The Role of Decision Models in Analytic Excellence

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CEO
We work with clients to improve their business by applying business rules & analytic technology to automate & improve decisions.

I have spent the last 14 years focused on the development of analytic applications using Decision Management

- Original DMN submitter
- Using decision modeling since 2011
- Dozens of decision modeling projects and nearly 1,000 trained
Agenda

▶ Framing Analytic Requirements
▶ Operationalizing Analytics
▶ Orchestrating Operational Analytics
▶ Tracking Decision Performance
Magical Thinking About Analytics

A Miracle Occurs
A Focus Only On Building Analytic Models Results In A Dangerous Gap
Decision Modeling Closes The Gap
Decision Modeling: Framing Analytic Problems
Challenges Framing Analytics Problems

- Poor collaboration with business and IT partners
- Too many iterations
- Business value not the focus
- Too many distractions
Decision Modeling Frames Analytic Requirements

Overall decision to be improved

Relevant Experience

Hold or Sell Distressed Mortgage

Regulations and Policies

Security Trading Regulations

FHFA Mandates

Specific Analytic Decision

Analytic Models

Data

Balance Sheet Management Directives

Mortgage Trader Experience

Market Bid Prices

Evaluate Profitability of Selling Mortgage

Identify Distressed Mortgage

Performance Prediction

Assess Home Equity

Assess Payment History

Mortgage Payment Records

Performing Loan Models

Appraisal

Mortgage Portfolio Data
Case: Framing The Problem Correctly

- Life insurance provider
- Decision model of life underwriting decision
- Identified that a planned medical risk prediction would not be usable
- Project was redirected
- No wasted effort
Decision Modeling: Operationalizing Analytic Solutions
Challenges Deploying Analytics

- Analytic results are prioritized, not business results
- Timeliness and sustainability are not considered
- Ineffective deployment leaves analytics on the shelf
Decision Models Ensure Analytic Deployment

Tie the analytic to the decision and to business results

Show how the analytic impacts a business decision

Use the decision context to frame deployment and sustainability needs
Case: Decision Models Improve Manual Deployment

- Healthcare insurance provider
- Developed a decision model for healthcare claims adjudication
- The model showed where and how to use a fraud analytic
- Increased usage
- Improved results
Decision Modeling: Orchestrating Operational Analytics
Decision Models Show The Balance Between Analytics and Business Rules

Business Rules

Analytics

- Customer Service Expertise
- Call Center Notes
- Customer Information
- Call Center Cross-sell Script
- Add On Products
- Customer Service Actions
- Marketing Campaigns
- Product Catalog
- Customer Product Portfolio
- Customer Information
- Customer Value
- Customer Lifetime Value Model
- Action Availability
- Incremental NPV of action
- Rank Actions
- Risk of Action
- Product Risk Models
- Credit Risk Policies
- Value of action
- Probability of action
- Product Profitability Guidelines
- Product Propensity

Branch expertise is applied to use the rank ordered list of actions effectively in context.

Customer value drives the list of add-on products that are available but is made outside the NSA engine.
Case: Decision Models Operationalize Next Best Action

- Customers use multiple channels
- A common service suggests actions
- Using business rules and predictive analytics in combination
- These are continuously improved
- And managed by a decision model
- That contains channel-specific decisions that reuse common ones
- Automated with business rules and analytics
Case: Decision Models Improve Quality In Manufacturing

- Manufacturing company
- Identified predictions of quality risk
- Could change task assignments
- Developed decision models around product quality
- Found opportunity to analytically focus daily activities of quality team
Decision Modeling:
Tracking Decision Performance
Decision Models Show How To Analyze Analytic Effectiveness

Supporting Decisions

Scores

Business Results

Decision Made
Decision Models Reveal Tracking Needs

Data Changes

Customer Information
Customer Product Portfolio
Country GDP
Web Traffic
Customer History

Customer Lifetime Value Model

Business Results

Action Availability
Add On Products

Direct Outcomes

Indirect Outcomes

Customer Value
Wrap Up
Don’t Leave Analytic Projects In The Dark

- Model Decisions
  - Frame Analytic Requirements
  - Operationalize Analytics
  - Orchestrate Analytic Components
  - Track Analytic Results
Next Steps / Q&A

- Any Questions?
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