



# Data Analytics In Strategic Decision Management

Fair Isaac Corporation  
Intelligent Enterprise

# Welcome To Today's Event!

## ▶ Analysis and solutions from

- ▶ Intelligent Enterprise
- ▶ Ventana Research
- ▶ Alta Plana Corporation
- ▶ Fair Isaac Corporation

## ▶ Q&A

- ▶ Via telephone at end of event

## ▶ Request copy of presentation at end

## ▶ Seminar recording will be archived on the Web

- ▶ [www.fairisaac.com](http://www.fairisaac.com)

***Moderator: David Stodder  
Editorial Director  
Intelligent Enterprise***

# Today's Speakers

## ▶ **David Stodder**

- ▶ Editorial Director – Intelligent Enterprise

## ▶ **Eric Rogge**

- ▶ Vice President & Research Director – Ventana Research

## ▶ **Seth Grimes**

- ▶ Principal Consultant – Alta Plana

## ▶ **Ken Molay**

- ▶ Director of Product Marketing - Fair Isaac

## ▶ **Turning Information into Intelligence—and Action**

- ▶ Decision Support and Business Intelligence
- ▶ Efficient—and Effective—Business Processes
- ▶ Closed Loop Between Processes and Decision Making

## ▶ **The Pursuit of Great Content**

- ▶ Articles and columns written by experts
- ▶ Independent content, driven by reader interests
- ▶ Suggestions, leads, abstracts: We love to hear from you!

## ▶ **Efficiency, Efficiency, Efficiency**

- ▶ Careful: Not at the Expense of Effectiveness
- ▶ Automation: The Engine of Complexity
- ▶ Decision Making: Faster, Better, Cheaper

## ▶ **Focus on Value**

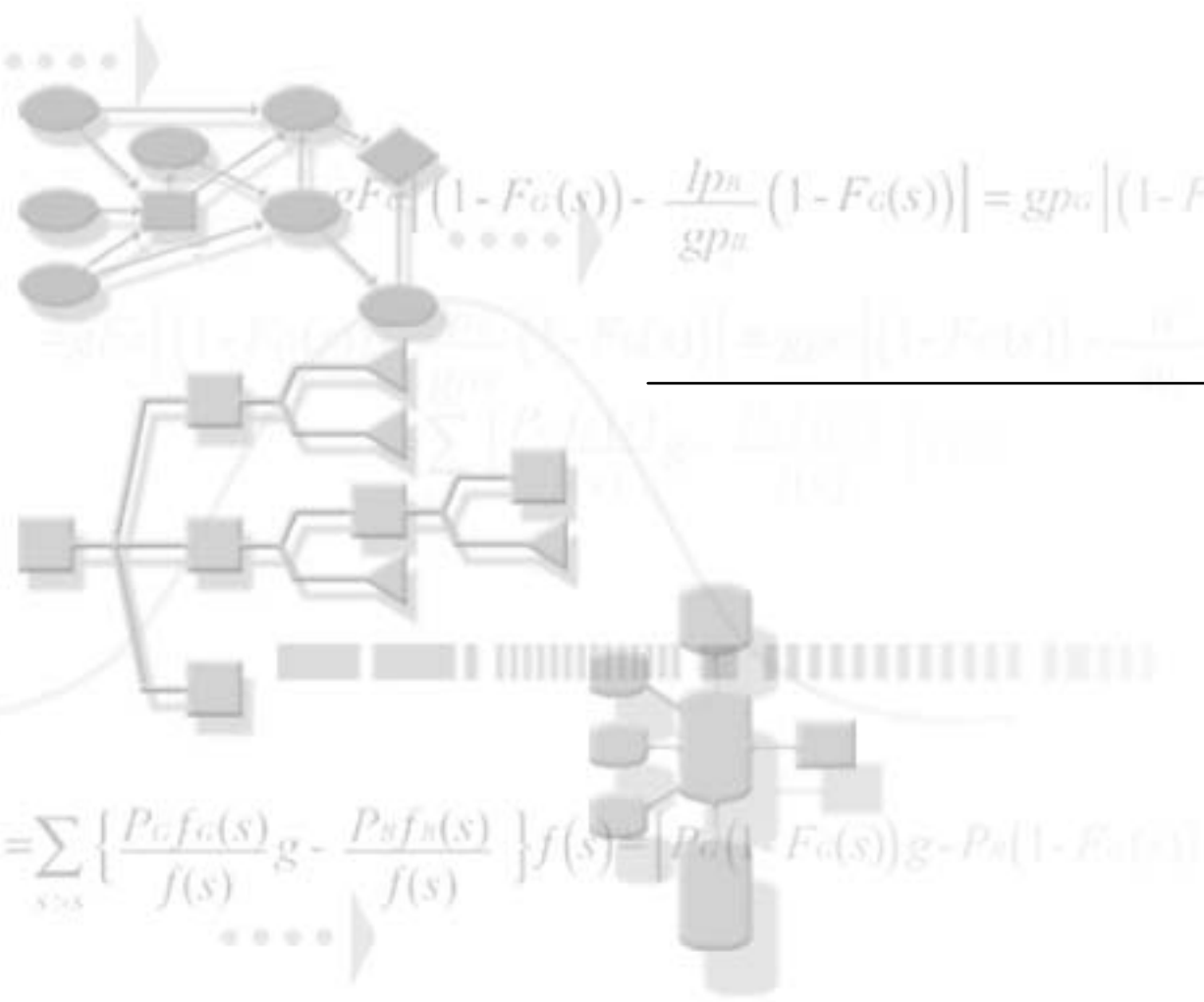
- ▶ Avoiding the “Race to the Bottom”
- ▶ What Really Draws Customers--the Right Customers?
- ▶ Relationships, and Performance, that Accentuate Value

## ▶ **What's Inside that Counts**

- ▶ Hot: Enterprise Approach to Decision Making
- ▶ Integrated View of Data – All the Data
- ▶ Moore's Law Meets BI

## ▶ **Using Intelligence to Create Intelligence**

- ▶ Structure and Repeatability
- ▶ The Learning Organization
- ▶ Competitive Advantage that is Hard to Duplicate



**Thank you**

David Stodder  
Intelligent Enterprise

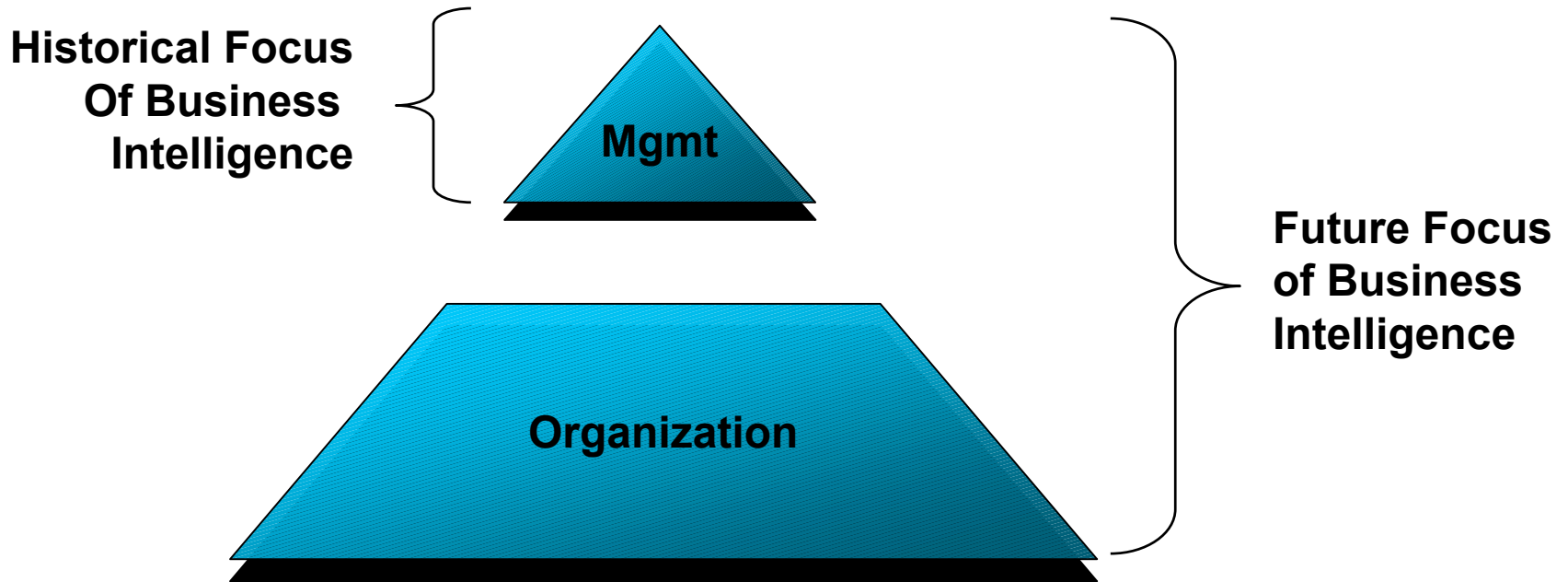
**intelligent**  
enterprise



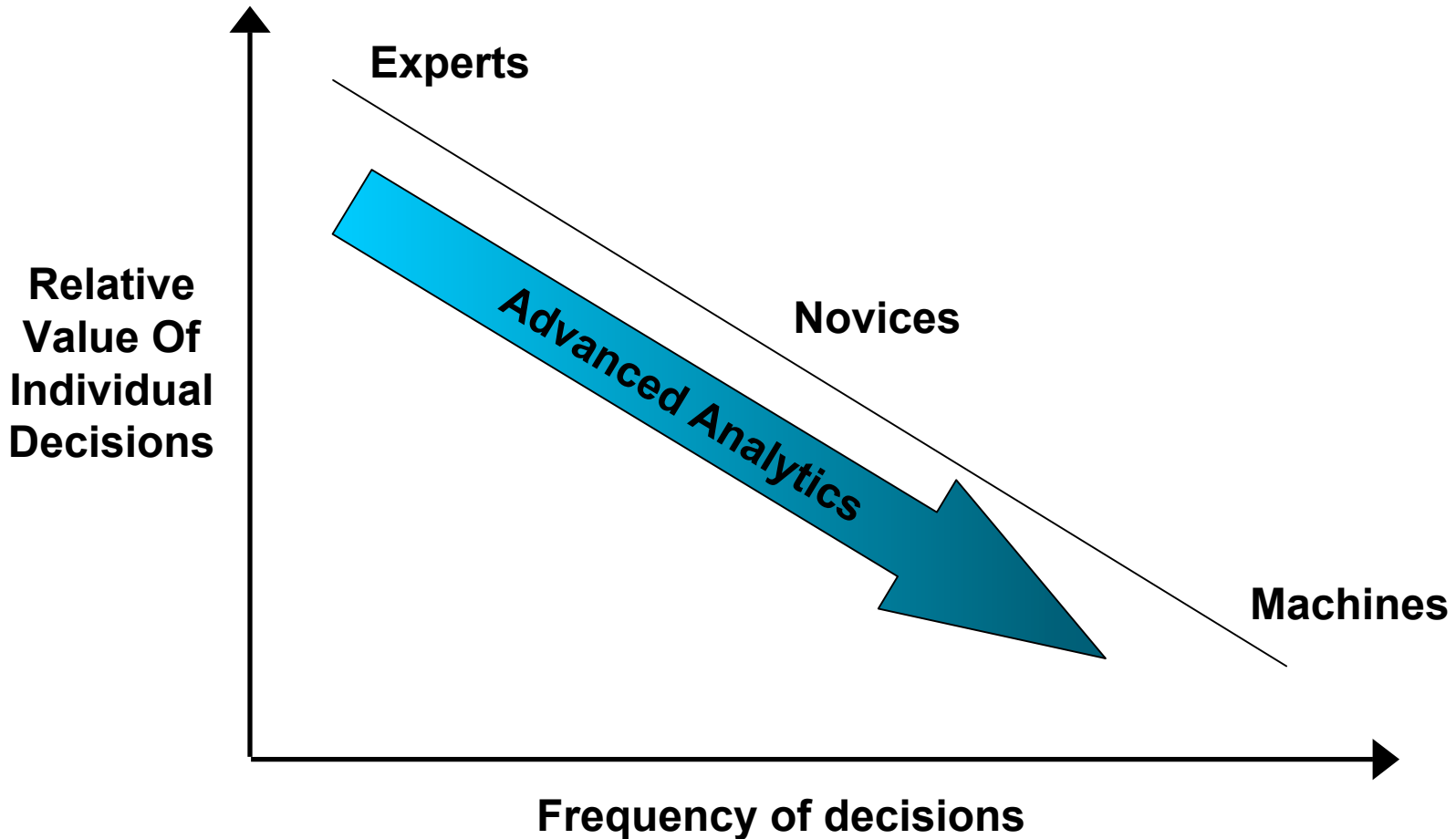
# Beyond Business Intelligence: Incorporating Analytics

Eric Rogge  
Vice President & Research Director  
Ventana Research

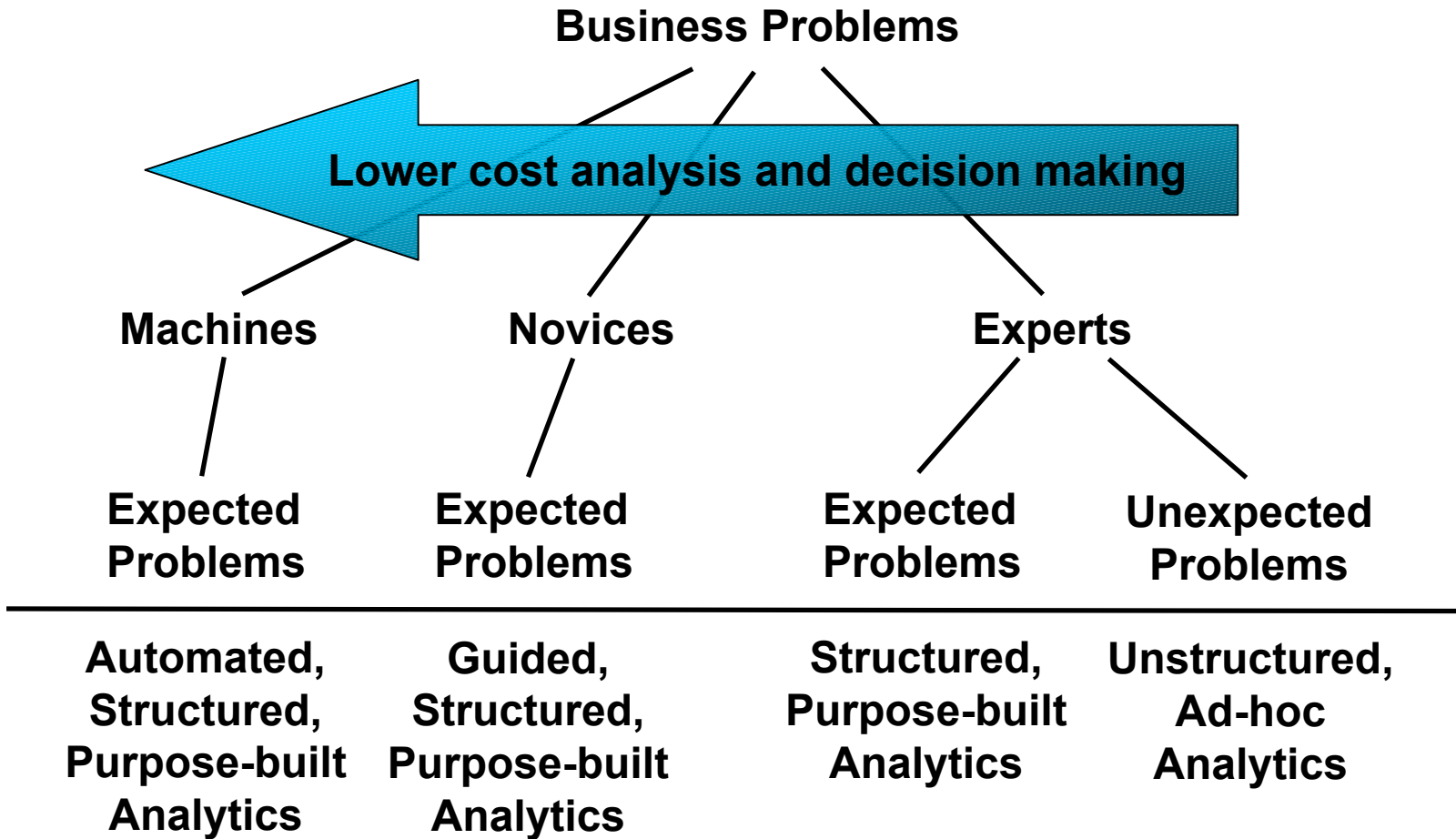
# BI Past and Future



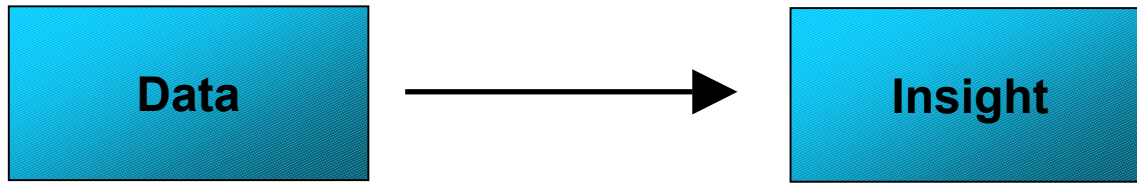
# Advanced Analytic Usage Trends



# Impact of Analytic Trends



# Advanced Analytics Via Models



**Simple Data**  
**Small Data**  
**Simple Concepts**



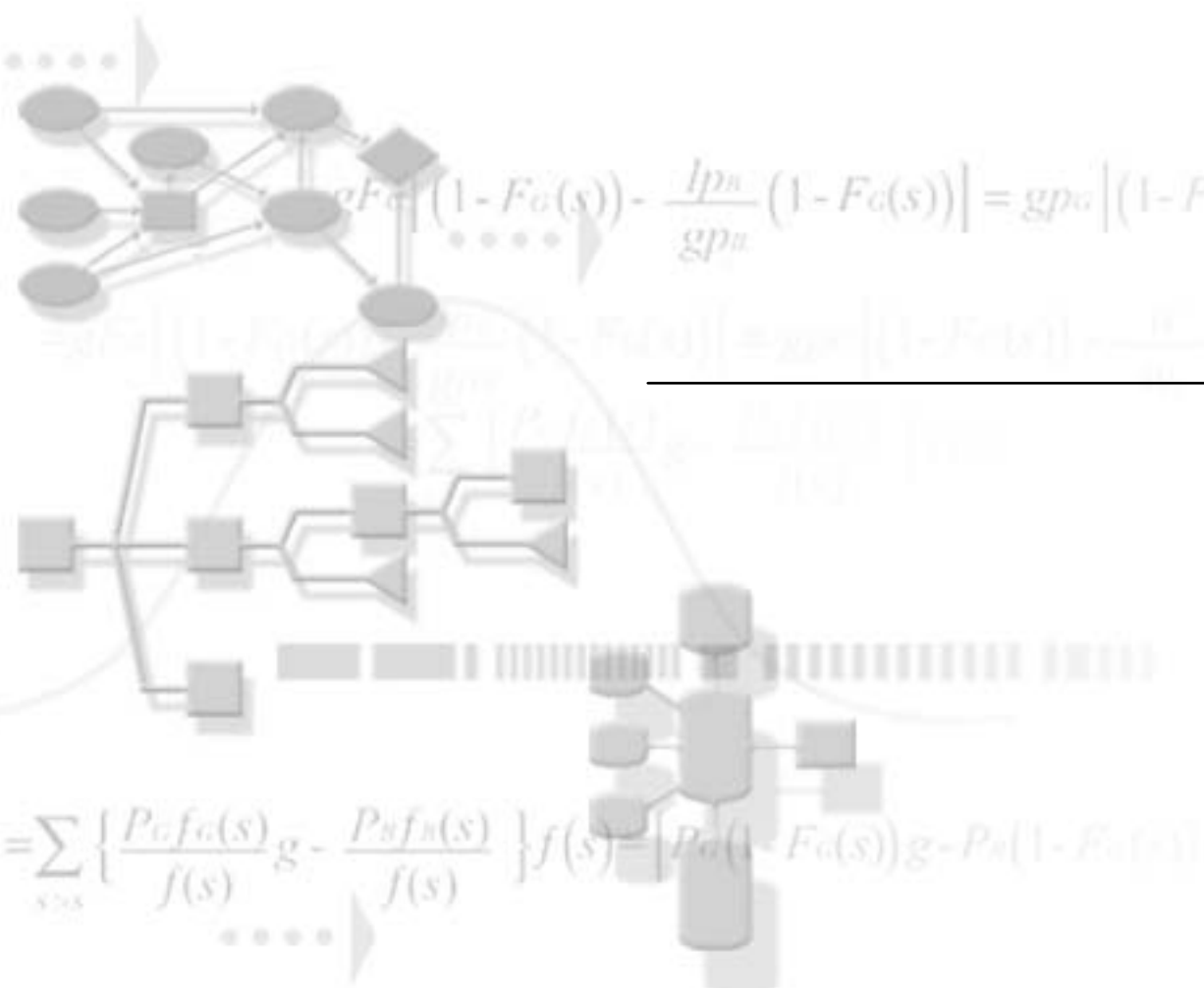
**Complex Data**  
**Large Data**  
**Complex Concepts**

## ▶ Modeling of relationships that are not readily apparent

- ▶ Mapping of Inputs to Outputs
- ▶ Where does the best leverage exist?

## ▶ Examples

- ▶ Attributes to Behaviors
- ▶ Past to Future
- ▶ Cause to Effect
- ▶ Details to Overall
- ▶ Possibilities to Certainty



**Thank you**

Eric Rogge  
Ventana Research





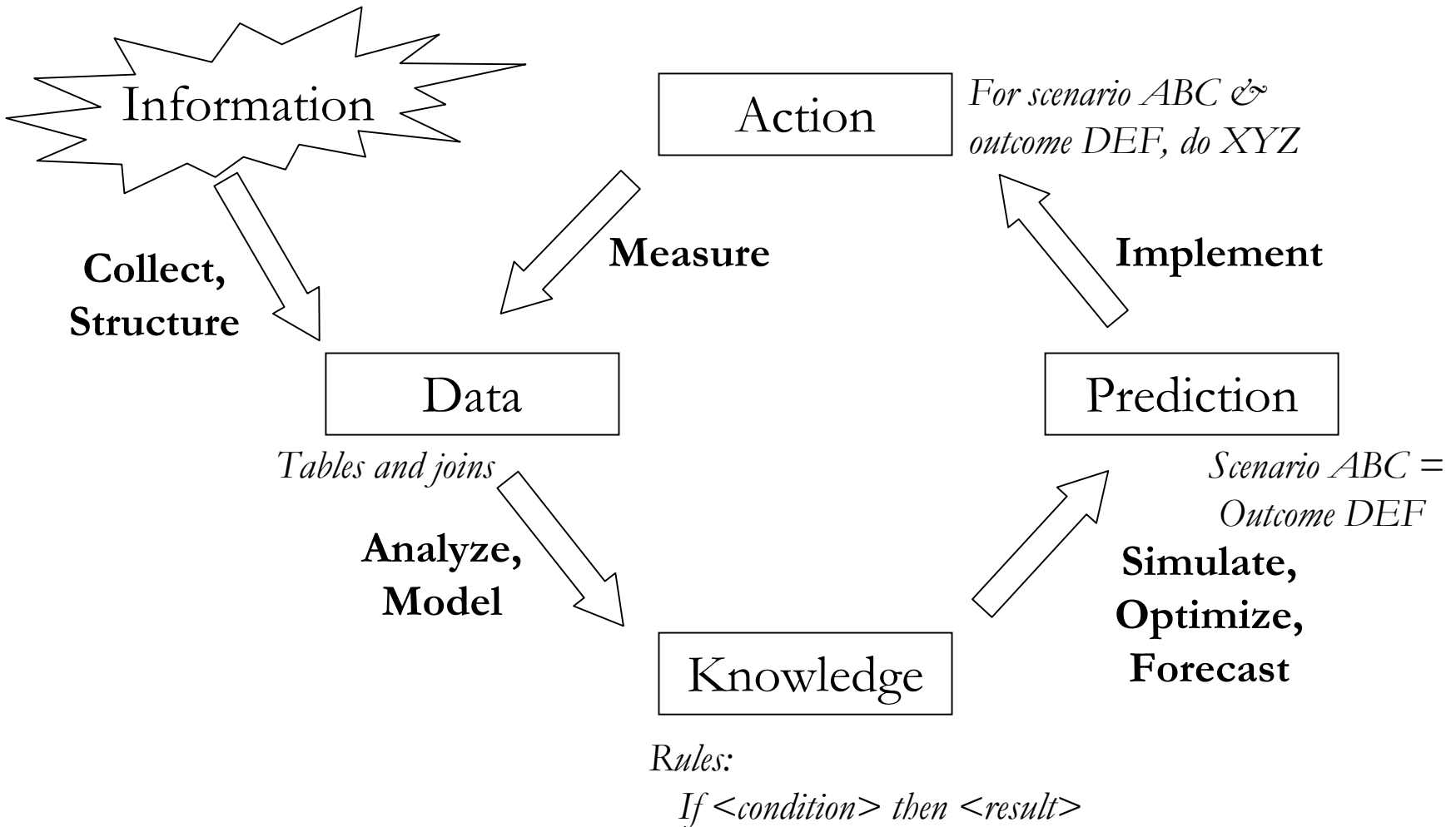
# Advanced Data Analytics Backgrounder

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Seth Grimes  
Principal Consultant  
Alta Plana Corporation

Alta Plana

# The Decision Cycle



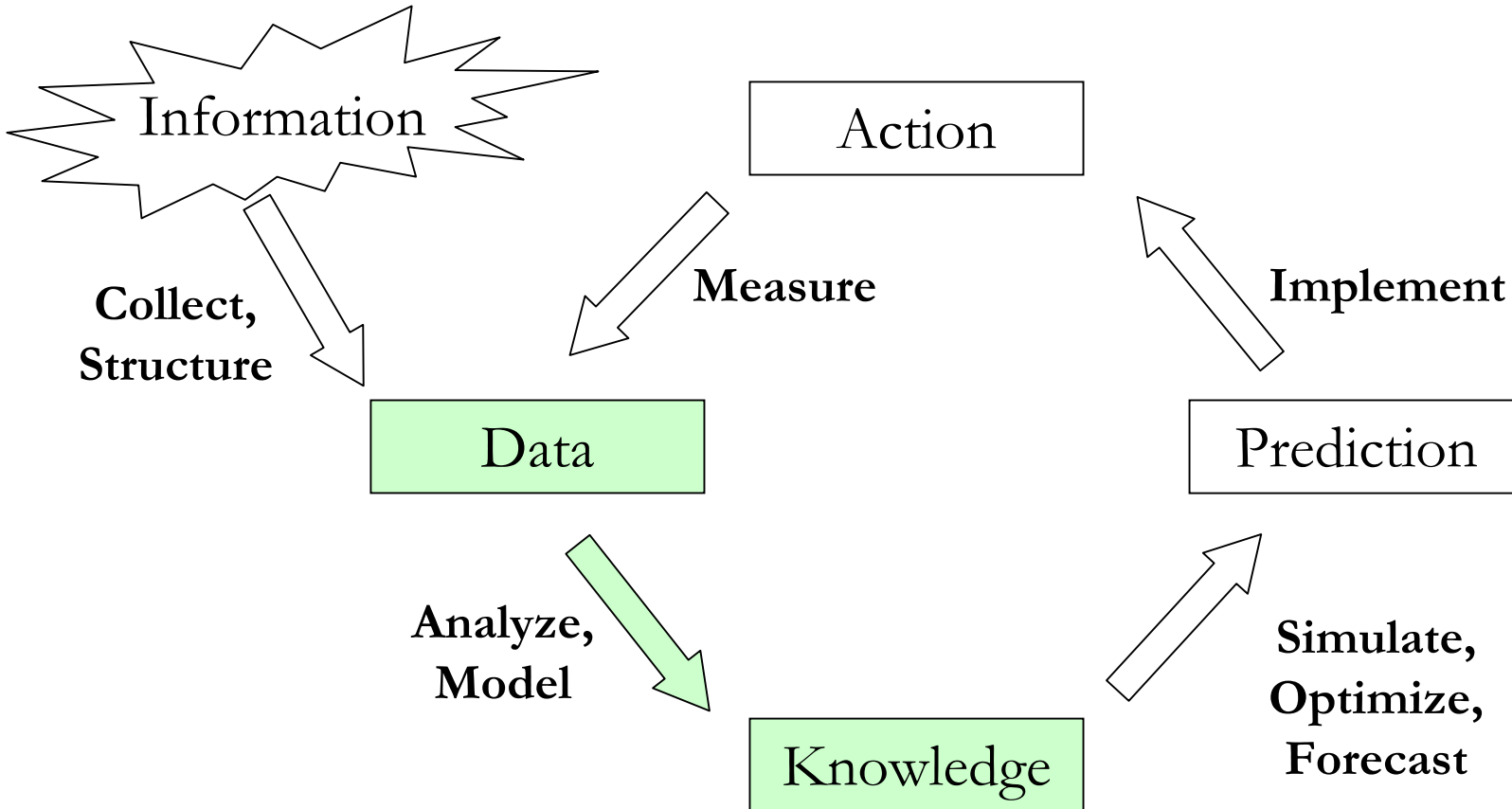
## ▶ **Data Analysis is the key to Decision Support**

- ▶ The practice of collecting information, measuring, modeling, and predicting events is ages old
- ▶ Formal analysis provides systematic, mathematical justification for business decisions

## ▶ **Traditional Data Analysis describes...**

- ▶ Organizing, classifying, aggregating data
- ▶ Using statistical processing to discern characteristics of datasets relationships among data elements
- ▶ With concepts like correlation and frequency distributions

# Traditional Data Analysis



## ▶ **Business Intelligence is the leading tool in corporate Decision Support**

- ▶ BI, applied to enterprise systems, takes companies from facts to descriptions to predictions
- ▶ BI subsumes “extraction, transform, and load” and data warehousing and other processes for data acquisition, preparation, and management
- ▶ Key technologies include Query & Reporting, OLAP (Online Analytical Processing), Charting, and Dashboarding

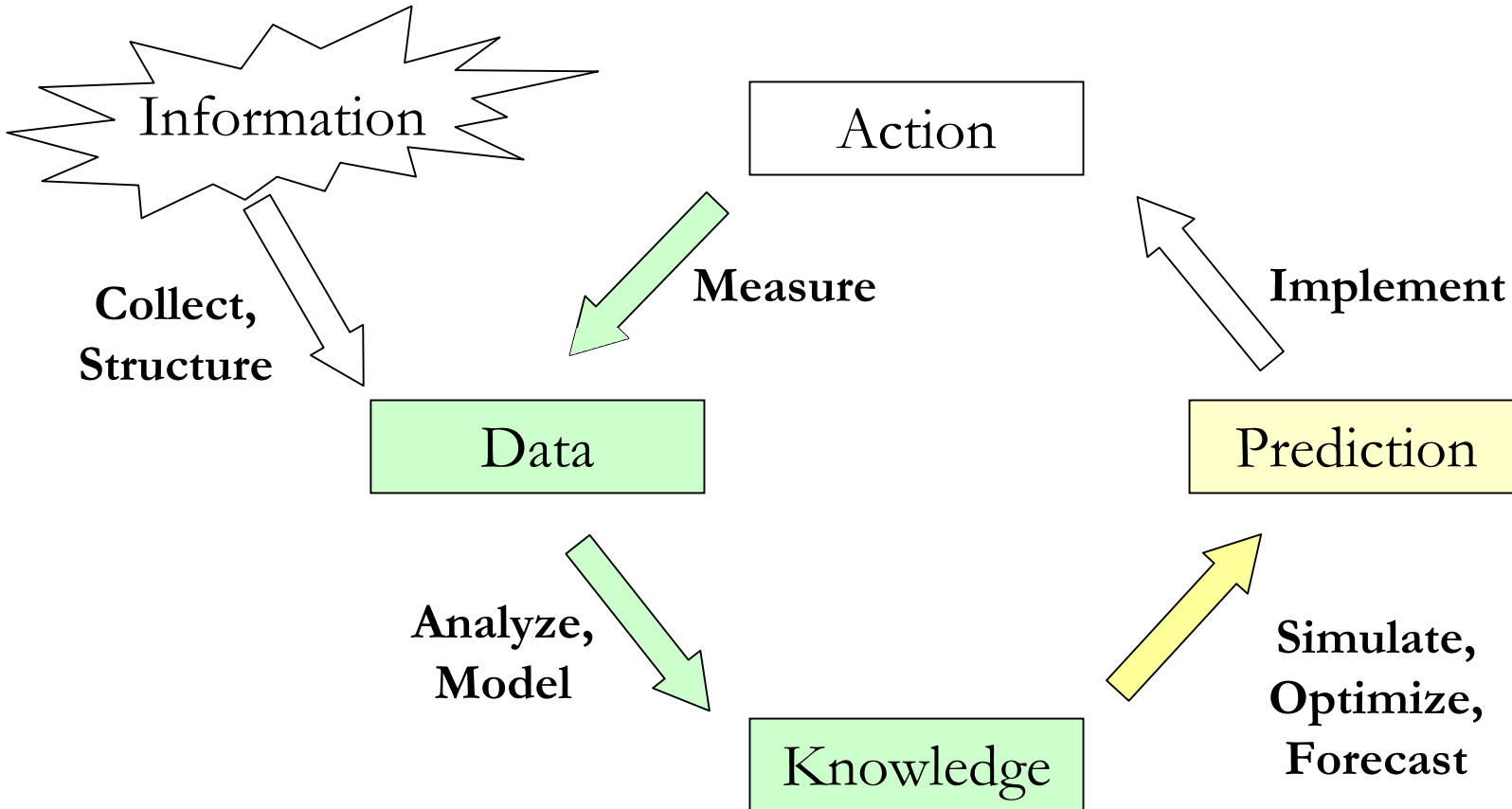
- ▶ **While BI is great for exploratory data analysis...**

- ▶ Techniques are limited to well-understood, structured, numerical data

- ▶ **Case in point: OLAP**

- ▶ Dimensional models -- the famous “cube” view (e.g., sales by region, product, outlet, date) -- rely on a preconceived notion of how information should be categorized
- ▶ OLAP can fall short when there’s high dimensionality, unstructured information, automation and predictive needs, and complex underlying relationships

# BI Capabilities



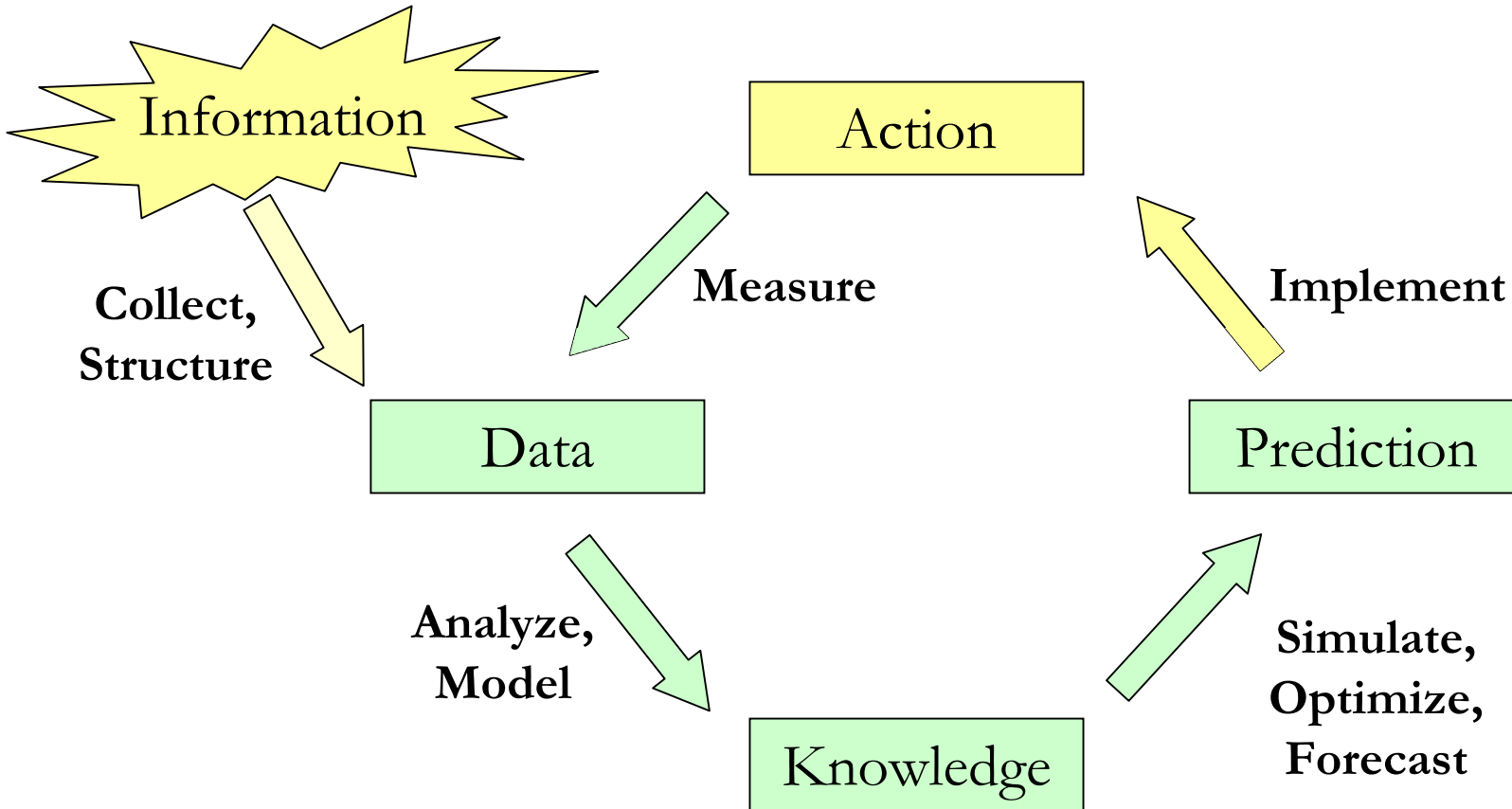
- ▶ **Advanced analytics have continued to mature, even though they have been relegated to statistical and hard-core analysts**
- ▶ **The significant innovation is in understanding the benefits and in new tool ease-of-use...**
  - ▶ Given the realization that modern performance management and quality measures require statistical analysis
  - ▶ Through process modeling and results visualization
  - ▶ By embedding model complexity within end-user systems

- ▶ **Data Mining groups a number of statistically rooted techniques for automated detection of patterns and relationships**
  - ▶ Segmentation and clustering -- finding and applying the characteristics (dimensions) that best group data
  - ▶ Link analysis -- detecting association patterns and rules
  - ▶ Predictive modeling -- classification and scoring
  - ▶ Predictive modeling -- regression for anomaly detection and forecasting

- ▶ **Proven benefits in Marketing, Customer Relationship Management (CRM)**
  - ▶ Is this customer a candidate for up-sell?
  - ▶ If the customer buys product A, what else is he likely to buy?
  - ▶ What product package is most likely to appeal to someone with demographic characteristics X, Y, Z?
  - ▶ How likely is this customer to leave?

- ▶ **Proven applications in risk management, credit approval, fraud detection, security**
  - ▶ How likely is this credit applicant to default?
  - ▶ Does this credit-card usage pattern suggest a stolen card?
  - ▶ Is airline passenger X a potential terrorist?
- ▶ **Modeling-scoring allows you to automate basic decision making in these areas and more**

# The New Decision Cycle



### ▶ **Enterprise Information Integration (EII)...**

- ▶ Ties distributed operational systems for real-time analysis

### ▶ **Advanced visualization...**

- ▶ Lets you interact with data graphically to go beyond manipulating data tables and viewing static reports

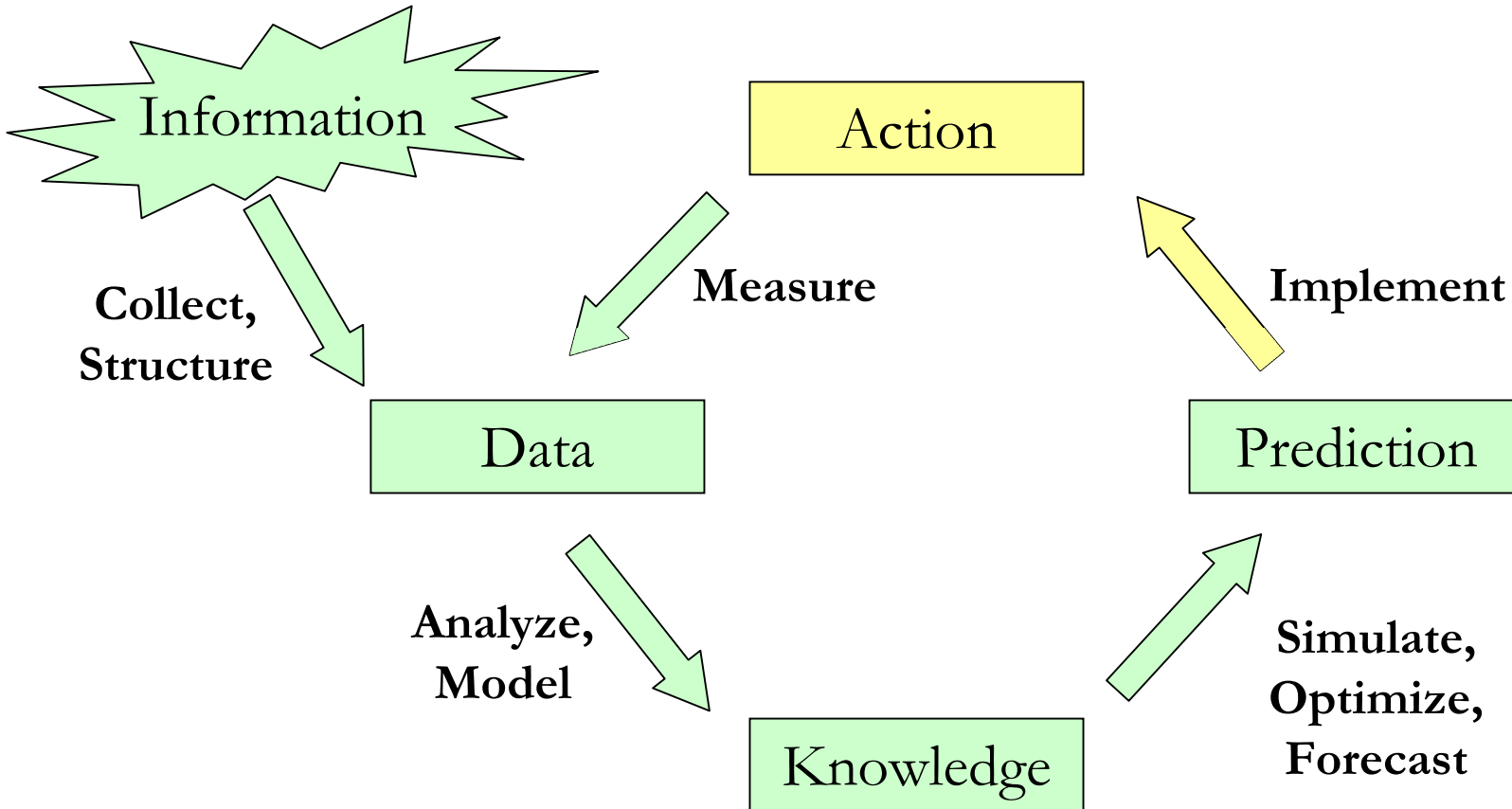
### ▶ **Business activity monitoring...**

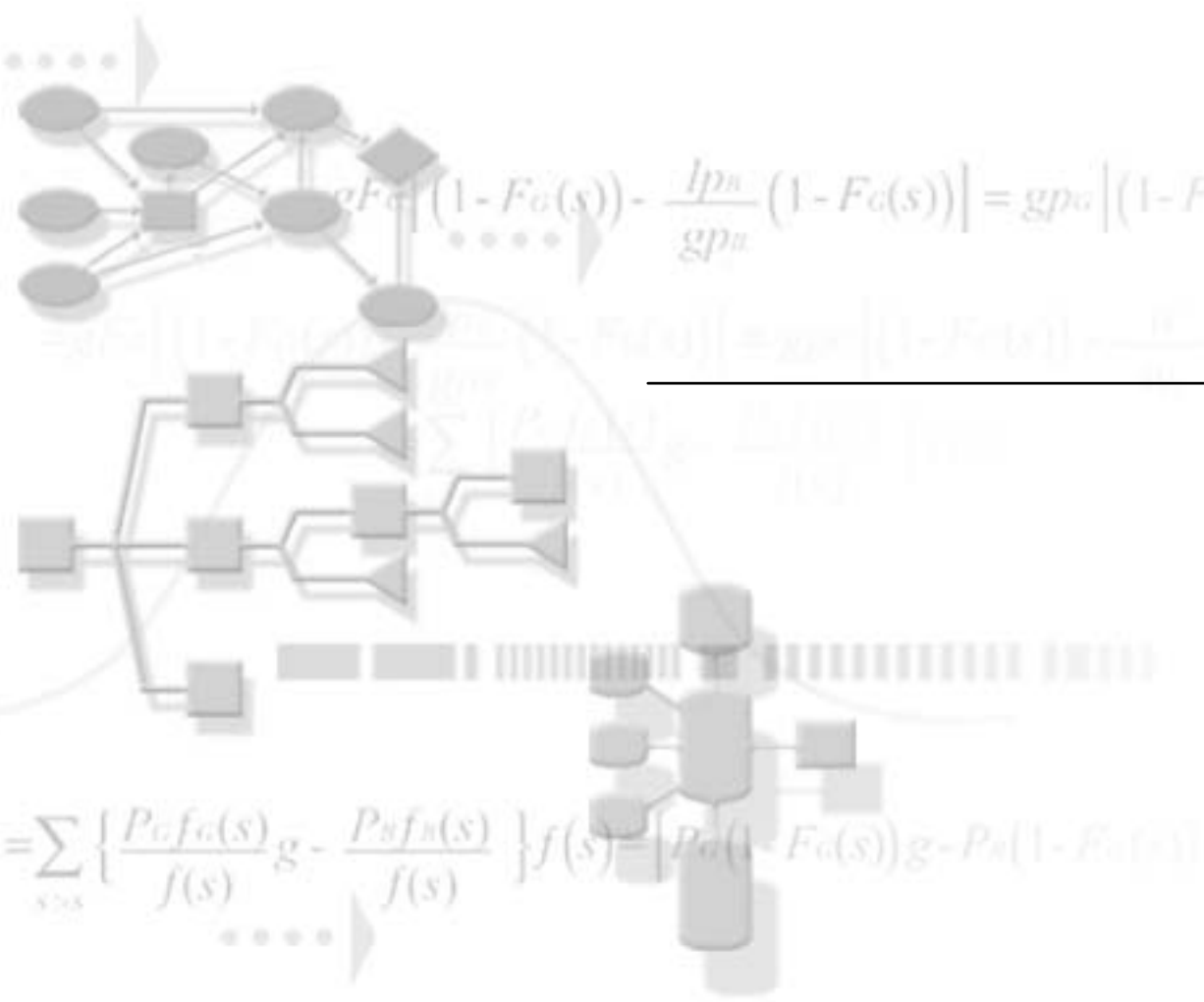
- ▶ Incorporates measurement and analytical computations into disparate business operations to provide real-time status, enabling faster, more pointed decision making

### ▶ Text (and media?) mining...

- ▶ Applies linguistic and/or statistical techniques to categorize and classify documents, audio, video, images
- ▶ Transforms unstructured information into data for application of traditional analysis techniques
- ▶ Allows computer to unlock meaning and understand relationships in information previously accessible only to people

# Stats & Data Mining in the Mix





**Thank you**

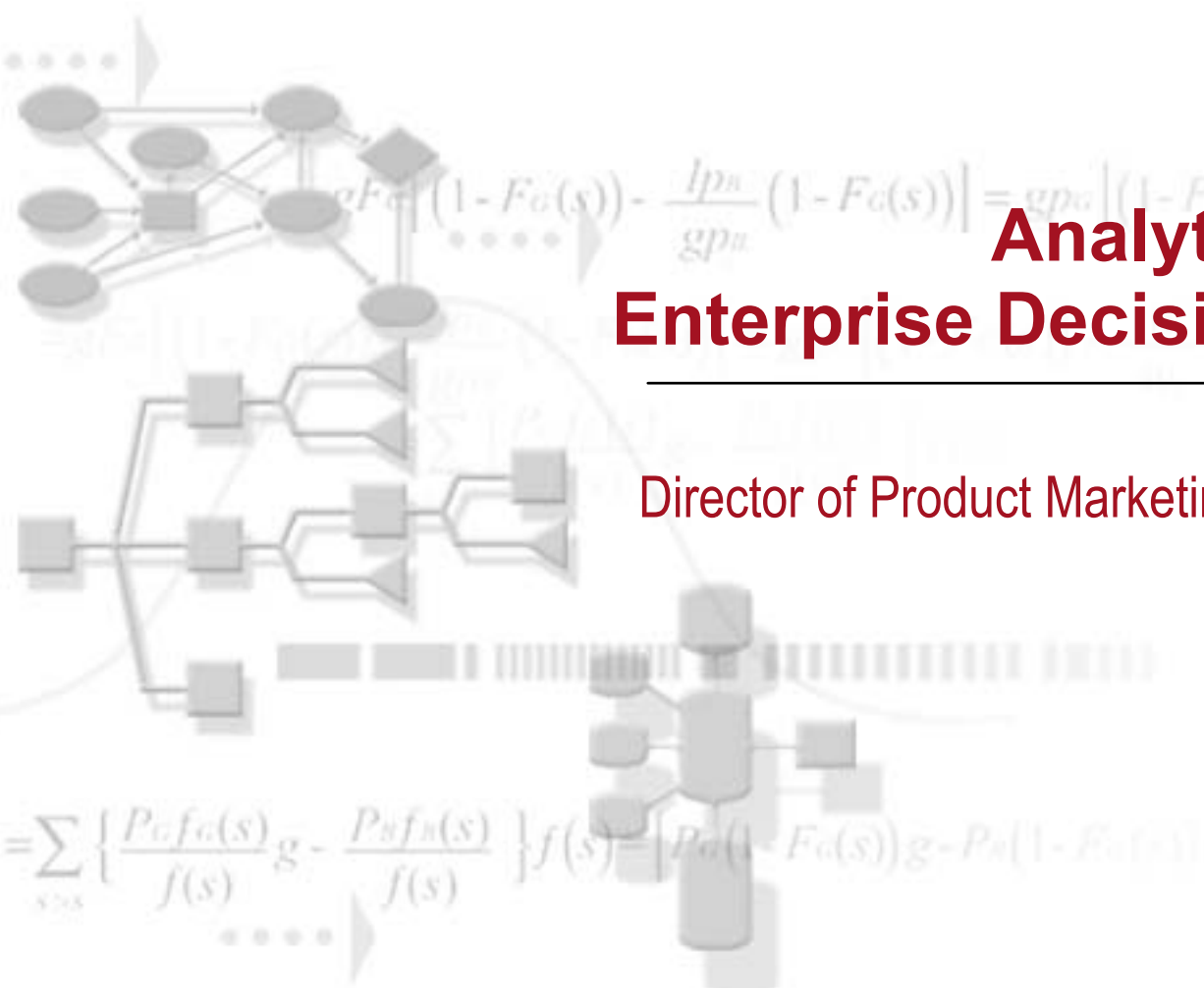
Seth Grimes  
Alta Plana

*Alta Plana*

# Analytics As A Part Of Enterprise Decision Management

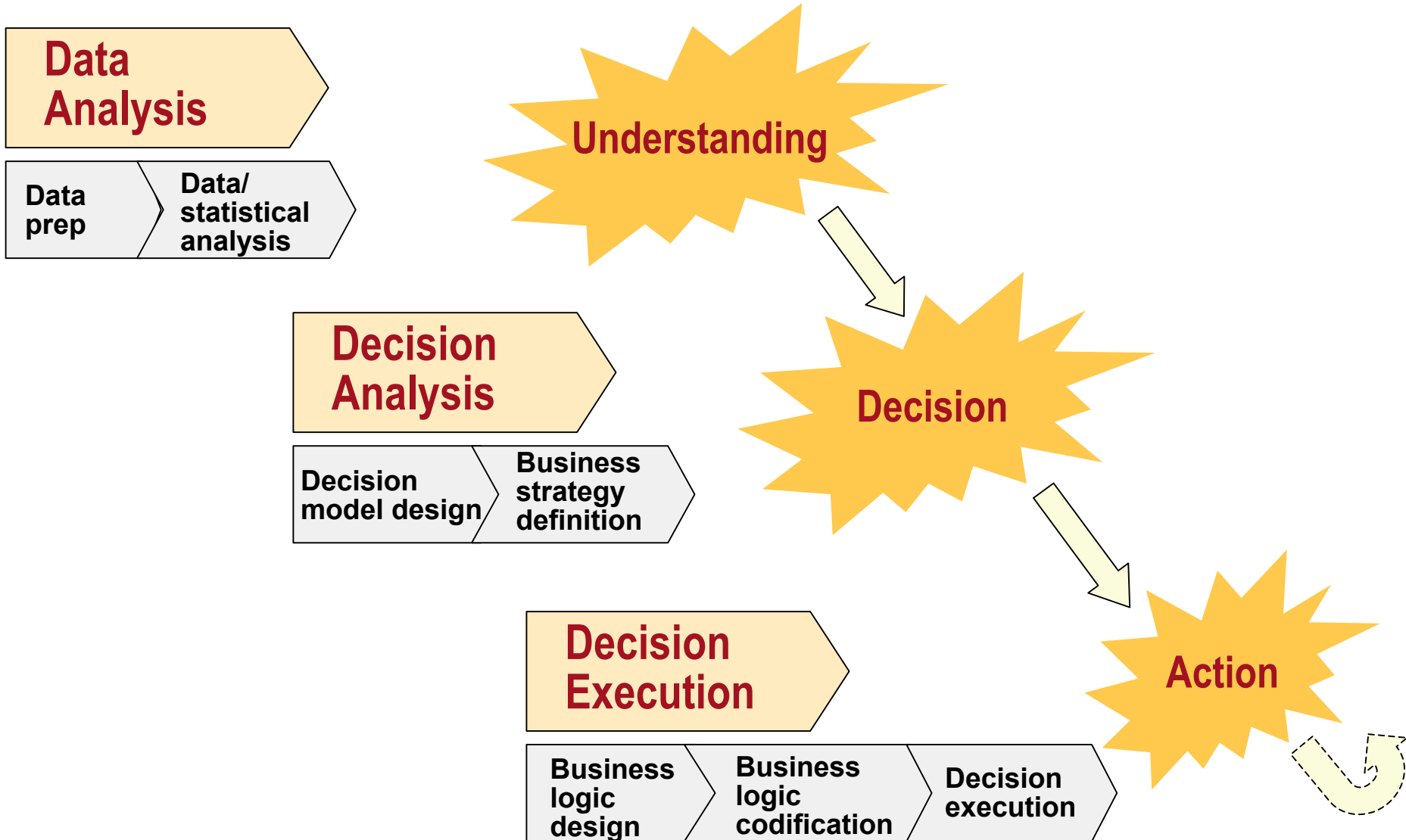
Ken Molay

Director of Product Marketing – Fair Isaac Corporation





# The Enterprise Decision Management Chain



# The Integrated Decision Management Platform



- ▶ **Modeling**
- ▶ **Strategy Optimization**
- ▶ **Rules Management**

# What Is Modeling?

- ▶ **Analysis technique that looks at past data and business results and applies discovered historical relationships and patterns to new business transactions**
- ▶ **Allows for rapid analysis of masses of data to produce action strategies**
- ▶ **Models are easily integrated with business rules and treatment strategies and provide insight to customer-facing staff and others**
- ▶ **Examples include:**
  - ▶ Scorecards
  - ▶ Regression Analyses
  - ▶ Segmentation Trees
  - ▶ Neural Nets

# Strategy Determination

	HIGH REVENUE POTENTIAL	LOW REVENUE POTENTIAL
HIGH ATTRITION POTENTIAL	Aggressively defend and rebuild customer relationship	Low cost maintenance
LOW ATTRITION POTENTIAL	Build and sustain customer relationship	Do nothing

**Assign actions to account segments, based on revenue potential and the likelihood of attrition**

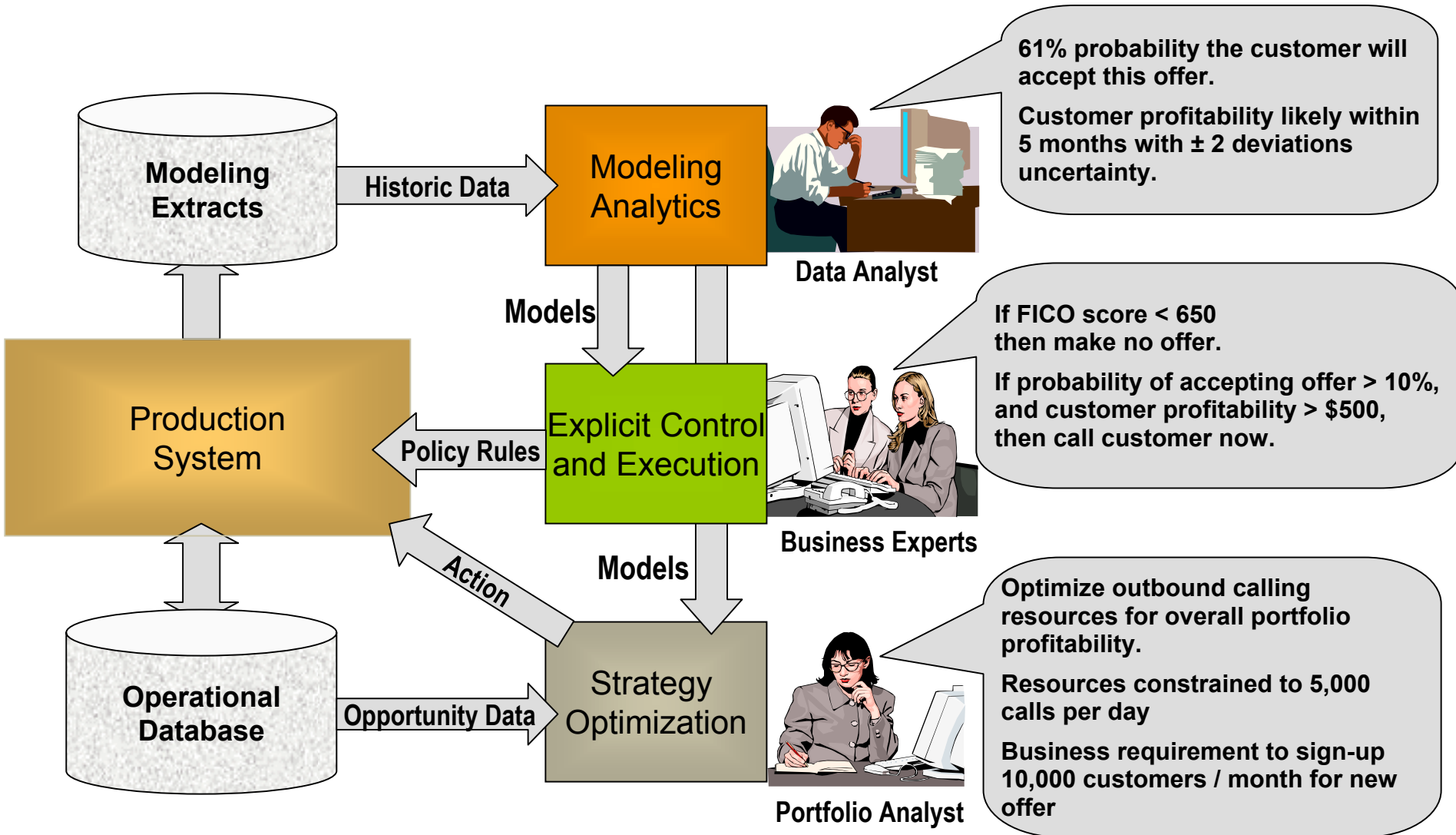
# What Is Strategy Optimization?

- ▶ **Technique for allocating resources to best achieve a business objective**
- ▶ **Used to minimize cost or maximize throughput or profits by calculating the best possible utilization of people, time, processes, equipment, supplies, etc..**
- ▶ **Optimization is needed when business decisions have:**
  - ▶ A large number of variables
  - ▶ Interdependent factors
  - ▶ Conflicting goals

# What Are Business Rules?

- ▶ **Conditional statements of how to respond to data or events associated with a business transaction**
- ▶ **Business rules may be found in your company policy manuals, in lines of code in legacy systems, in departmental memos, and in the minds of your experienced employees**
- ▶ **Rules carry out actions suggested by modeling and optimization strategies**
- ▶ **Business Rules take many forms:**
  - ▶ Formally coded statements
  - ▶ Decision trees
  - ▶ Decision tables
  - ▶ Process flows

# Using Integrated Enterprise Decision Management Technologies



61% probability the customer will accept this offer.  
Customer profitability likely within 5 months with  $\pm 2$  deviations uncertainty.

If FICO score < 650 then make no offer.  
If probability of accepting offer > 10%, and customer profitability > \$500, then call customer now.

Optimize outbound calling resources for overall portfolio profitability.  
Resources constrained to 5,000 calls per day  
Business requirement to sign-up 10,000 customers / month for new offer

# The Integrated Decision Management Platform: Enterprise Benefits



- ▶ **Bridge the gap between business experts, data analysts, modelers and IT developers**
- ▶ **Combine data understanding, policy management, and business action**
- ▶ **Handle complex decision-making in high volume operational environments**
- ▶ **Provide the ability to reuse solutions across the enterprise**
- ▶ **Allow you to develop and retain your own intellectual property**

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## ENTERPRISE DECISION MANAGEMENT

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delivered.

Fair Isaac Professional Services helps companies realize Enterprise Decision Management goals through advanced analytics, and business and technology integration. We help organizations intelligently leverage their customer assets through analytics, optimizing the decisions that develop, expand and maximize customer relationships consistently across the enterprise.



**Technology Integration**



**Advanced Analytics**



**Business Integration**

- ▶ **Approve / Decline / Refer Submitted Applications**
- ▶ **Individualized Customer Response / Assistance**
- ▶ **Product / Service Recommendations**
- ▶ **Product Bundling and Configuration**
- ▶ **Targeted Marketing**
- ▶ **B-to-B Transaction Management**
- ▶ **Internal Process Management and Routing**
- ▶ **Corporate Policy Control / Distribution / Enforcement**
- ▶ **Segment Customer Populations by Arbitrary Criteria**
- ▶ **...**

# Sample Industry Applications

## ▶ Financial Services

- ▶ origination, credit approval, trading, cross-sell, pricing, prospecting, collections

## ▶ Healthcare

- ▶ clinical guidance, reimbursement, member enrollment & benefits administration

## ▶ Insurance

- ▶ risk assessment, underwriting, claims processing, coverage/benefit increase

## ▶ Leisure

- ▶ package travel, 3rd party products cross-sell, club membership

## ▶ Manufacturing

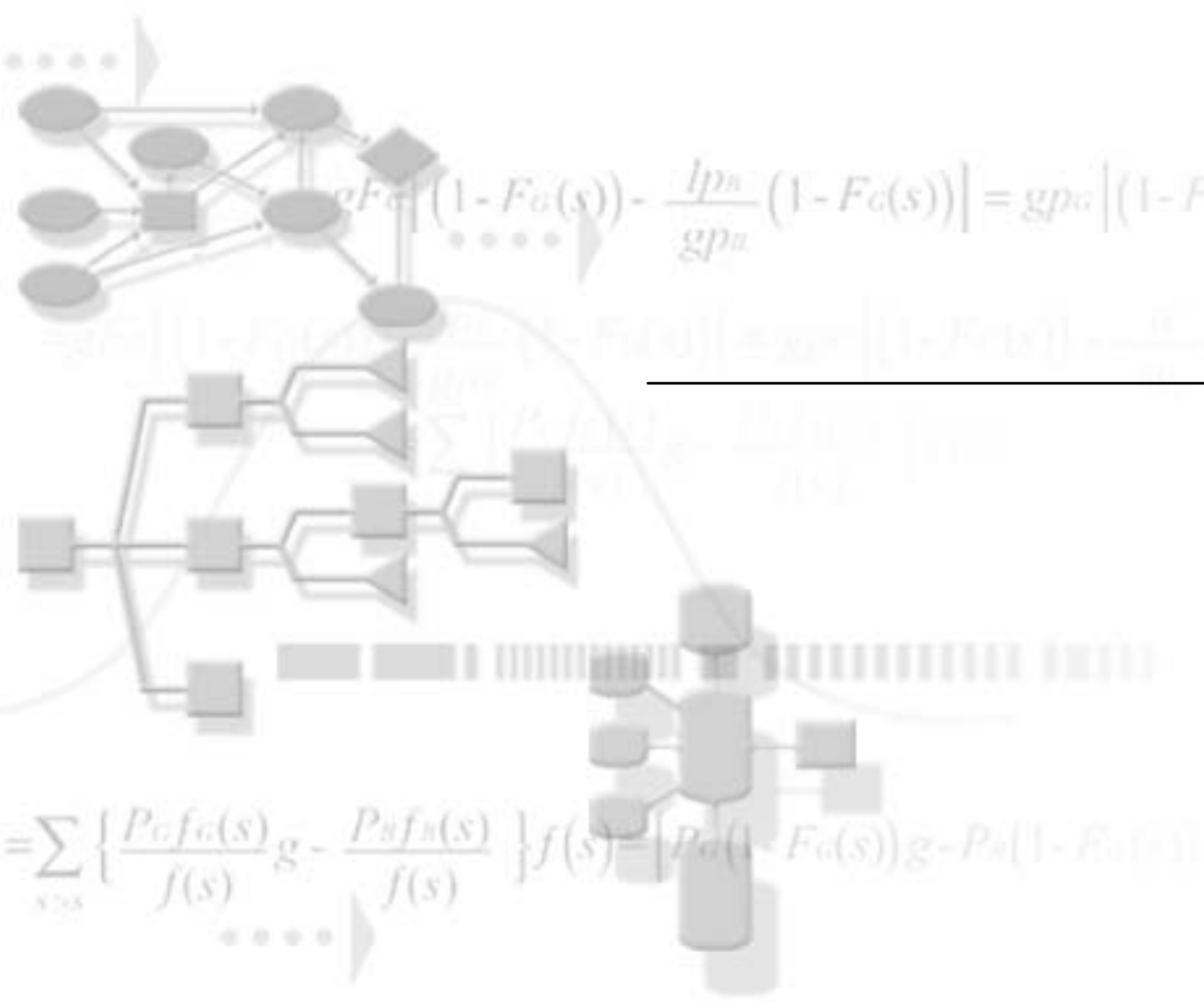
- ▶ warranty claims, engineering design, product configuration

## ▶ Retail & Distribution

- ▶ mail order catalogs, cross-selling and up-selling campaigns

## ▶ Telecommunications

- ▶ service level mgt, wireless retention, data services, collections



**Thank you**

Ken Molay  
Fair Isaac Corporation