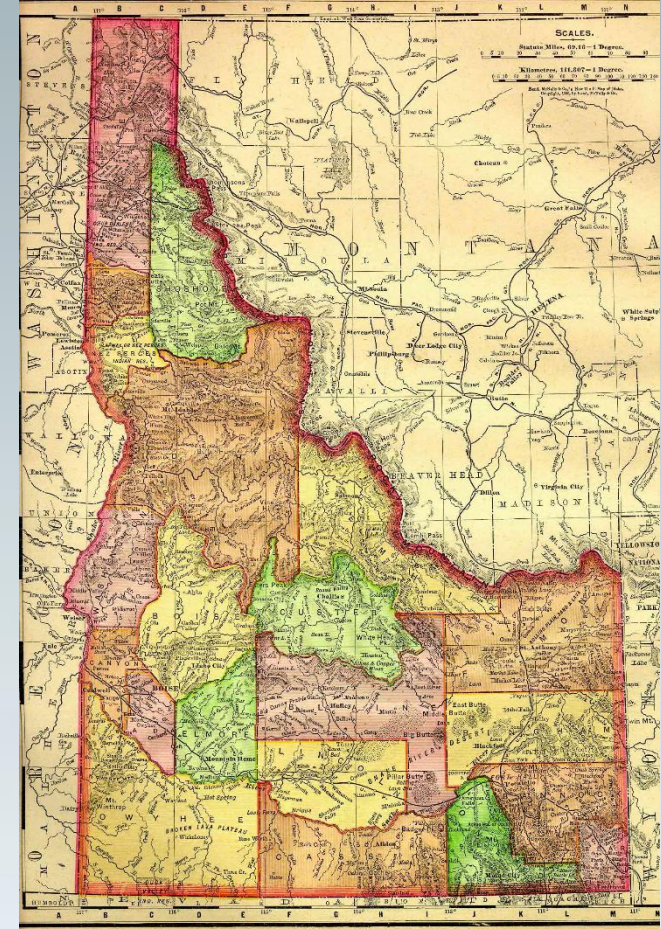
Inputs to the Scenario

- Internal stakeholders
- Management perspective
- Customers / Suppliers
- Internal data
- External data

ORACLE®

Recognize Many Inputs Have Bias

Pattern Recognition

- Confirmation bias
- Management by example
- Champion bias
- False analogies

Action-Oriented

- Excessive optimism
- Overconfidence
- Competitor neglect

Interest

- Misaligned individual incentives
- Inappropriate attachments
- False perceptions of corp. goals

Stability

- Anchoring
- Loss aversion
- Sunk-cost fallacy
- Status quo

Dimensions of the Model

Markets
CA CT NY

Products

Diet Cola	166	182	143
Root Beer	131	149	120
Cream Soda	123	150	115
Fruit Soda	**267**	196	231

Jan Feb Mar

Time

267 units of Fruit Soda sold in CA in Jan
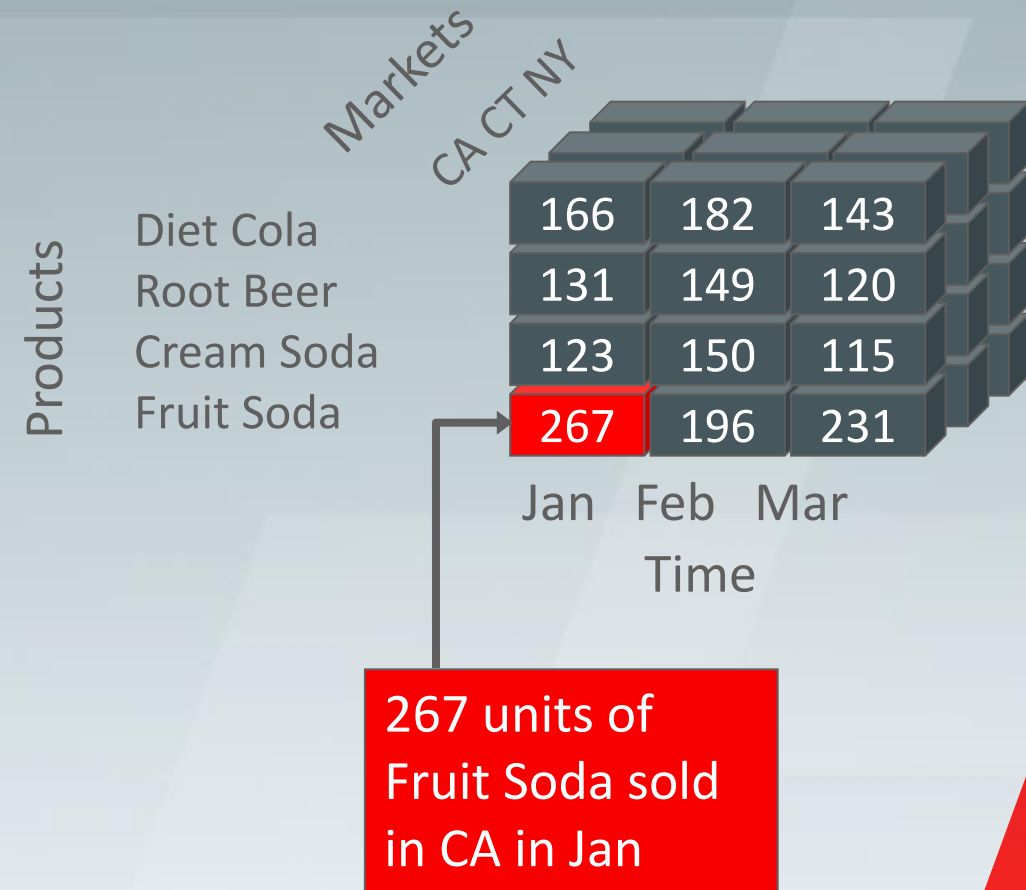
- Critical business perspectives
- One or many hierarchies
- Attributes for further segmentation
- Measure dimension has financial intelligence

ORACLE®

Dimensional Design is Key to Success

Operating Expenses - FY14 Plan
Department Name: Sales East

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Advertising													
Public Relations													
Utilities													
Rent Expense													
Office Supplies													
Postage													
Equipment Expense													
Total Office Expenses	0	0	0						0	0	0	0	0
Accounting and Tax Services													
Secretarial Services													
Legal Services													
Technical Services													
Total Facility Services Expenses	0	0	0	0	0	0	0	0	0	0	0	0	
Airfare													

Periods

Years

Accounts

Departments

Scenario / Version

ORACLE®

Assumptions and Allocations

- Test multiple hypotheses on sensitivity of key business drivers
- Centralize rules for spreading data across dimensions
- Select 3-5 drivers for model
- Document in detail rationale

ORACLE®

Horizon

- Time to produce scenario
- Time horizon reasonable for projections
- Consider grain of external data
- Factor in seasonality of consumer demand

ORACLE®

Objectives

- Passes the SMART test
- Confirmed with stakeholders
- Clear feedback loop

ORACLE®

Applying IDAHO Model to Some Real World Examples

Use Case	Inputs	Dimensions	Assumptions	Horizon	Outcome
Sales Capacity Modeling	Sales interviews, Pipeline metrics, Marketing insights	Region, Channel, Time, Product	Headcount, Quota, Time to Productivity	Weekly or Monthly for Next 12 months	Predictable Revenue Model
Trade Promotion Model	Ship/Scan data, Marketing assessment	Product, Channel, Promotion Type, Region, Time	Volume, Channel, Marketing pool, Customer Spend	Seasonal	Optimize Spend and Maximize Lift
Product Profitability Modeling	Product manager inputs, manufacturing feedback	Region, Products, Location, Fiscal Year	Revenue, Materials Costs, Average Discounts	Rolling 4 Quarters	Profitability by Segment

How does an analytics cloud platform help?

ORACLE®

Meet Essbase Cloud Service

3D Modeling Built for Better Business

- Multi-dimensional by design

- Built for business

- Extreme productivity

- Sandbox for scenarios

- Governed calculations

- Fast and Secure
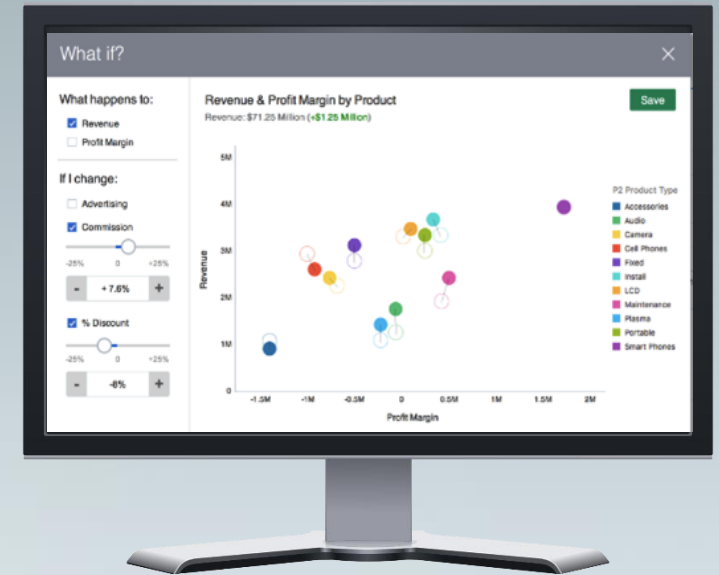
Product Profitability Modeling

Sales Capacity Modeling

Freight Shipping Modeling

Trade Promotion Modeling

ORACLE®

From Excel to Essbase in 60 Seconds

Do Everything in the Cloud

- One click provisioning, no IT

- Zero learning curve

- New design and migration tools

Do It All in Excel

- Excel as primary modeling tool

- Dozens of prebuilt templates

- Export cubes to Excel format

ORACLE®

Sandboxing and Scenario Management

Create Unlimited Sandboxes

- Create private copy of data for what-if and sensitivity analysis

- Refresh base data and merge into Sandbox

- Only delta entries are saved in the sandboxes

- Define approval flows for sandbox submission back to baseline

Approve   Submit

Create → What-if → Submit → Approve → Apply

Reject

ORACLE®

Write Back from Data Visualization

Enable What-If and Collaboration

- Visual what-If analysis

- Sandbox for any data source

- No need to leave the visualization environment and go to Excel
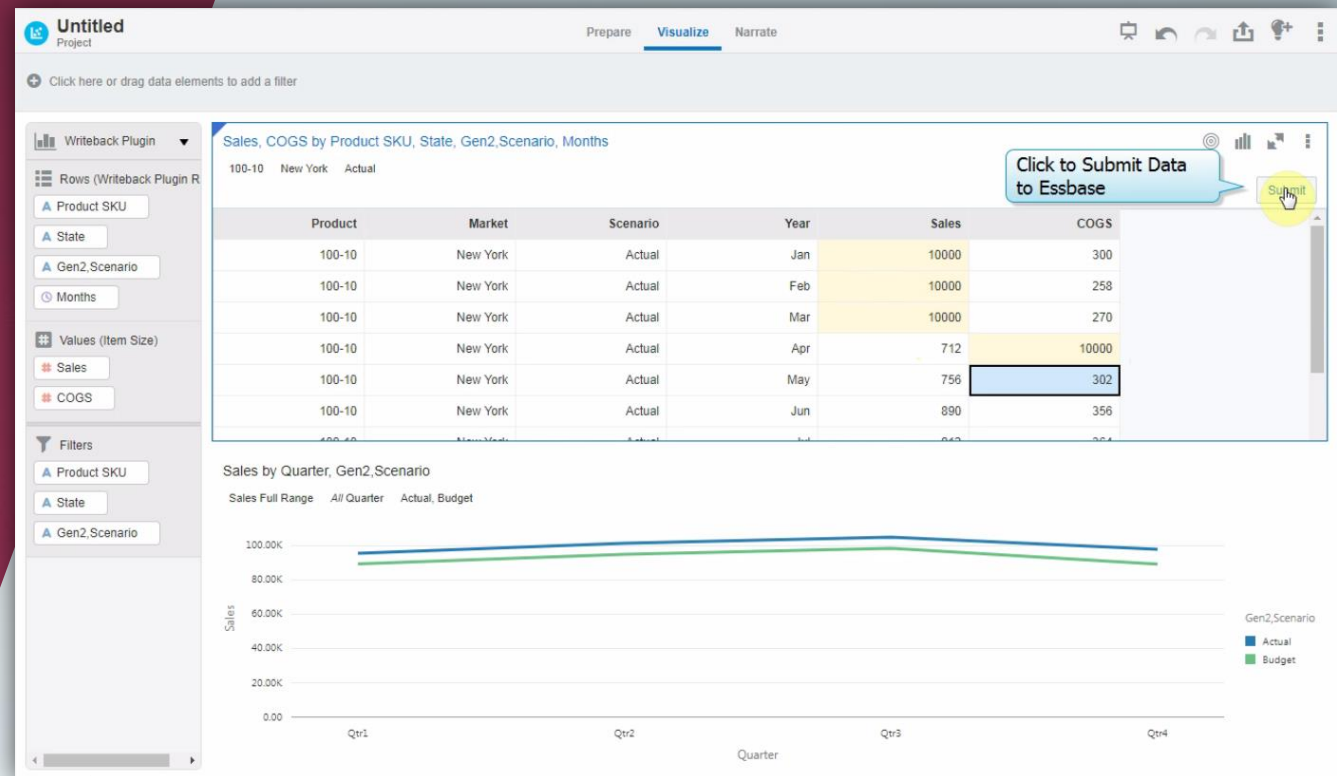
Agile Allocations for Rapid Simulations

Launch Multi-dimensional Allocation Rule

Adjusted Spend Redistributed with New Assumptions

One Click Refresh from Visualization

Easily See Before and After Spend Distribution

What should I do to get started?

ORACLE®

Action Plan for Agile Scenario Modeling

1. Prioritize modeling efforts
2. Take design thinking course
3. Embrace IDAHO approach
4. Think cloud first for agility
5. Benchmark process efficacy

ORACLE®