

New Decision Management Concepts

Disciplined management of models and strategies

Neill Crossley
Principal Consultant
FICO

Eric Wells
Senior Director
FICO

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What is Decision Management?

An approach that automates, improves, and connects decisions to enhance business performance

Automate

complex decisions across different decision areas



Improve

decision quality with predictive analytics and optimisation



Connect

different decisions across the enterprise



- » **Developments in Model Management**
- » What about Strategy Management?
 - » Core Components & Uses
 - » Value propositions

Model Management had become a Challenge



Delays to Get Models into Production

Regulatory Pressures

Internal Audit Pressures

Highly Complex Inventory of Models

Validation and Tracking Inconsistencies

Resource Pressures / Constraints

Reporting Difficulties

Model Tracking & Validation

- » 84% of respondents are challenged with some aspect of their predictive modeling capabilities, including:
 - Lack of visibility into analytic model performance
 - Non-compliance with Regulatory requirements
 - Lack of confidence in models for decision-making

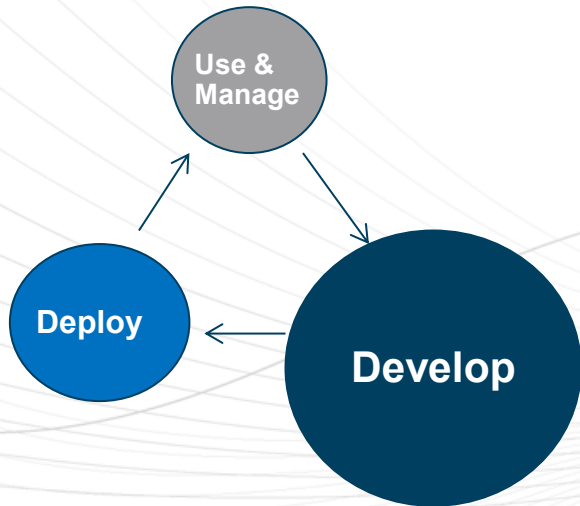
- » 79% of respondents are concerned about some aspect of regulation, including data, automation, segmentation, documentation, or business practice application

Model Deployment

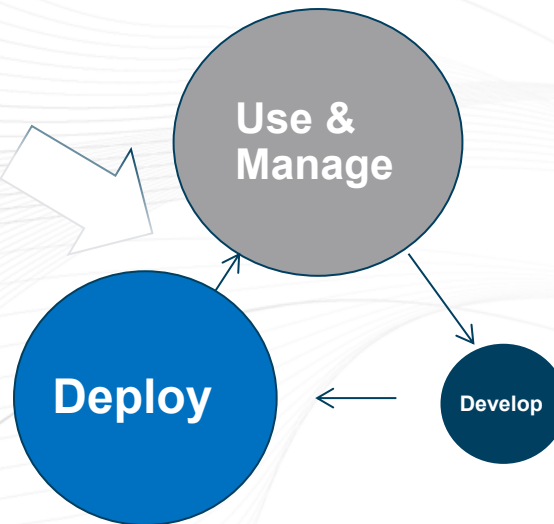
- » 88% of respondents expressed a clear concern about the costs and delays associated with Model Deployment
 - Many organizations take over six months to deploy
 - Most organizations deploy into multiple environments
 - Attribute accuracy, consistency, and promulgation have become a massive hurdle

Analytic workloads have been changing

Where analytic resources were expended in the past



Where analytic resources are expended today



Model Management Balancing Act

- » A disciplined approach to managing and governing models
- » Leverage the power of technology in order to get the benefits of strong governance without bringing the modeling teams to their knees

» **Strong governance without adequate supporting technology =**

» **Strong technology capabilities without adequate oversight and discipline =**



What should Model Management look like?

A combination of improved infrastructure and process:

1. All models properly inventoried and documented—know what's being used where, when, and how
2. Automated, scheduled validation processes
3. User configurable oversight rules sit on top of the validation process with evaluation done at the 'parent', 'child', and 'attribute' level
4. Configurable, rule-based alerts to model status and degradation
5. Rich reporting and dashboards to quickly assess cause and significance of any degradation
6. **Role-based alerts, reports, and dashboards**
 - **Assessment of business impact**
 - **Identification of problem areas and potential mitigation**
 - **Driving development prioritization**



- **Platform Approach** – same tools underpin whole solution
- **Modular** – developments can focus on 1 or 2 areas, or across lifecycle
- **Universal** – can work with other solutions (works best with FICO's)
- **Scalable** – able to manage hundreds and thousands of models
- **Extensible** – can expand to other Decision Management components

Model Lifecycle Management Solutions

Support the whole Model Life Cycle

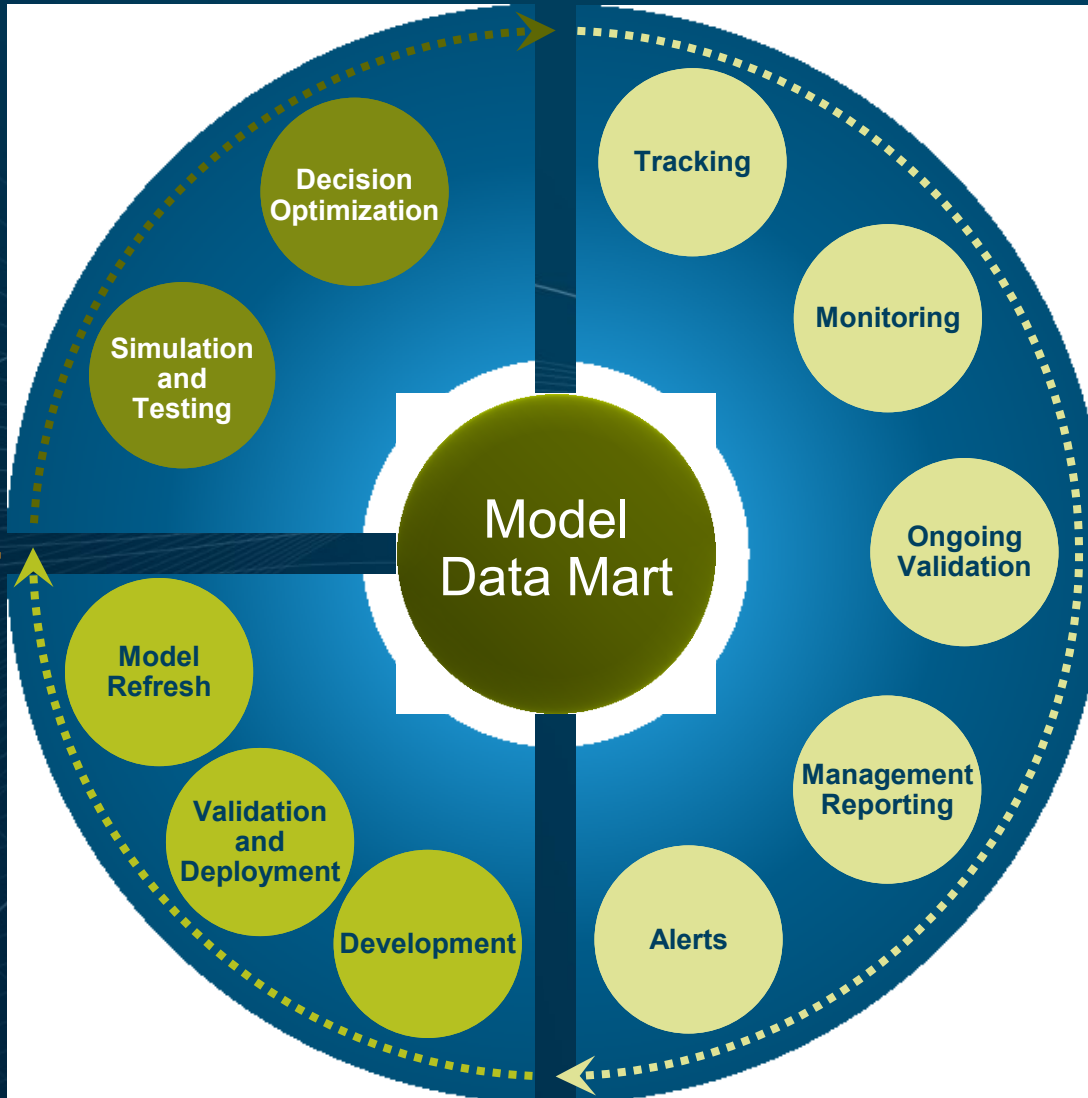


ADVANCED

- Simulation software to test new strategies prior to production
- A solution to analyze and optimize the business impact of automated decisions

PROFESSIONAL +

- Full development environment
- Common repository – data and reports
- Variable library
- Model diagnostics and reporting
- Open, extensible scripting interface
- Graphical workbench and IDE



FOUNDATION

- Web-based dashboard
- Automated model validation
- Alerts to model degradation
- Monitors multiple model types
- Standard and custom reporting

Agenda



- » Developments in Model Management
- » **What about Strategy Management?**
 - » Core Components & Uses
 - » Value propositions

What should *Strategy* management look like?

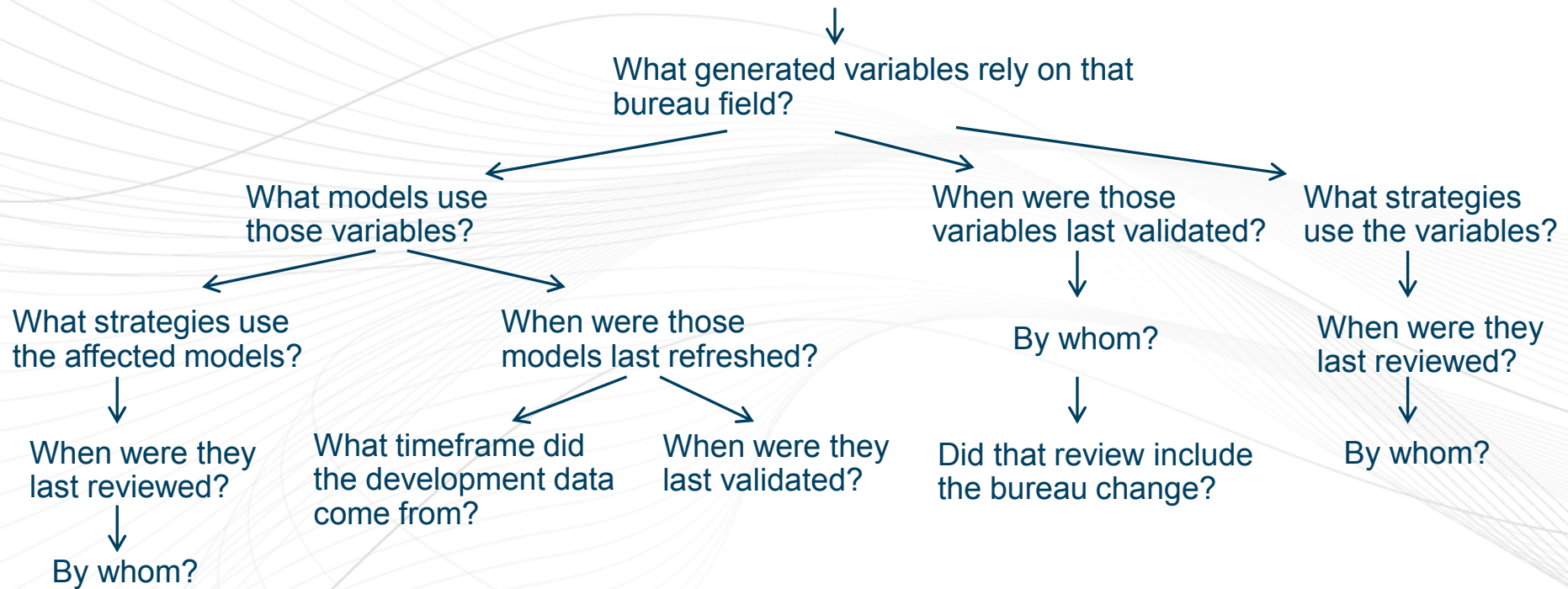
That very same discipline (and much the same technology) can be applied to managing and governing strategies

1. All *strategies* properly inventoried and documented—know what's being used where, when, and how
2. Automated, scheduled validation processes
3. User configurable oversight rules sit on top of the validation process with evaluation done at the 'parent', 'child', and 'attribute' level
4. Configurable, rule-based alerts to *strategy* status and degradation
5. Rich reporting and dashboards to quickly assess cause and significance of any degradation
6. Role-based alerts, reports, and dashboards
7. *Traceability between strategies, models and attributes*

Need to create direct traceability

- » Manage and facilitate access to codified institutional knowledge and memory

A bureau made a change to credit bureau record content (such as a change in authorized user codes or a change in the coding of mortgage modification).



- » Management (and, indirectly, auditors/regulators) will now be able to follow these lines of questioning directly and immediately

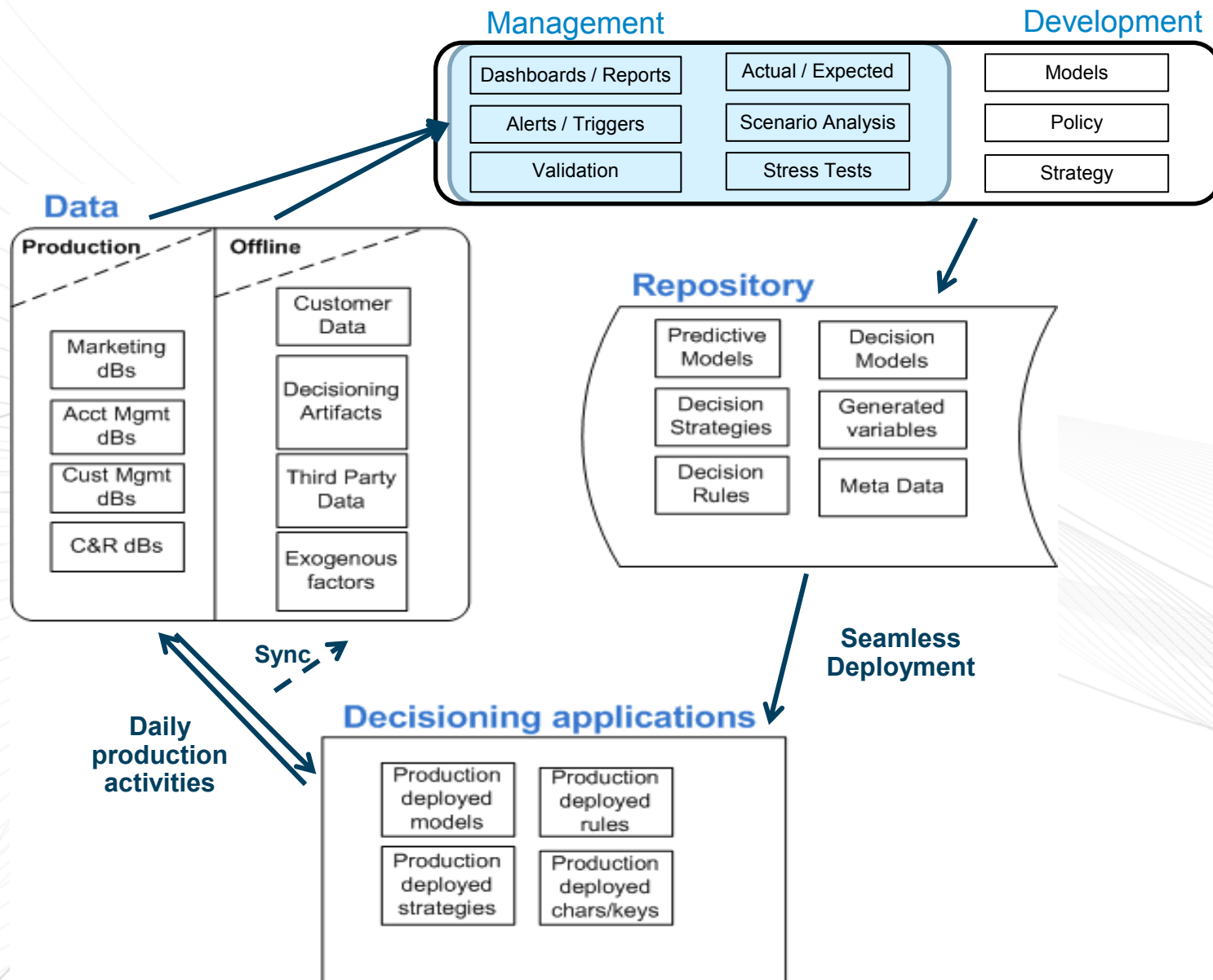
Agenda



- » Developments in Model Management
- » What about Strategy Management?
 - » **Core Components & Uses**
 - » Value propositions

Strategy Management

The common components

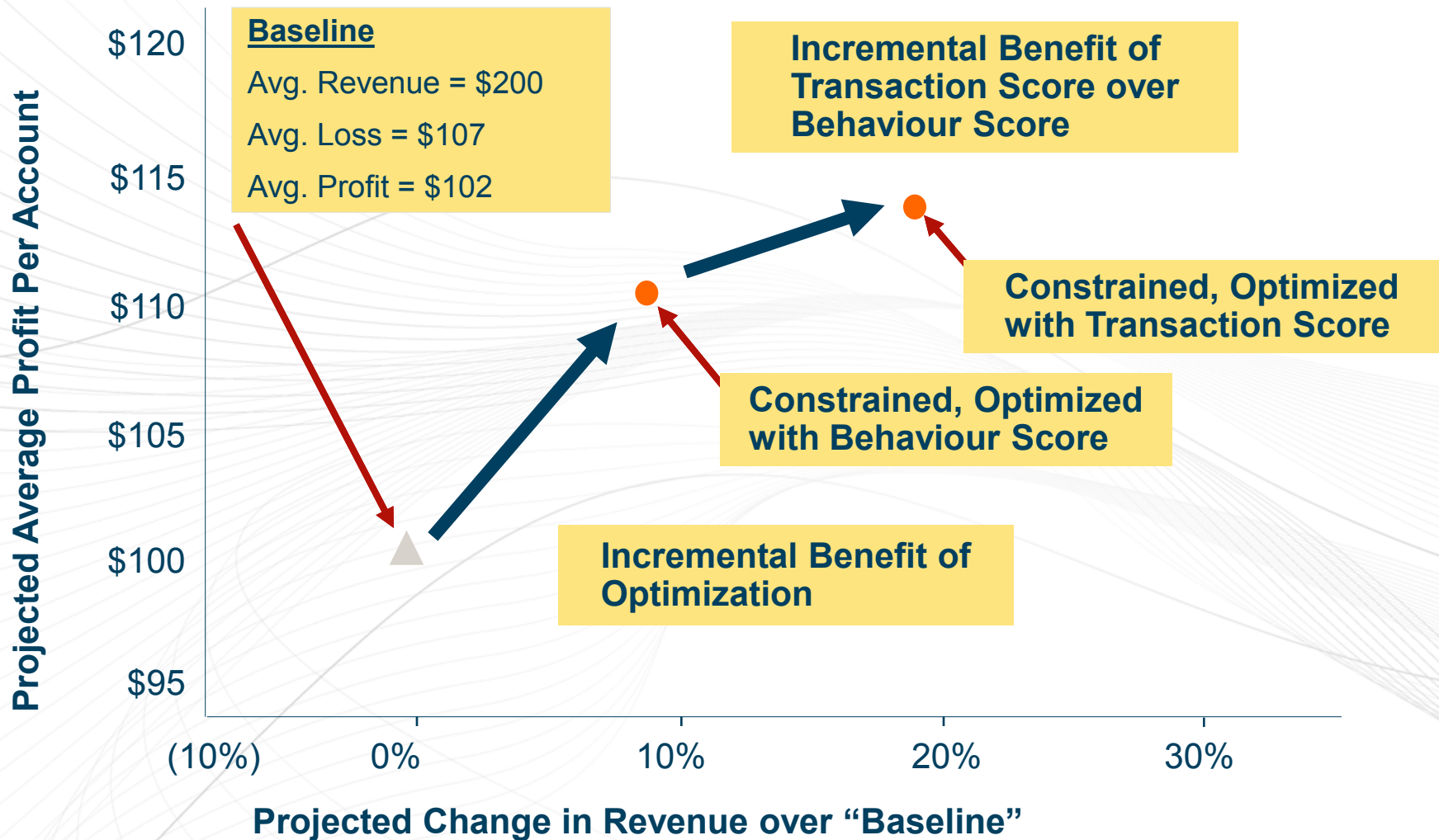


Mathematically capture Decision Models

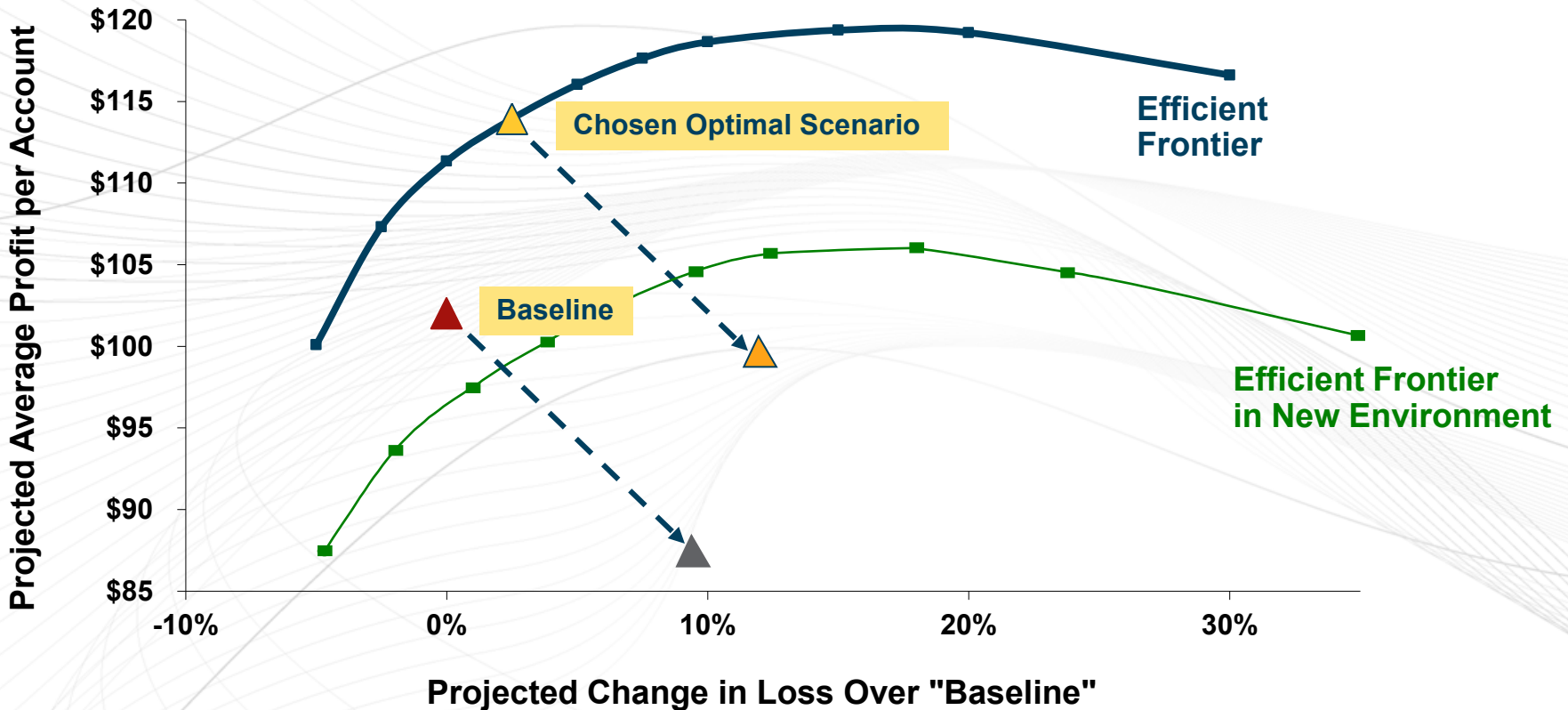


- » FICO refers to the collection of models and assumptions that describe consumer behavior – and in particular consumer behavior in reaction to the bank’s actions – and the overall impact to the portfolio as a Decision Model
- » Behind every decision strategy is a Decision Model – but since it doesn’t usually get deployed it often doesn’t get documented
- » The Decision Model is the source of all expectations
 - » Expected performance of a strategy
 - » Expected performance of alternate strategies
 - » Expected performance of certain sub-groups of customers
 - » Expected impact of bank actions
- » These drive all simulation, stress-testing, and decision optimization activities
- » Decision Models should be managed as rigorously as predictive models

Forward Looking ROI and “What If” Capability



Simulating profit outcomes in a changing environment

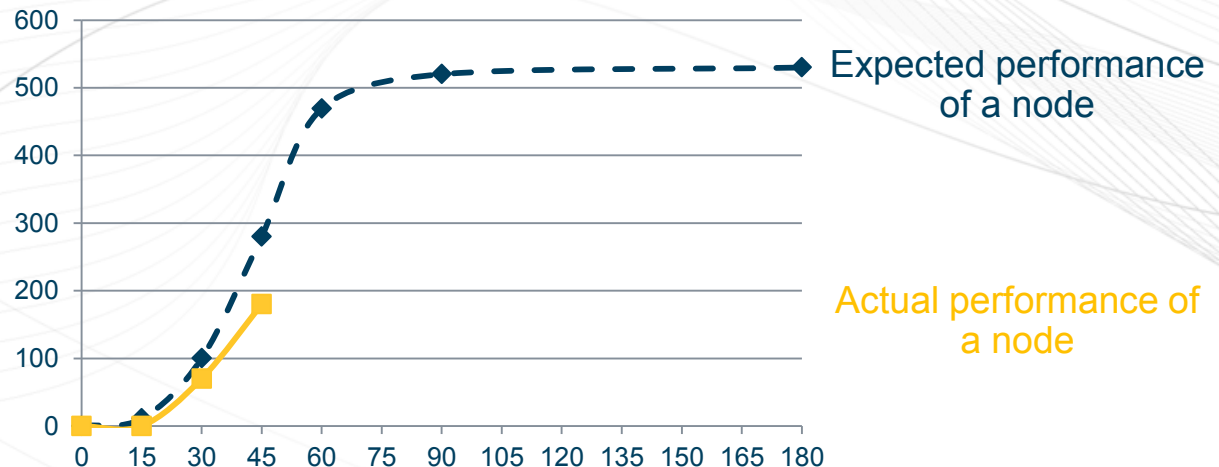


Learning Loops

Track strategies with more granularity of insight



- » Historically, we used champion/challenger testing
- » In the future, we compare actuals to expectations – both at the strategy level and the node level.
- » Automated monitoring and alerts – leading to mitigation / correction
- » More confidence that the winning strategy will perform well going forward.
- » More insight into the underlying consumer behavior.

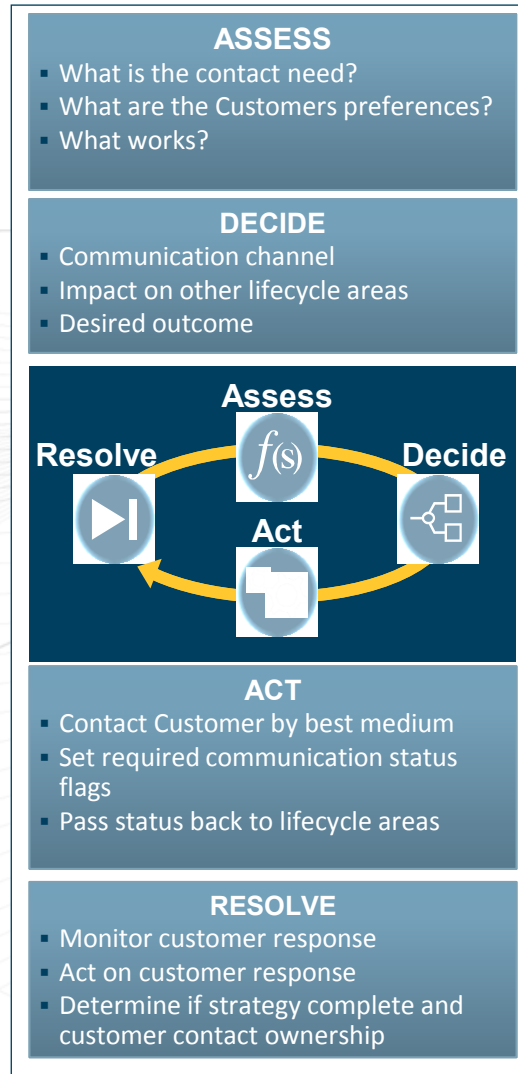


Connected Decisions & Co-ordinated Customer Communication

Disparate decisioning components and Data



Centralised Communication Platform



Benefits

Customer Experience

- Customer centric communications
- Consistent communication messaging
- Customer feels like Bank is one entity
- Feels the Bank is making valued connections over the right mediums

Colleague Experience

- Consistent customer messaging
- Less customer queries / issues.
- Additional information portal give clear guidance on why communication made?

Business Benefits

- Brings customer level management to the customer
- Focused single communication strategy across lifecycle
- Ability to contact the customer through the customers most used channels
- No cross-purpose messaging
- Significant customer satisfaction and controlled retention.

Agenda



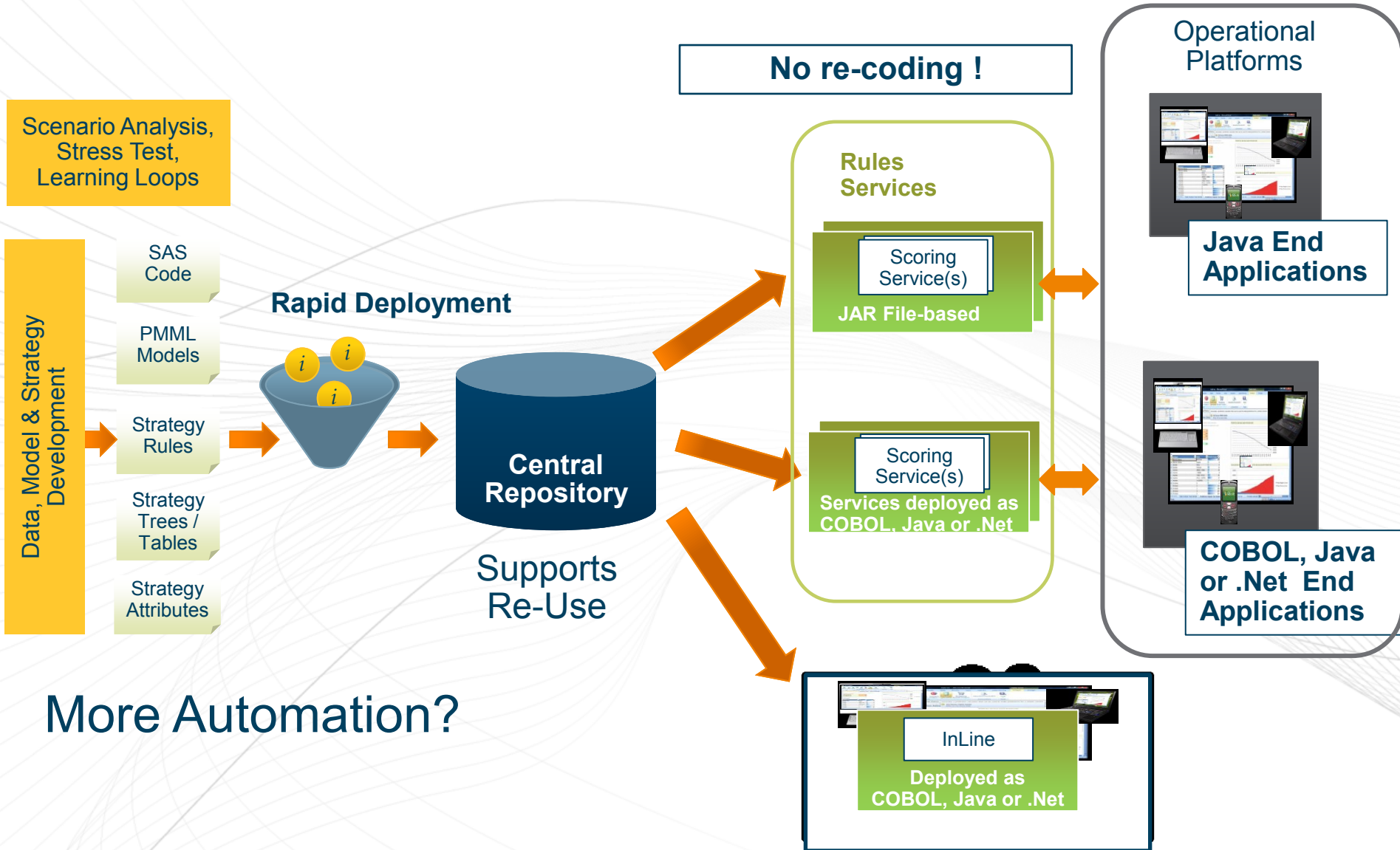
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 - » **Value Propositions**

Value proposition - Modelers and Strategy builders

Your work is implemented more quickly and less painfully



We've proven that model deployment can be measured in days not months.

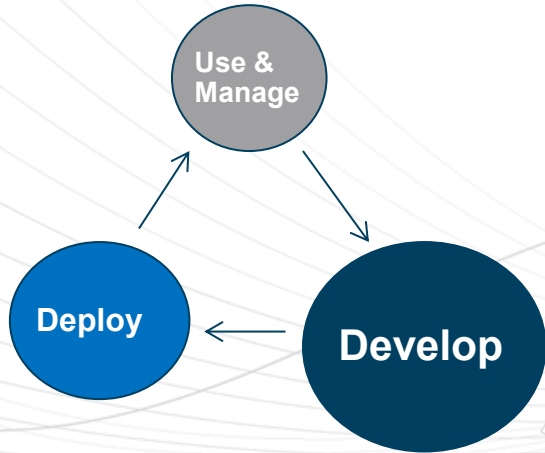


Value proposition - Modelers and strategy builders

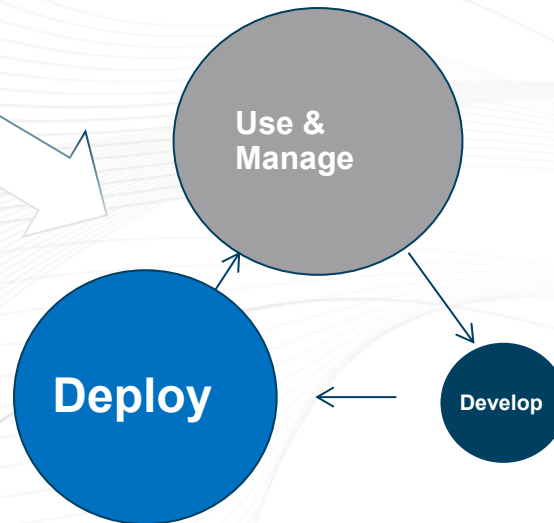
Do less of the tedious work



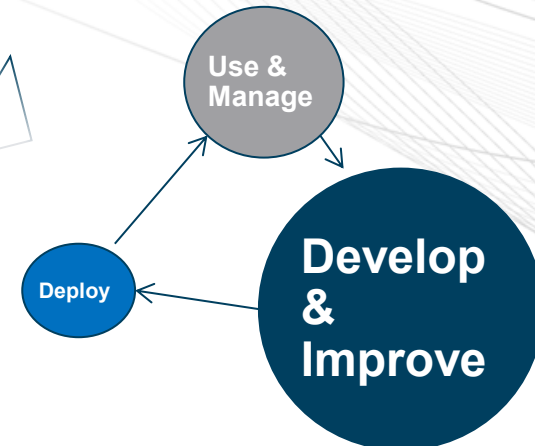
Where analytic resources were expended in the past



Where analytic resources are expended today



Where analytic resources will be expended leveraging technology



Value proposition - Governance

Readily access the information you need



- » Governance “built in”
- » Transparency
- » Traceability
- » Codify control procedures
- » Ease auditing and compliance load
- » Automated Tracking & Alerts
- » Early Issue Identification
- » Leading to Performance Correction



Value proposition - Business owners

Better decisions leads to better financial results



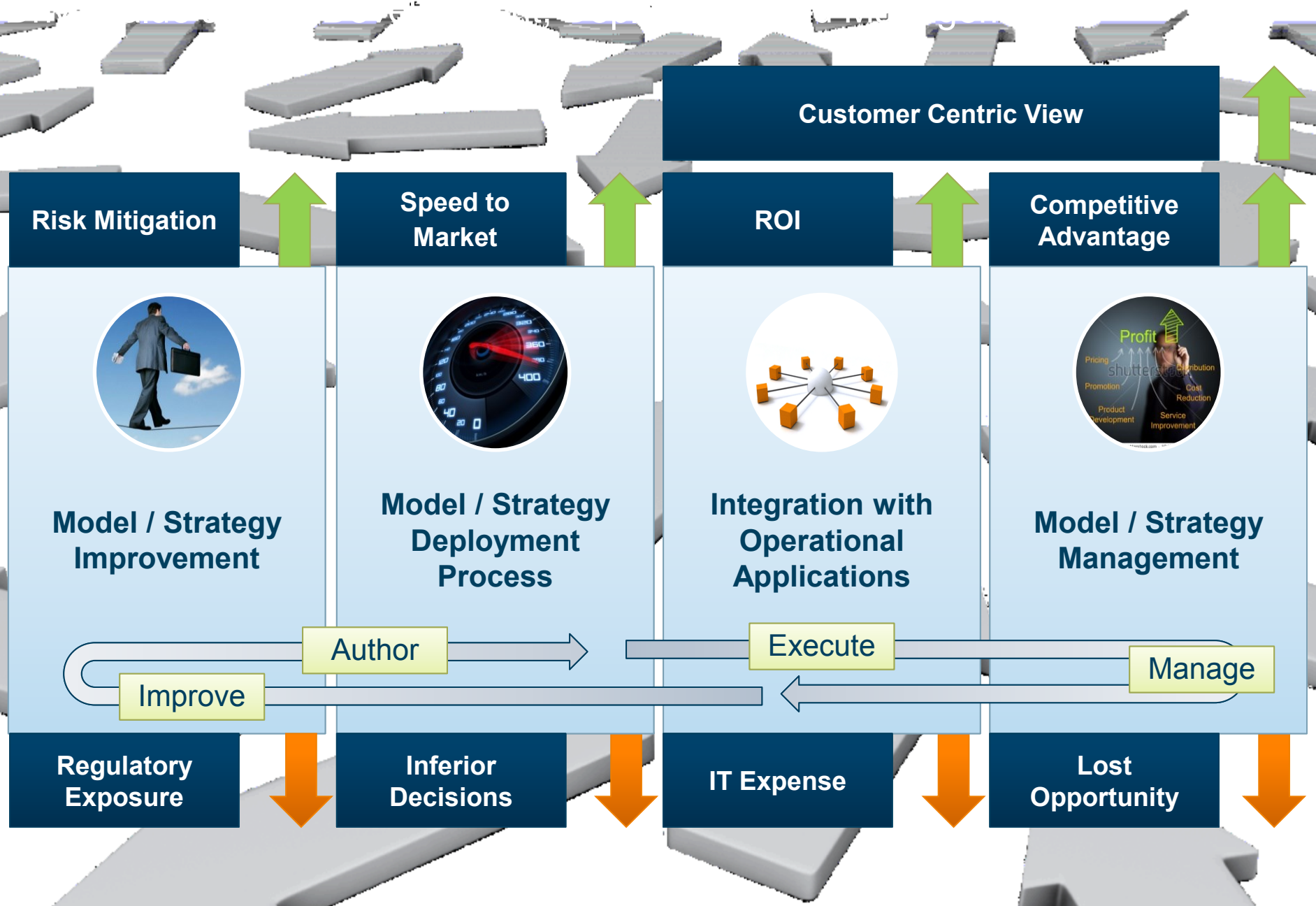
- » Financial implications of models and strategies are assessed before implementation
- » Underperforming models / strategies are quickly identified and replaced / corrected
- » Winning strategies are rapidly promoted
- » No costly deployment errors
- » Proactive forward-looking decision management

Leads to...

- » Less credit and fraud losses
- » More revenue
- » Enhanced customer experience
- » More predictability and control of financial results



Value Proposition - "Central" Lifecycle Systems



Sophistication driving business performance

**Information Hungry –
Big Data**



**Business Insight &
Control**



**Results Driven
Performance**



**Easy to Consume
Innovation &
Expertise**



**Decreased Time to
Value**



**Reuse, Duplicate &
Disseminate**



Solutions which are easier to deliver & use

Coming to a galaxy near you...

- » It is well within the grasp of the technology available today to.....
 - » automate the routine tasks
 - » codify management best practices
 - » allow re-use and re-fresh of decision management assets
 - » connect and co-ordinate decisions
 - » Have robust governance and validation built in
 - » make information immediately accessible
 - » allow results to be managed against expectations
 - » proactively anticipate threats and opportunities
- » Most banks already have various aspects of the necessary technology already installed. All that remains is to bridge the gaps.

www.fico.com

THANK YOU

Neill Crossley
Principal Consultant
FICO

neillcrossley@fico.com

+44 (0)121 781 4801

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