

The Operational Process of Effective Data Mining

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Overview

- **Defining and measuring the effectiveness of a data mining function**
- **The concept of the Decision Management Life Cycle in data mining**
- **Execution as a competitive advantage**

How Do You Measure The Effectiveness of Data Mining?

- **What are we typically measuring?**
 - %/\$ Delinquency
 - Net Chargeoff
 - ROA/RAROC
- **These are the right things to watch, but do they really measure what makes data mining effective?**

How Do Should Data Mining Effectiveness Be Measured?

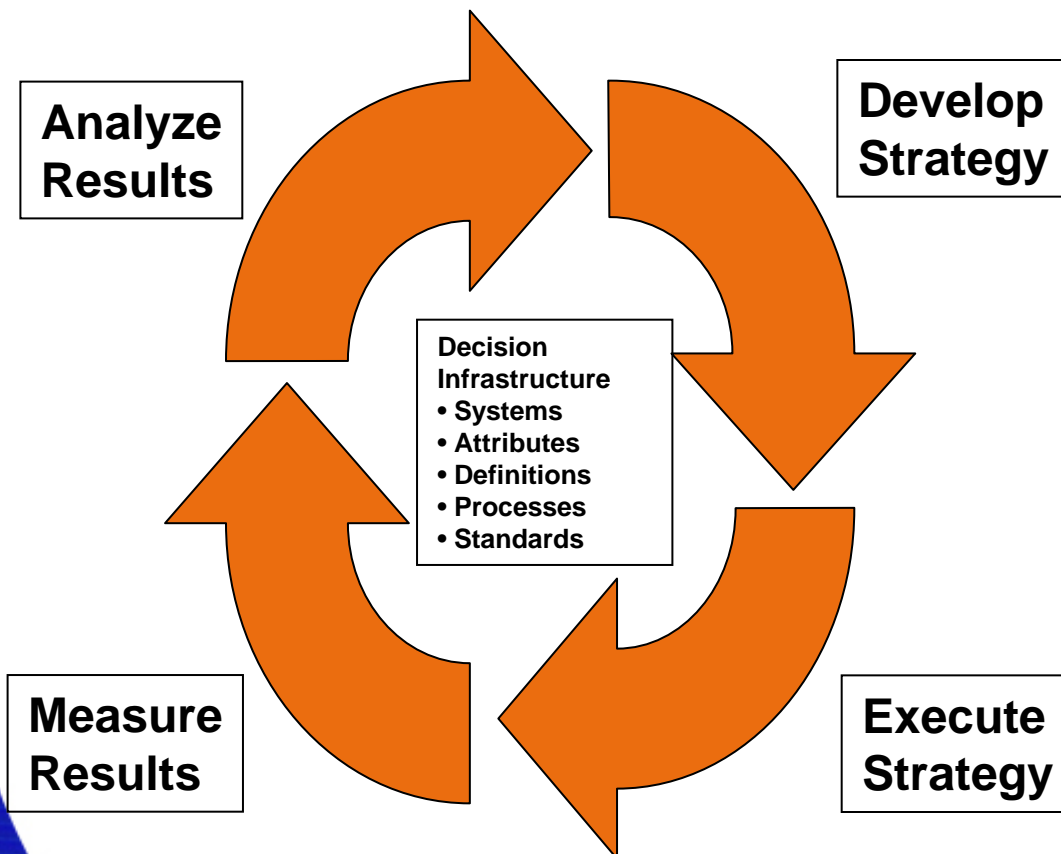
- **Effective data mining provides a framework to measure and manage risk/reward opportunities**
- **In a fact-based environment, this is accomplished via execution of a decision management life cycle**
 - Develop, execute, measure, and analyze
 - The more quickly an organization can learn, the more effective its strategy execution will be over time
- **Measured goal becomes the ability to compress learning into a smaller time frame**

Organizations that measure and manage their operational effectiveness and speed of execution in decision management can gain a competitive advantage in the form of advanced strategy execution and speed-to-market.

Why Is Decision Management Important?

- Rate of change of the world is increasing
- “Obsolescence of experience”
- Product life cycles are shrinking
- Organizations that acknowledge and embrace this as a foundational world view can begin to understand the importance of decision management execution

Data Mining and the Feedback Loop Concept



- Decision making (in any business) consists of a basic four-step process
- Concept of iterative learning: in order to execute more effective decision making, full execution of the loop is required
- The longer the loop takes to execute, the less effective the decision making process

Data Mining and the Feedback Loop Concept

global  strategies

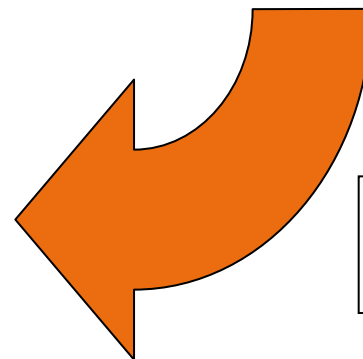


**Develop
Strategy**

- **Starts with hypothesis based on previous experience or data:**
 - **Auto-approve loans with 680+ Fico, Custom Score > 500, < 55% Debt Ratio, LTV < 80%, and Loan Amount < \$650k**

Data Mining and the Feedback Loop Concept

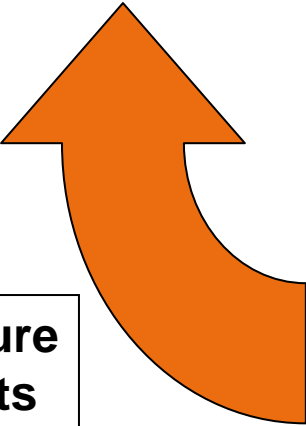
- **Codifying strategy/policy for execution**
- **Identify business rules to execute policy**
- **Deployment systems:**
 - **Automated Underwriting System/Decision Engine**
- **Change control/ implementation process: development, test/QA, implementation**



Execute Strategy

Data Mining and the Feedback Loop Concept

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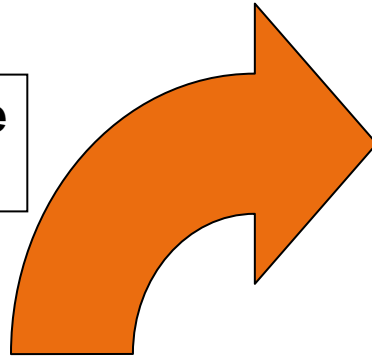


Measure
Results

- **Conventional reporting**
- **Largely descriptive, tactical**
- **MIS-based (as opposed to forward-looking)**
- **Focused on tracking of results as behavior is being observed**

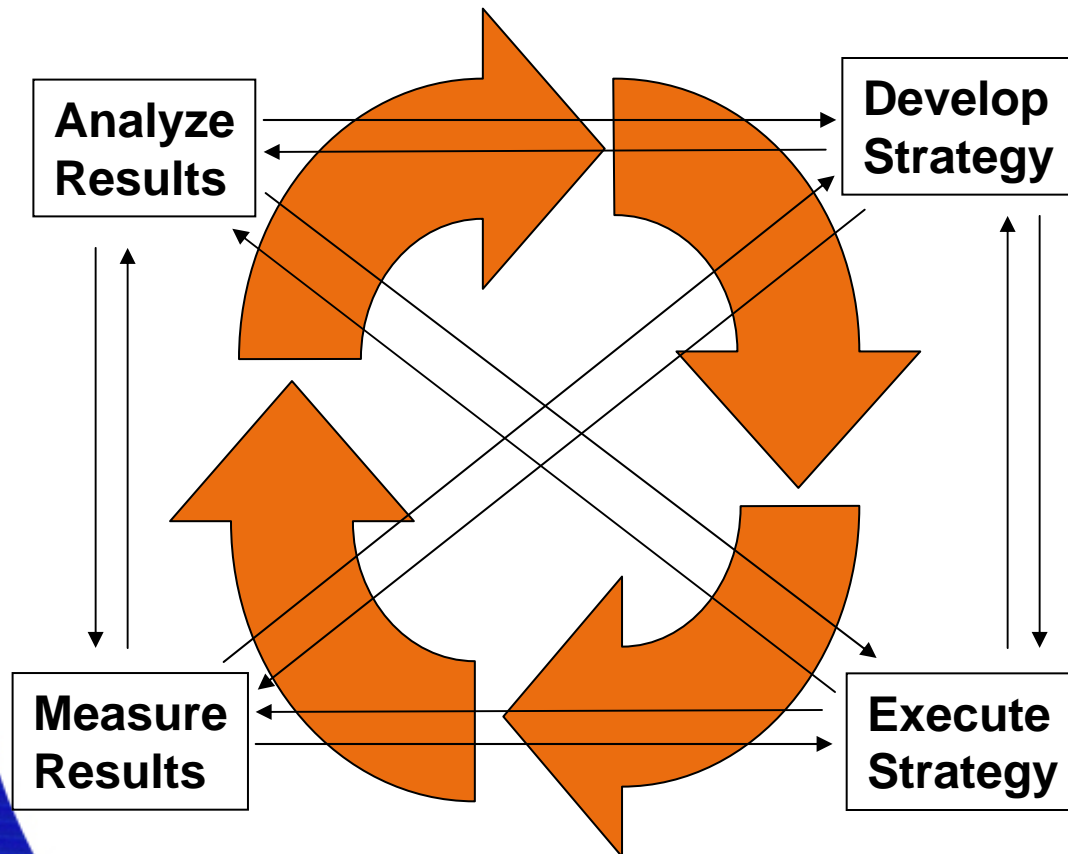
Data Mining and the Feedback Loop Concept

Analyze
Results



- Beyond measurement of results to interpretation for re-formulation of credit strategy
- Two forms:
 - Descriptive analysis of existing scores/ attributes
 - Inferential analysis: development of predictive model based on performance results

Data Mining and the Feedback Loop Concept



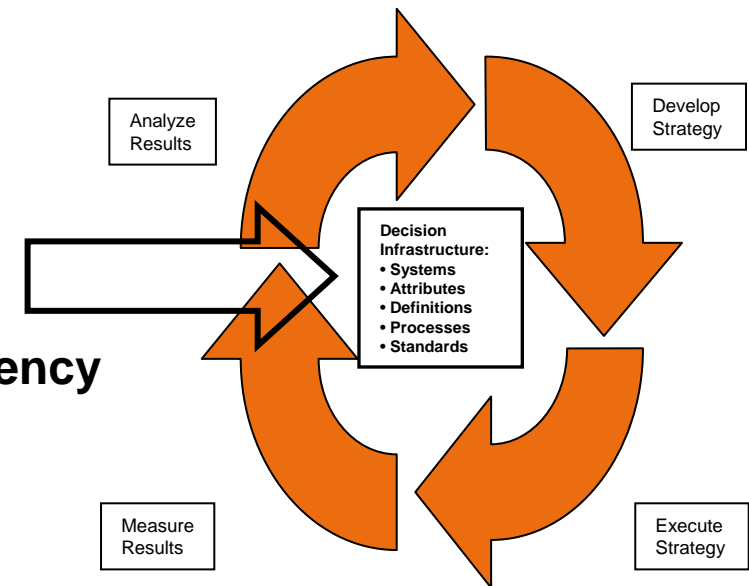
- Successful execution of any single element has dependencies upon other elements:
 - Analysis of results dependent upon effective results measurement and data
 - Great strategy development means nothing without equally great execution capabilities
- Weaknesses in one area diminish the effectiveness of the overall system
 - System only as strong as its weakest link

Keys to Data Mining Execution

- **View execution of data mining/decision strategy as a production process**
 - Identify bottlenecks and add capacity at the bottlenecks
 - Focus on efficiencies in the linkages between phases/components
- **This is not the same as speed of execution via blunt instruments:**
 - Brute Force (e.g. headcount)
 - Technology
 - \$\$\$

The Glue that holds this together is...

- **The pieces that are in the middle.**
 - Systems
 - Attributes
 - Definitions
 - Processes
 - Standards
 - ➔ Elements of a common lexicon
- **Key point: By managing these elements and assuring consistency across all the phases, we can streamline the execution of the feedback loop cycle**



Standards

- In data mining, where information is currency, rigorous standards and definitions are a necessary control point
- Avoids misleading interpretations and process breakdown of the steps supporting strategy development
 - Analytic software
 - Processes
 - Procedures
- **Examples include:**
 - Scoring system monitoring standards
 - Reporting methods
 - Loss definitions

In Summary...

- **Organizations that manage the execution of the decision management cycle can achieve sustained competitive advantage through more proactive execution of credit strategy**
- **Rather than brute force expenditure on technology or headcount, focus on the elements that are common links across all the elements**
- **Common elements and consistency throughout the cycle minimize translations that slow down execution of the process**