

# Webinar: Success and Failures in Marketing Mix Modeling

## Presented by:

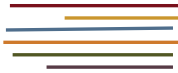
Doug Brooks, Senior Vice President  
Modeling and Analytic Services at IRI



December 10, 2009



# Agenda

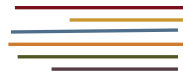


- ▶ **Current Situation**

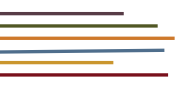
- ▶ Challenges

- ▶ Keys to success





**So what makes a marketing mix program at one company a success and another a failure?**





## The history of marketing mix

- » **Then** - commercialized in the late 1980s in Consumer Packaged Goods (that's where the data was)
- » **Now** – being used globally across almost every industry to measure and optimize marketing performance, sales performance and provide insight into operations and external factors

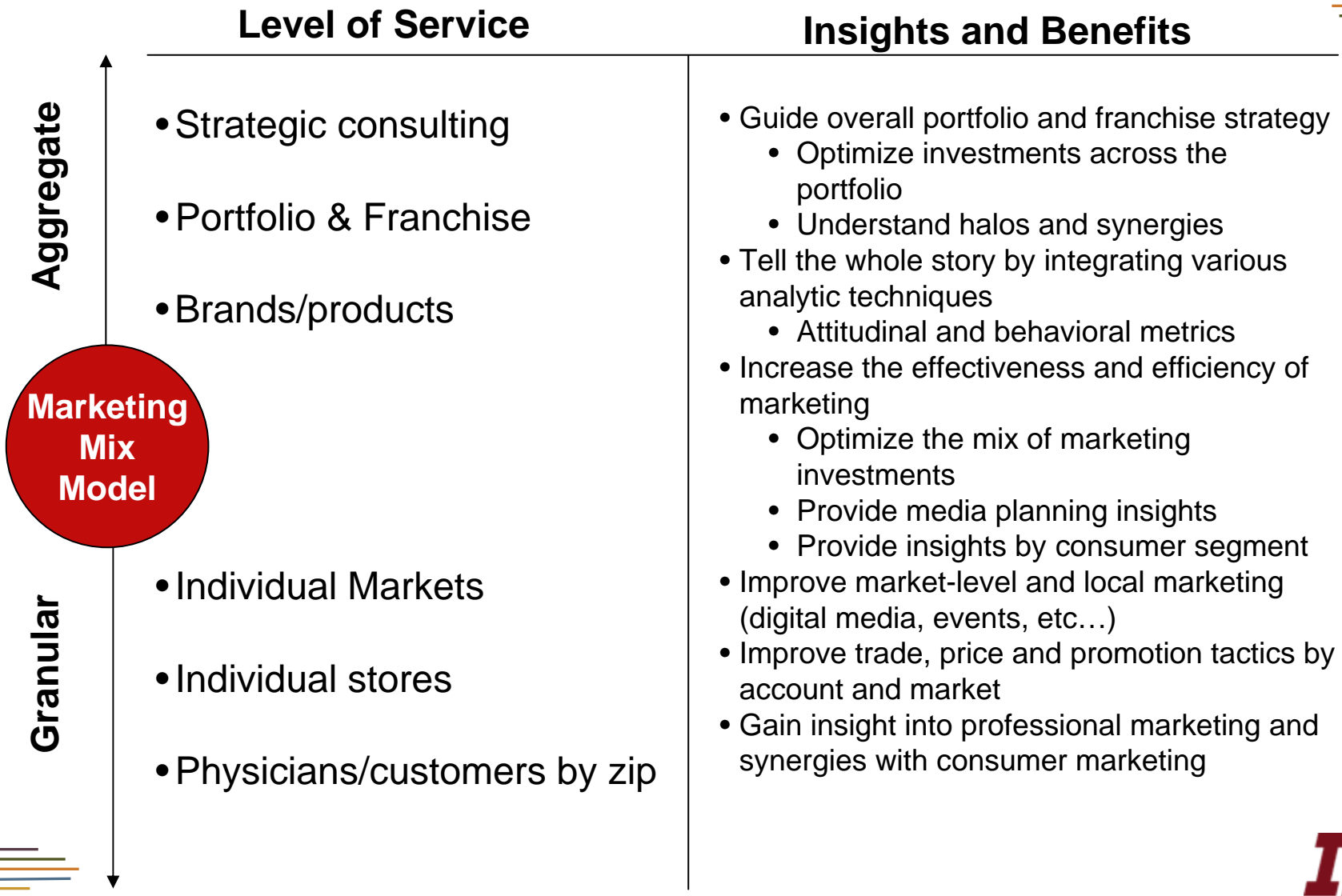
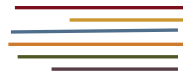




## » Industry examples:

- CPG – sales volume and profit
- Retail – transaction and revenue
- Telecommunications – acquisition, retention, churn
- Financial services – acquisition, usage, retention, growth/cross-sell
- Travel – bookings and utilization
- Pharmaceuticals – TRx, NRx
- Automotive – leads, sales
- Etc...

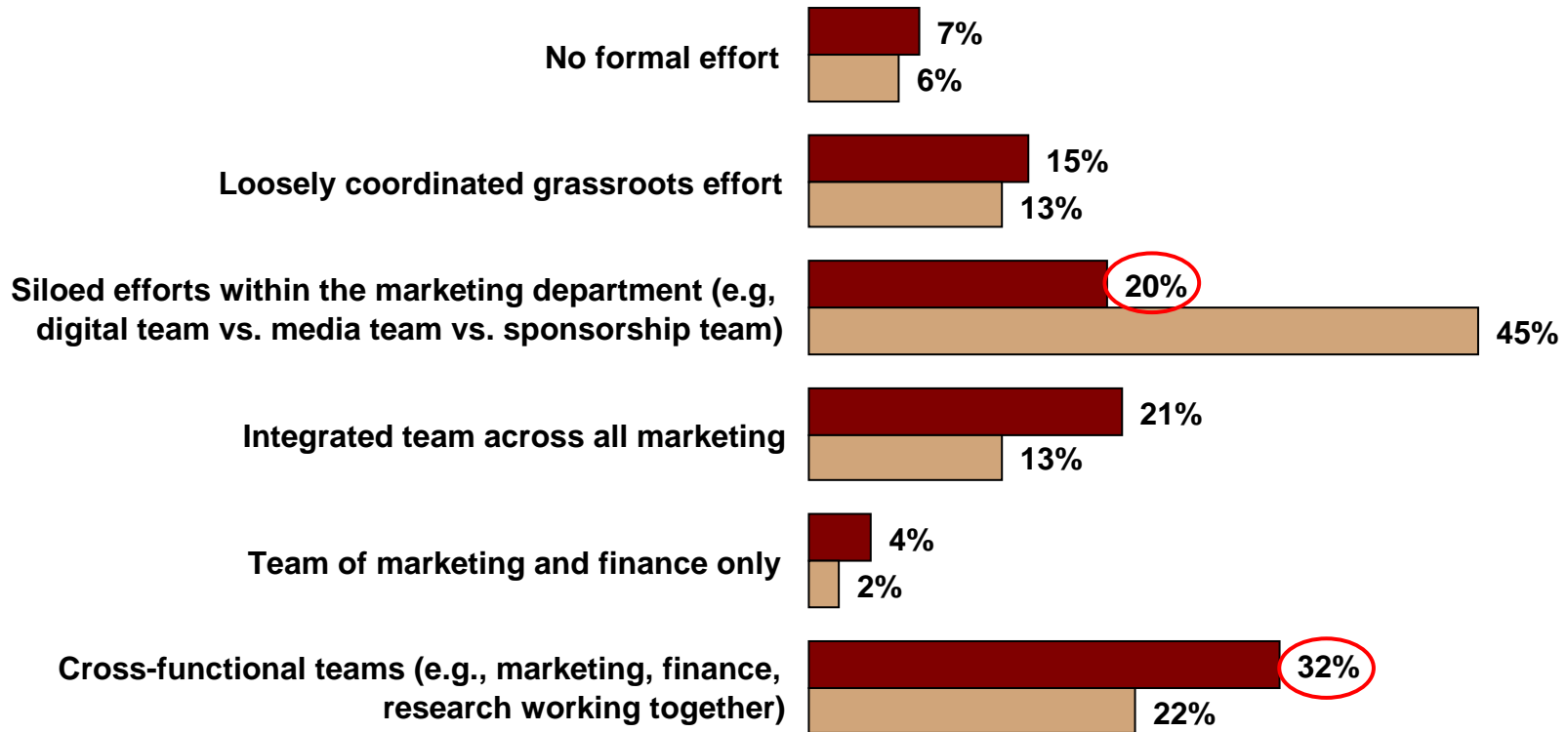




A recent study by the Association of National Advertisers (ANA) found significant maturity of marketing accountability efforts across industries



## Description Of Marketing Accountability Efforts 2009 vs. 2008



■ 2009 Survey ■ 2008 Survey

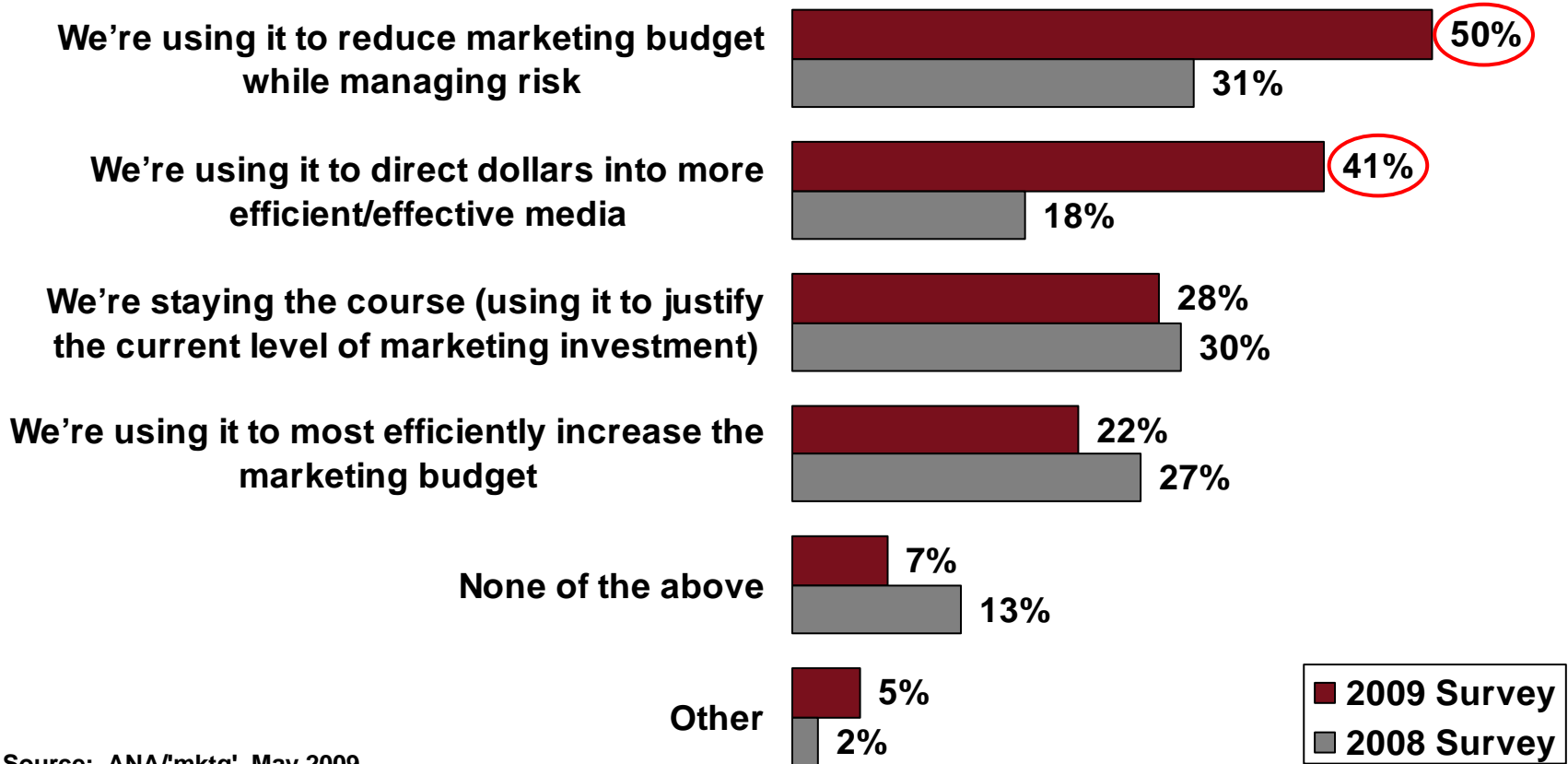
Source: ANA/'mktg', May 2009



This study also found that senior managers are using these insights to guide critical planning and budgeting decisions



## How Marketing Accountability Program Is Being Used To Address Current Financial Challenges



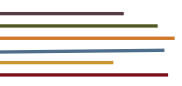
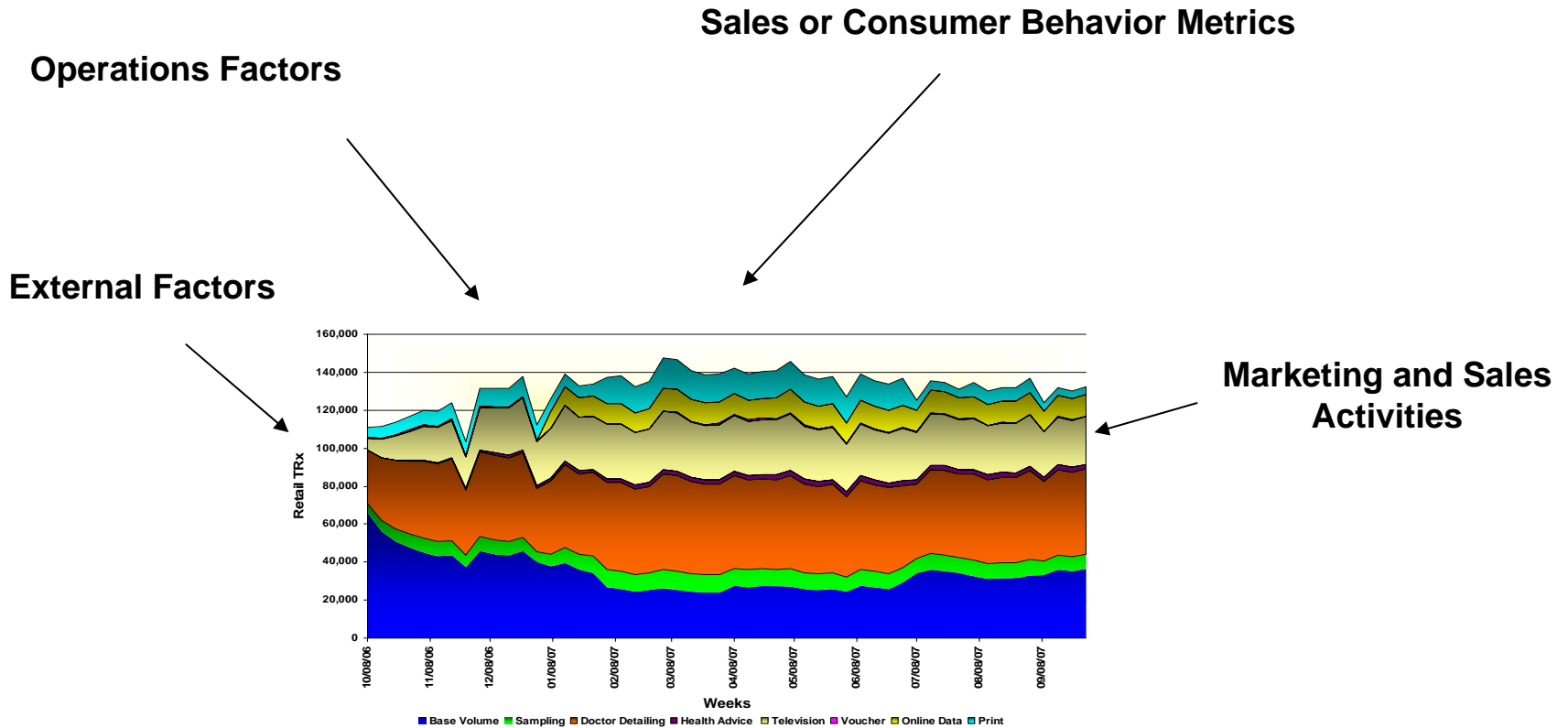
Source: ANA/'mktg', May 2009



# Marketing Mix Models include inputs that represent all significant business influencers



## Modeling Inputs:



# A marketing mix model is a mathematical representation of the marketing and base drivers of sales.



- Models are built based on statistical analysis of 2 years of historical data.
- Models include variables to represent each factor that is a statistically significant influence on sales.
- Models reflect the non-linear behavior of diminishing marginal returns, build and decay, saturation, etc.

**1.**

***Models can be used to look backward to determine ROI for marketing tactics.***

**2.**

***Models can help diagnose the reasons for changes in business performance over time.***

**3.**

***Models can be used to look forward for forecasting and to create what-if scenarios for response planning.***



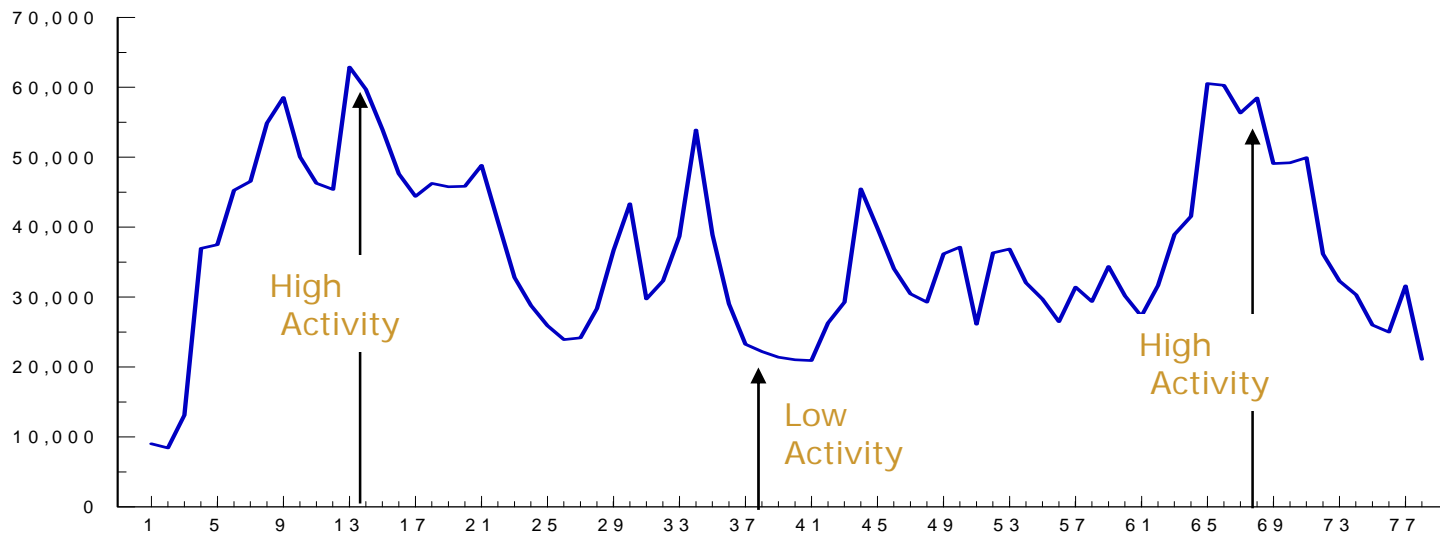
# Companies are using various forms of regression analysis to answer these critical business questions...



## Typical modeling techniques:

- **Standard Ridge or OLS regression**  
(traditional marketing mix)
- **Bayesian** – used when you have sparse or noisy data and want more granular (e.g. store level) insights

## Sales



## 2-3 years of weekly data for media, operation, external factors

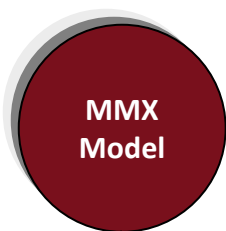
- Online media
- Offline media
- Operations (website, stores, pricing, distribution, etc...)
- External factors (macroeconomic, competition, weather, etc...)



# Today, there are two primary applications of marketing mix modeling...



## 1. Business insights and planning

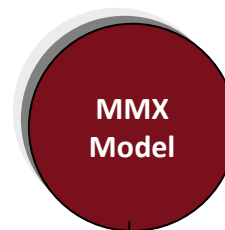


### Characteristics

1. Models build at a disaggregate level to capture granular tactics and events
  1. Geo: key account, market, region, national
  2. Tactics: e.g. Trade, Feature, Display, TPR, Sample, FSI, Individual Promotion
2. Expanded number of “explanatory” variables (in base model and outboards)
3. Models aligned with current business questions and key media and trade planning decisions
4. Models could be aggregated to provide portfolio and cross-country insights

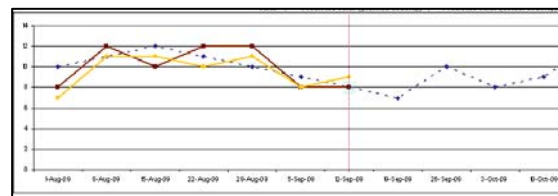


## 2. Causal Forecasting



### Characteristics

1. Limited number of “summary” variables (e.g. total trade, total TV)
2. Models fit for purpose of forecasting



... and these have been applied creatively to address some unique questions



## » Other unique insights

- by customer segment
- by channel (online and offline)
- to understand influencers of changes in consumer attitudes
- to quantify the impact of external factors
- to quantify synergies between...
  - Traditional and digital media (e.g. TV and Search)
  - Professional marketing and DTC marketing



# Why have all of these industries adopted marketing mix modeling?



## Benefits:

- Apples-to-apples comparison of all marketing/media
- Visibility into variables beyond marketing
- Accounts for non-marketing factors to apply “fair credit” to marketing
- Cross-media optimization
- Portfolio optimization
- Causal forecasting



# Agenda



- ▶ Current situation
- ▶ **Challenges**
- ▶ Keys to success



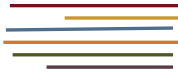


I have seen organizations realize up to **40% improvements** in marketing ROI within twelve months.

But implementing a successful marketing mix project **isn't just a modeling challenge**; it requires a focus on both the technical and organizational components of the program.



# Challenges



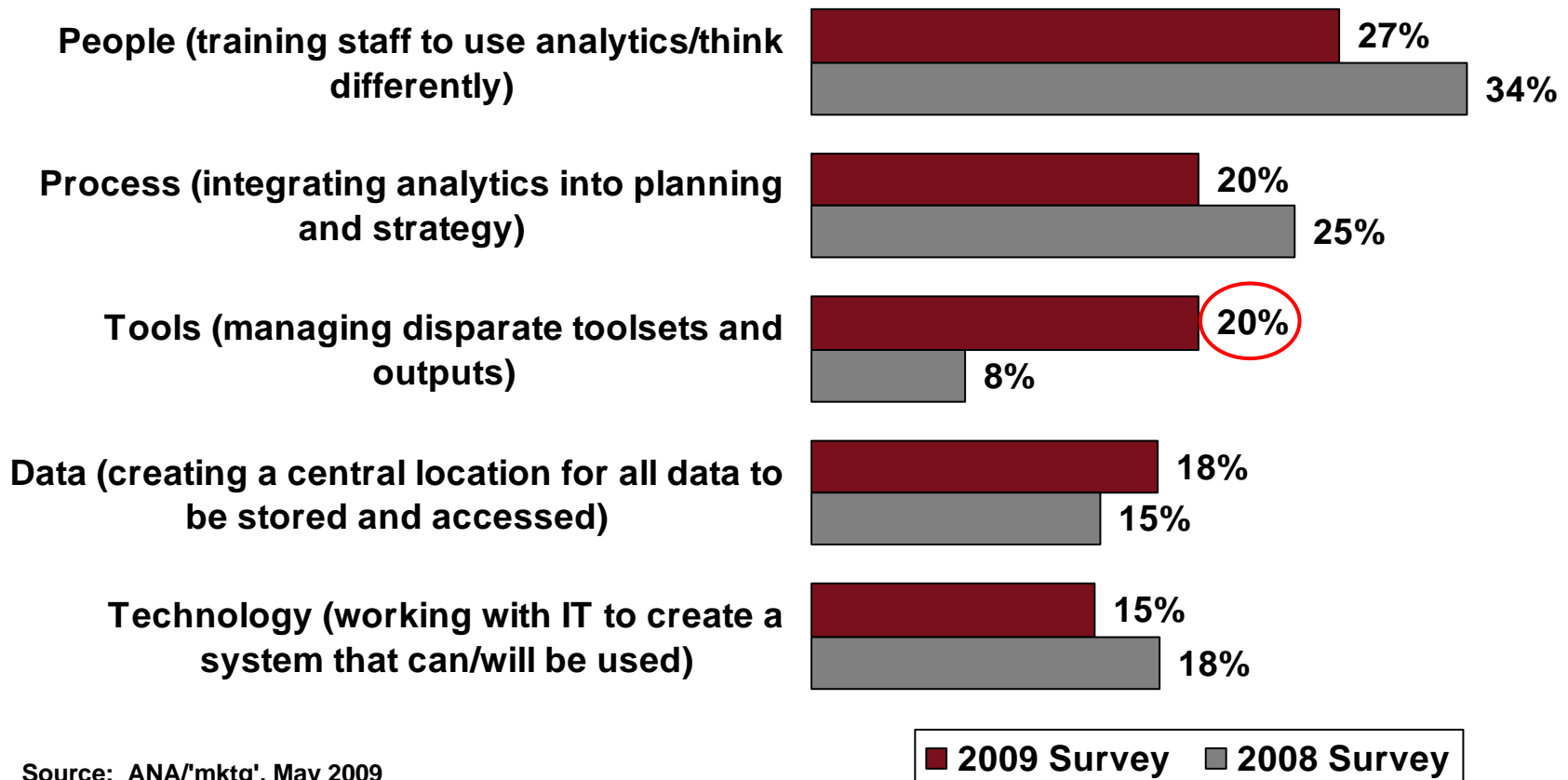
1. No data... or waiting for the data to be perfect
2. Balancing predictive vs. descriptive
3. Making it actionable
  - Modeling at the right level
  - Translating at the right level
4. Gaining buy-in and driving usage



A recent ANA study showed that the most important challenges in making insights easy to use and guide adoption were: People, Process and Tools.



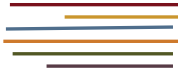
## Most Important Challenge In Making Analytics Easy To Use



Source: ANA'mktg', May 2009



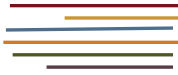
# Agenda



- ▶ Current situation
- ▶ Challenges
- ▶ **Keys to success**



# Keys to a successful program



- 1. Choose the right point or points in the purchase funnel**
- 2. Gain cross-functional alignment – early and often**
- 3. Align analytics with the latest business challenges**
- 4. Translate, integrate and triangulate to tell the whole story**
- 5. Make it forward-looking**
- 6. Incorporate digital and emerging media**
- 7. Manage expectations**
- 8. Update analytics frequently to put the right information in the hands of the right people at the right time**
- 9. Educate, Educate, Educate.... then Educate again**
- 10. Experiment with complimentary and leading edge techniques**

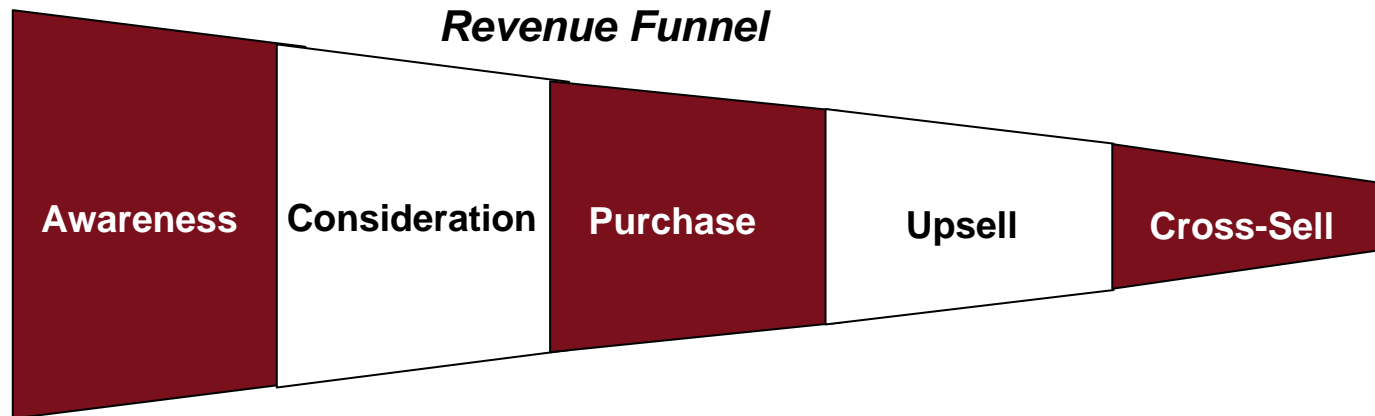


# 1 – Choose the right point in the consumer purchase funnel

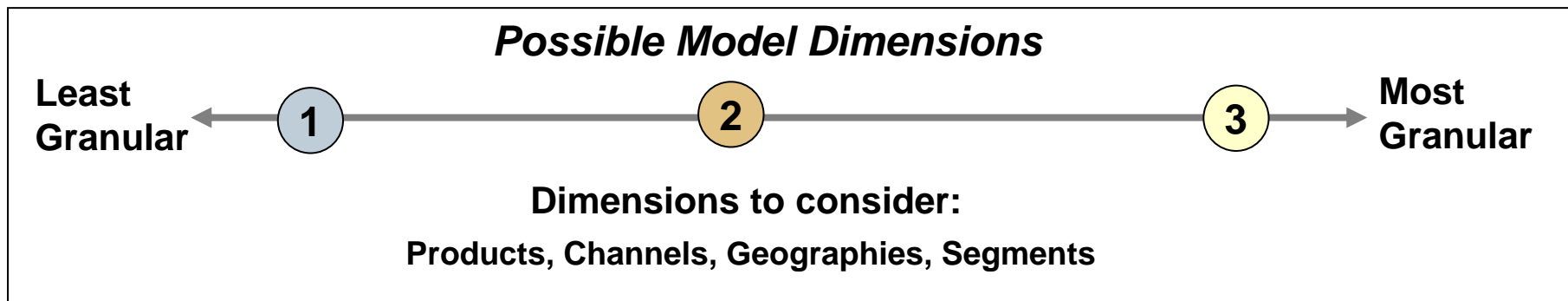


There are two important considerations:

1- What behavior in the revenue funnel is meaningful, measurable and accessible?



2- What is the appropriate level of analytics to yield meaningful but manageable insights?



## 2 – Gain cross-functional buy-in early and often



### It can help you...

**Provide insight that when combined with good judgment can support better decisions**

- What are the key drivers of sales (marketing and external factors) ?
- What is the ROI of each marketing/media vehicle?
- What was the change in sales due to?
- What is the optimal mix of marketing investments to drive sales and profit?
- How can we improve the delivery of media (e.g. 15 vs. 30, segments, cable vs. prime, etc...) ?
- What-if?

### ... but it can't

**What it cannot do:**

- Predict the impact of factors that have not occurred before (e.g. new marketing vehicle, new competitor)
- Predict the impact of a major shift in strategy (e.g. increase marketing budget by 4x)
- Explain why the creative/copy did or didn't work
- ***Write the marketing strategy and plan for you (-:***

## 2 – Gain cross-functional buy-in early and often



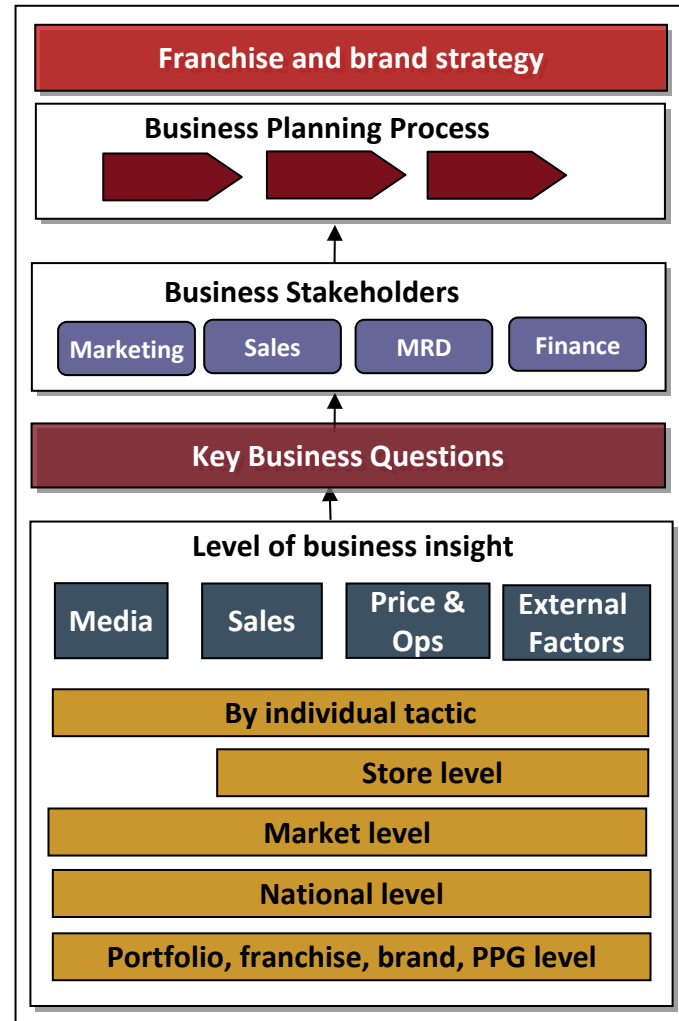
This effort requires a cross-functional team...  
(who does what, when and how)

	Responsible	Accountable	Consulted	Informed
CEO/ Sr. Mgmt			Scope, actions	Results
Marketing	Approve the inputs, assumptions, support translation into actions	The overall program		
Finance	Provide financial measures/margin		Scope	Results
Research	Bless the approach		Scope, translation into actions	Results
IT	Provide access to data sources		Data format, availability	

### 3 – Align analytics with the latest business challenges



- Which business questions that are aligned with repeatable processes?
- Which business questions are ad-hoc?
- Which insights for which stakeholders?
- When are the insights needed?



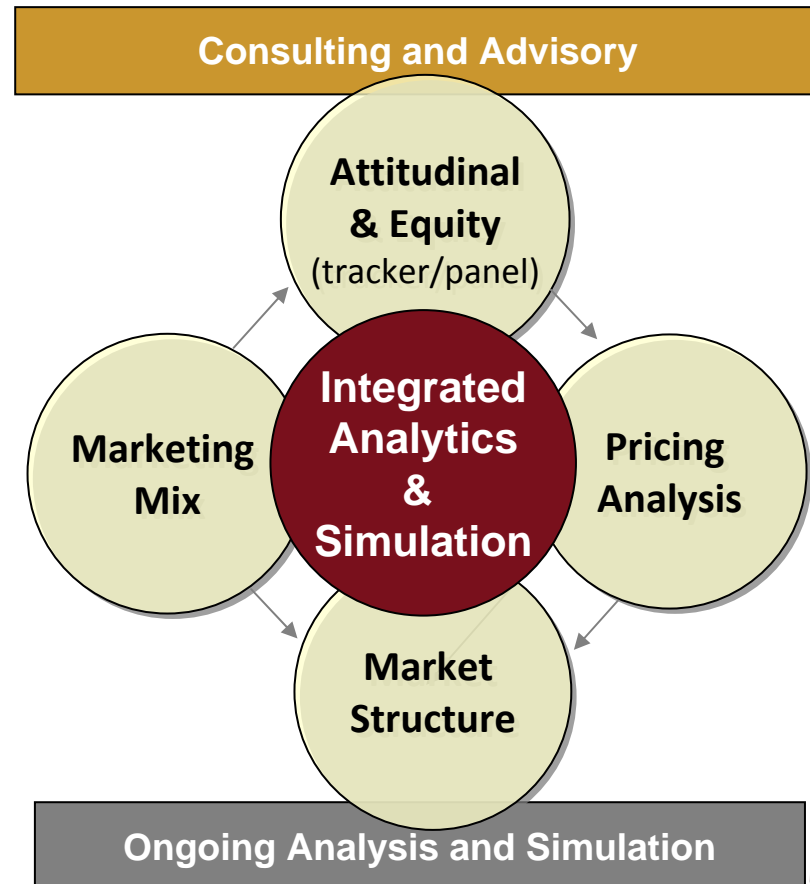
## 4 – Translate, integrate and triangulate to tell the whole story



The value and impact of research and analytics is realized through integration, translation and forward looking simulation.

Business questions answered at each point of integration:

- **MMX and Brand Tracker**
  - What is the most efficient/effective media and messaging to influence consumer attitudes?
  - What is the impact of a change in consumer attitudes (brand equities) on sales?
  - What is the long-term ROI of marketing?
- **Brand Tracker and Pricing Analysis**
  - What is the impact of changes in consumer attitudes on price elasticity?
  - Which attitudes/equities are most influential?
- **MMX to Pricing**
  - How to balance investments in marketing and brand building with price promotion?
- **Pricing to MMX**
  - What is the cause of a positive or negative impact on sales from pricing and promotion activities?



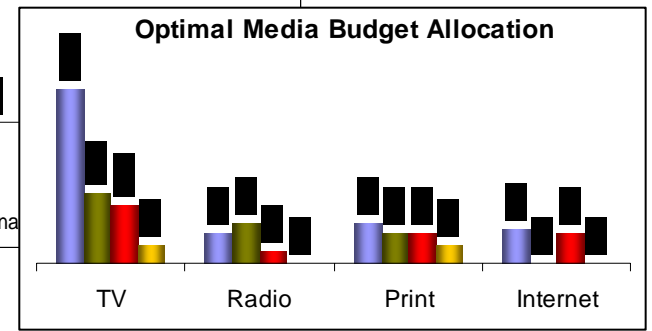
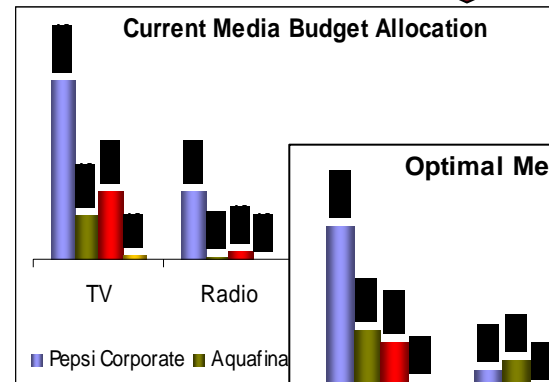
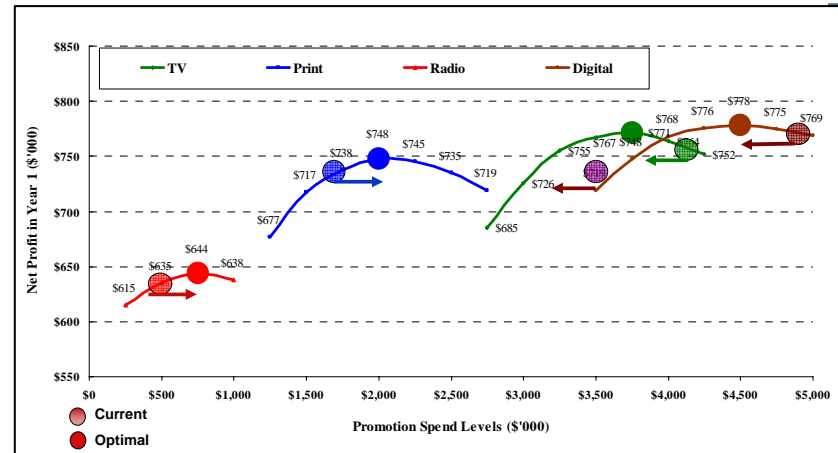
# 5 – Make it Forward-Looking



To drive value across the organization, a marketing mix project must provide forward-looking insights to guide future planning decisions.

## Keys to success:

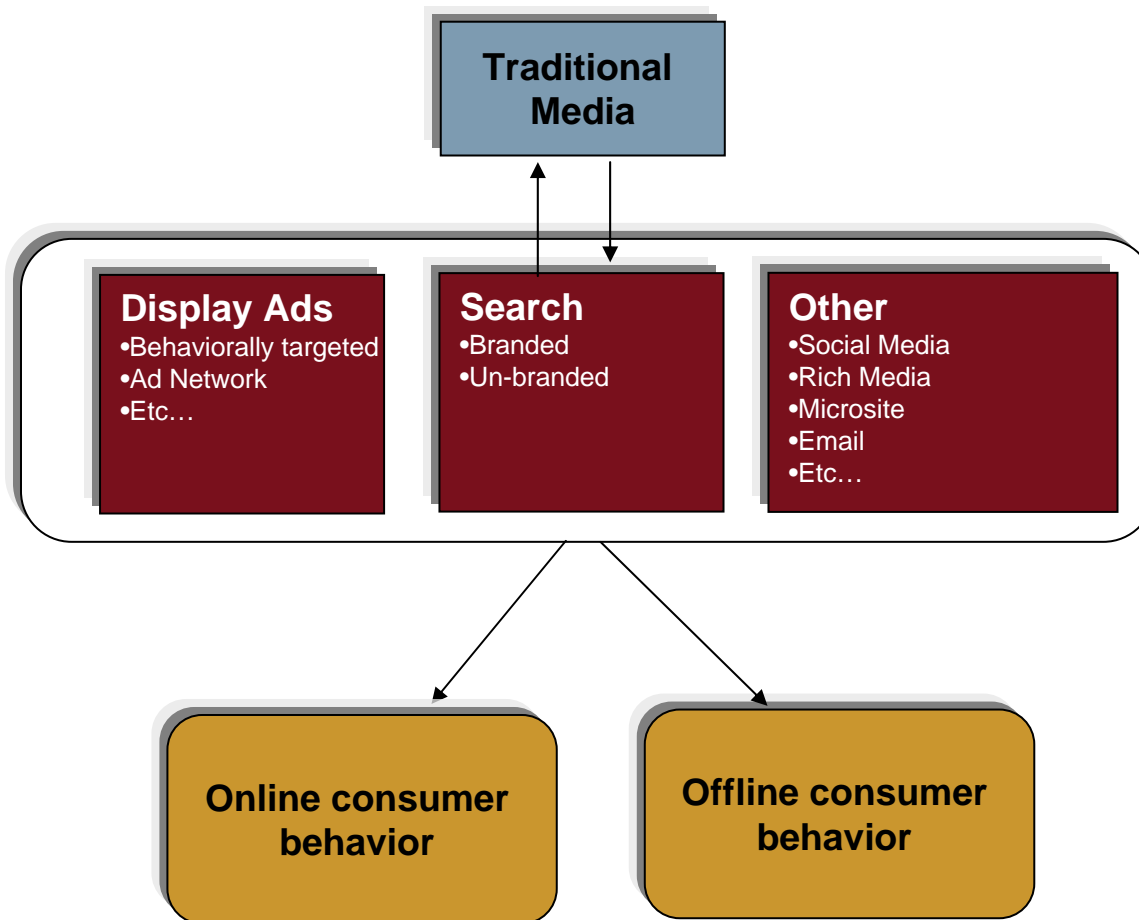
- 1) Build a series of “What-if” business scenarios (e.g. aggressive vs. conservative, plan A vs. plan B, market assumption A vs. market assumption B)
- 2) Gain consensus across key business functions on inputs and assumptions
- 3) Track planned scenario vs. actual and apply diagnostics to gain critical learnings
- 4) Educate users on the strengths and limitations of the models/tool
- 5) Appoint a limited group of analysts to run scenarios



## 6 – Incorporate digital and emerging media



Because consumers don't live in a vacuum and often multitask, marketers must account for media synergies



## 7 – Manage expectations



The key to success is “layering” incremental improvements toward the appropriate balance



***“marketing analytics should not change current processes or culture, they should support processes and improved decision making”***



*“Just because you can’t measure it, doesn’t mean you shouldn’t do it”*

## Levels of marketing innovation

### Optimize/ Deploy

**Goal:**  
Implement in an  
effective and  
efficient manner →

**Measurement:**

- Formal modeling
- Panel analytics

### Refine/ Pilot

**Goal:**  
Test and project  
impact of a significant  
investment and rollout →

**Measurement:**

- Test and control
- Consumer surveys

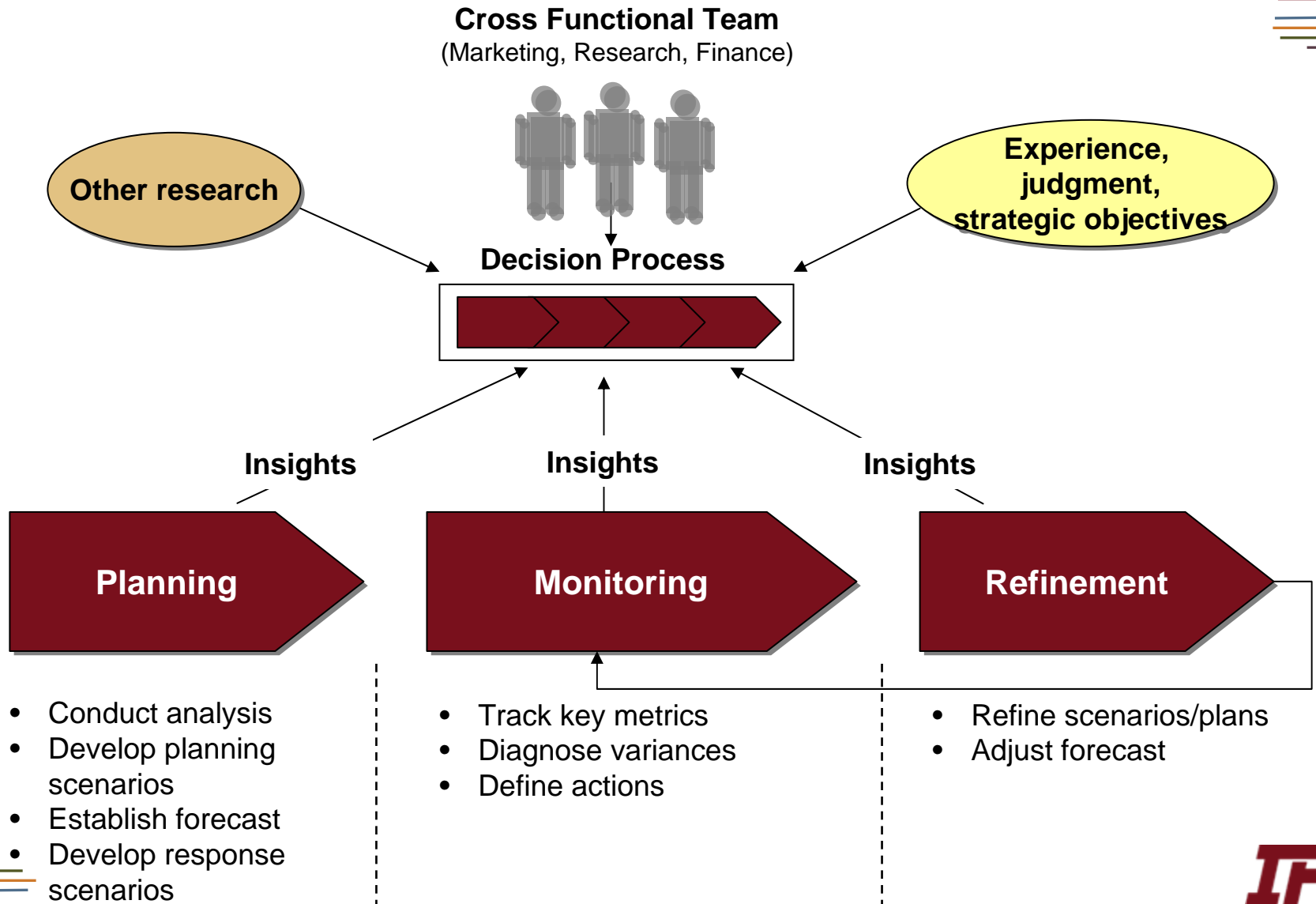
### Explore

**Goal:**  
Learn how to  
use the tactic →

**Measurement:**

- Focus groups
- Interviews

# 8 – Update analytics frequently to put the right information in the hands of the right people at the right time





- 1. Provide training prior to the project**
  - Encourage cross-company knowledge sharing
  - Peer-to-peer
  - Function-to-function
  
- 2. Train again when the results are ready**
  
- 3. Guide the usage of the new metrics**



# 10 – Experiment with complimentary and leading edge techniques



**Below are a few techniques to consider:**

## **1. For the “planners”... In-Market Tests**

Often when marketing mix models are executed for the first time at a company, there are “big insights”, that if implemented would require “big bets”. To mitigate the risk of these bets, many companies will structure tests to validate these insights while providing additional planning insights. One of the newer beneficiaries of this method is digital media.

## **2. For the “creatives”... Consumer Funnel Analysis/Brand Equity Analysis**

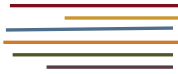
By applying similar techniques, industry leaders are able to understand the impact of marketing and key business drivers on each point in their consumer funnel, then link changes in these funnel metrics to financial metrics. This analysis allows companies to establish a balance between programs that focus on short-term sales vs. long-term brand building.

## **3. For the “curious techies”... Agent-Based Modeling**

Over the past few years, agent-based modeling has gained quite a bit of buzz for its utility in solving marketing problems. Agent-based modeling focuses on the phenomenon known as “emergent behavior”, by establishing individual models of “agents” (customers, competitors, etc...), then combining these models to simulate the impact of simultaneous changes in “agents” and complex interactions across these “agents”... think social media.



**Thank You!**



**Thank you for the opportunity to speak with the group today.**

**My contact information: [douglas.brooks@infores.com](mailto:douglas.brooks@infores.com)**

**The whitepaper from this session will be available on the IRI website within 48 hours at this link:**

**<http://us.infores.com/Insights/Resources/Webinars/tabid/110/Default.aspx>**

