

Synergies between Risk Modeling and Customer Analytics

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Agenda



- 1 Introduction
- 2 Modeling in the financial sector
- 3 Consequences from lack of alignment between risk modeling and customer analytics
- 4 Achieving synergies in the organization
- 5 Wrap up

Introduction

- ▶ **Risk models**

- ▶ Used in most financial services domains to ultimately predict profitability

- ▶ **Customer analytics**

- ▶ Marketing campaigns aim to increase customer base
- ▶ “Customer analytics” team models customer behavior in order to create target marketing

- ▶ **Synergies**

- ▶ Organizations allocate significant IT and human resources to preparing data and building models
- ▶ When the risk modeling and marketing analytics are performed in silos, organizations waste resources, time and do not achieve optimal benefits
- ▶ Effective data repositories and manipulation, appropriate modeling practices and model risk management can create synergies between risk modeling and customer analytics





1 Introduction

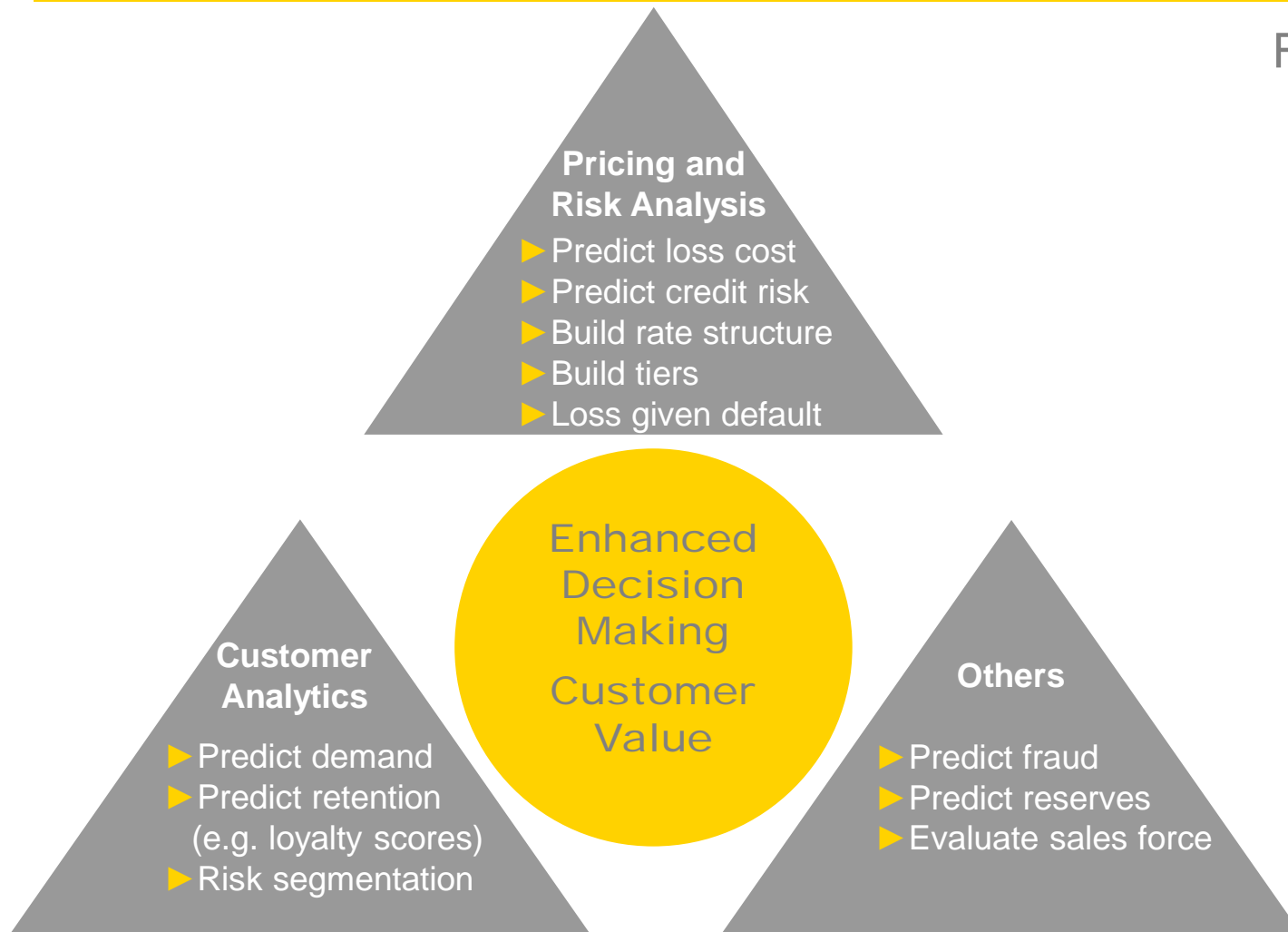
2 **Modeling in the financial sector**

3 Consequences from lack of alignment between risk modeling and customer analytics

4 Achieving synergies in the organization

5 Wrap up

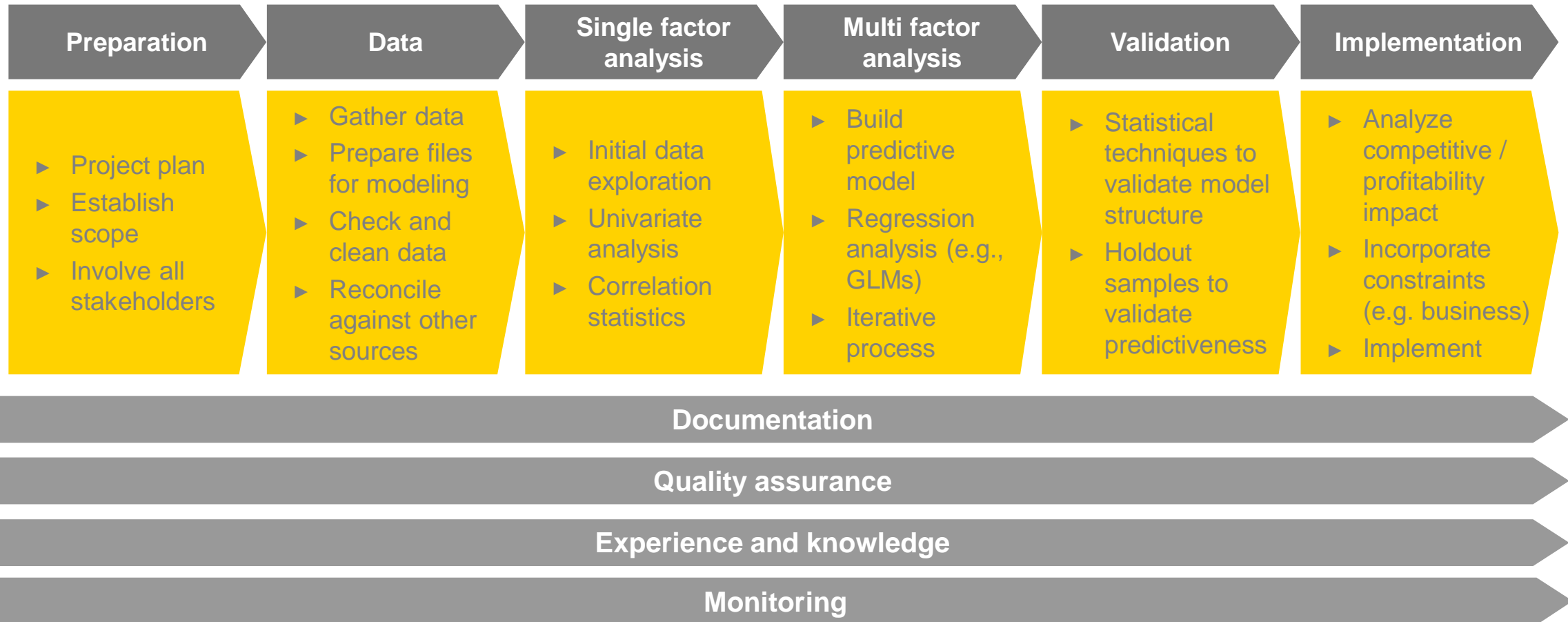
Models are used regularly in the financial sector



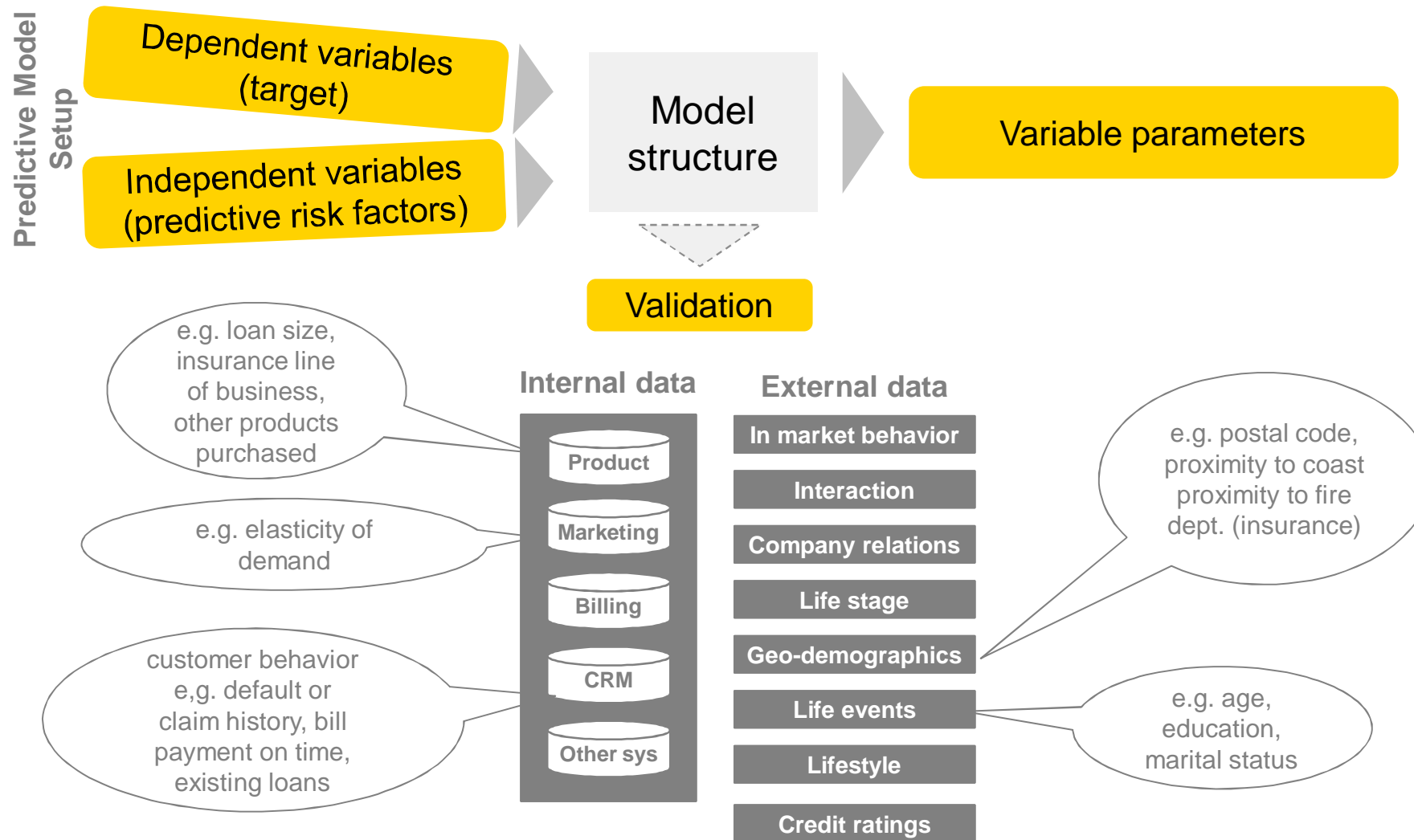
Features of predictive models:

- ▶ Various techniques, e.g.:
 - ▶ Generalized Linear Models (GLMs) loss cost and conversion (insurance)
 - ▶ GLM logistic regression (banking)
- ▶ Statistical model diagnostics
- ▶ Validation techniques
- ▶ Ability to test predictiveness
- ▶ Ability to incorporate business judgment
- ▶ Not a black box (can follow model development, statistics, validation process)

Model development is similar across products and departments

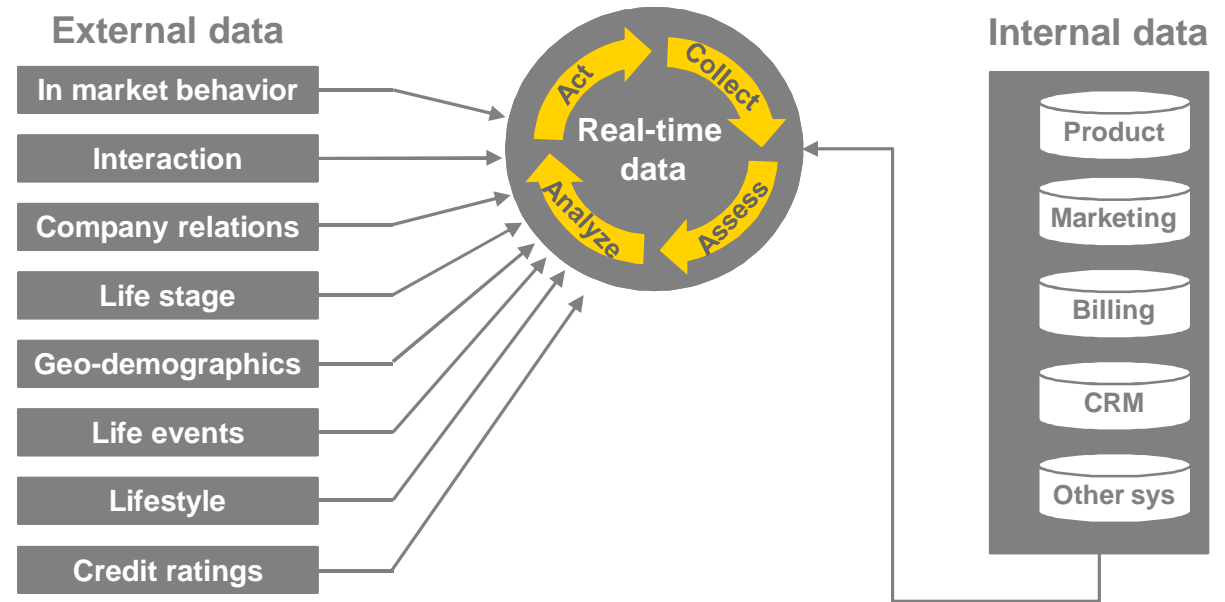


High quality data remains the #1 priority for building accurate models



Working on the model inputs should be a collaborative effort across the organization

- ▶ Create a **common data platform**, while adhering to **customer privacy** and **data protection** guidelines
 - ▶ More complete information
 - ▶ Efficiencies
- ▶ Maintain a common **data dictionary** across the organization
 - ▶ Reduce risk of errors
 - ▶ Reduce data misuse
- ▶ Document the data sources and data manipulation





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There are numerous sources of model risk and potential adverse business consequences

Sources of model risk:

- ▶ Inputs
- ▶ Design
- ▶ Use/implementation in silos:
 - ▶ Inadequate knowledge of model purpose, processes and controls, e.g. key person risk, lack of training
 - ▶ Errors in the end-to-end process, e.g. unauthorized and incorrect model changes
 - ▶ Overreliance on models, e.g. limitations being ignored
 - ▶ Old-generation models unreliable as a result of changes in market conditions

Possible adverse consequences:

**Financial (short-term, long-term)
Accounting, Reputation, Poor decision making**

- ▶ Ineffective marketing (limited up/cross-selling)
- ▶ Customer loss
- ▶ Inadequate quantification of risk and capital requirements
- ▶ Incorrectly designed and priced products
- ▶ Poor strategic decisions
- ▶ Poor operations (planning, investment decisions and resourcing)
- ▶ Financial reporting errors and restatements

...indicating the need for appropriate model risk management (MRM) and collaboration

Examples and consequences of model management in silos

	Examples	Consequences
Banking	<ul style="list-style-type: none">▶ Marketing campaign attracts large number of customers who are disqualified due to bad credit▶ Marketing attracts customers based on low risk of default without regard to their profitability	<ul style="list-style-type: none">▶ Increased costs and “bad will” as credit departments spend time on rejections▶ Resources tied up on customers with little profit margin potential
Insurance	<ul style="list-style-type: none">▶ Newly developed customer analytics department starts data aggregation process in new IT system▶ Sales force and underwriters focus on high risk market segment to increase sales volume, but price them incorrectly	<ul style="list-style-type: none">▶ New department would gain efficiency by starting with modeling data from risk department▶ Adverse selection for the insurer: the increase in “bad risks” in the book of business leads to lower profitability

Collaboration and alignment between modeling and customer analytics would have reduced the risk of model misuse



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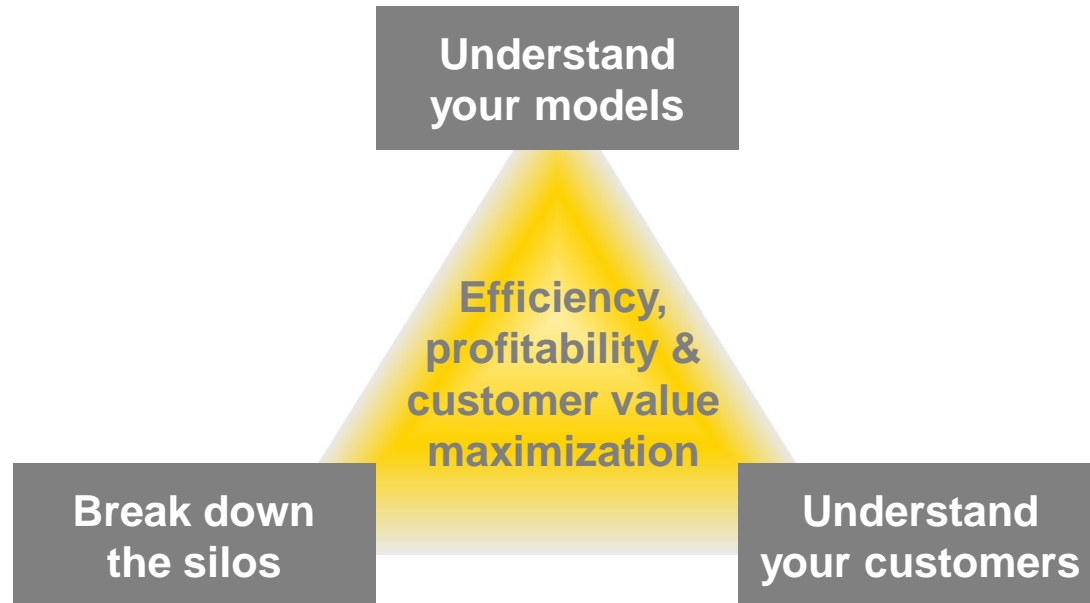
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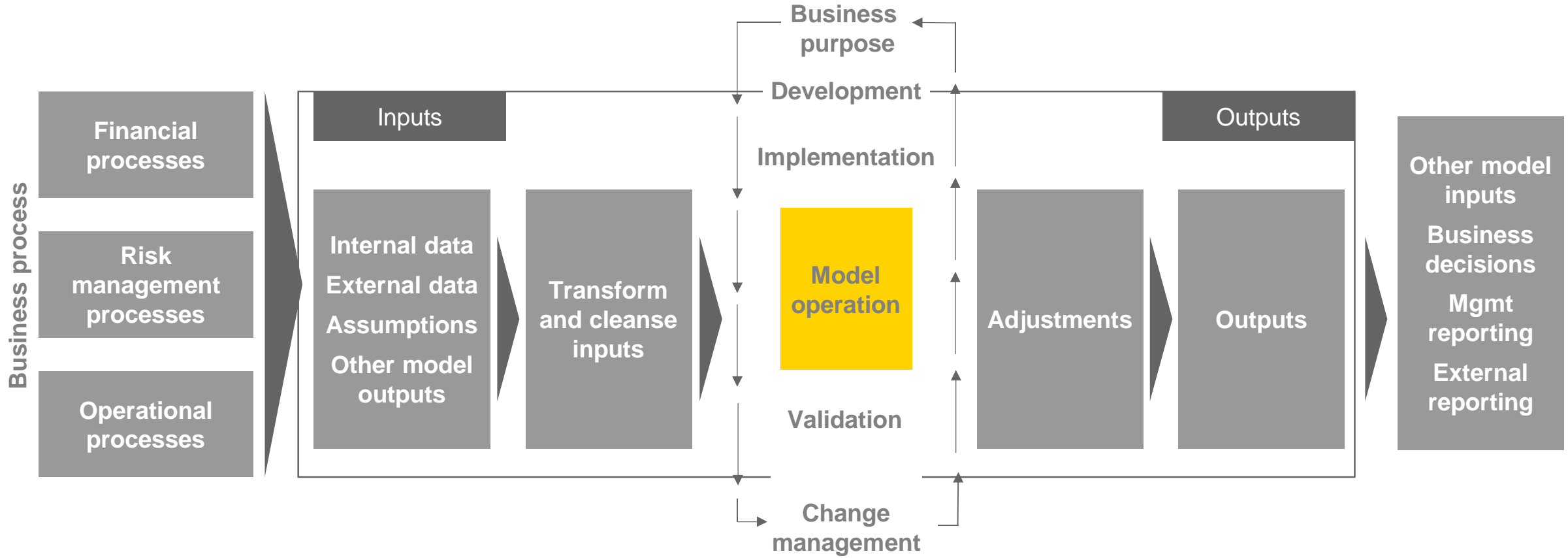
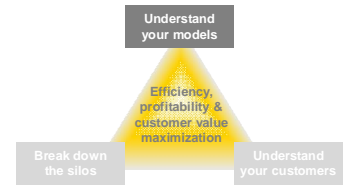
4 **Achieving synergies in the organization**

5 Wrap up

Three cornerstones of synergies between risk modeling and customer analytics

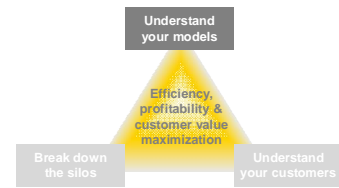


Create synergies by effective risk management of business process and model risks



Risk management should focus on business process (e.g., resource pool, model results communication and implementation) and model life cycle (e.g., maintain model inventory, results documentation)

Create synergies by better understanding and using your models



Better decision making

- ▶ Bring together the objectives of the risk and customer analytics departments to optimize pricing efficiencies and marketing spend
- ▶ Improve management understanding of key models, assumptions and limitations

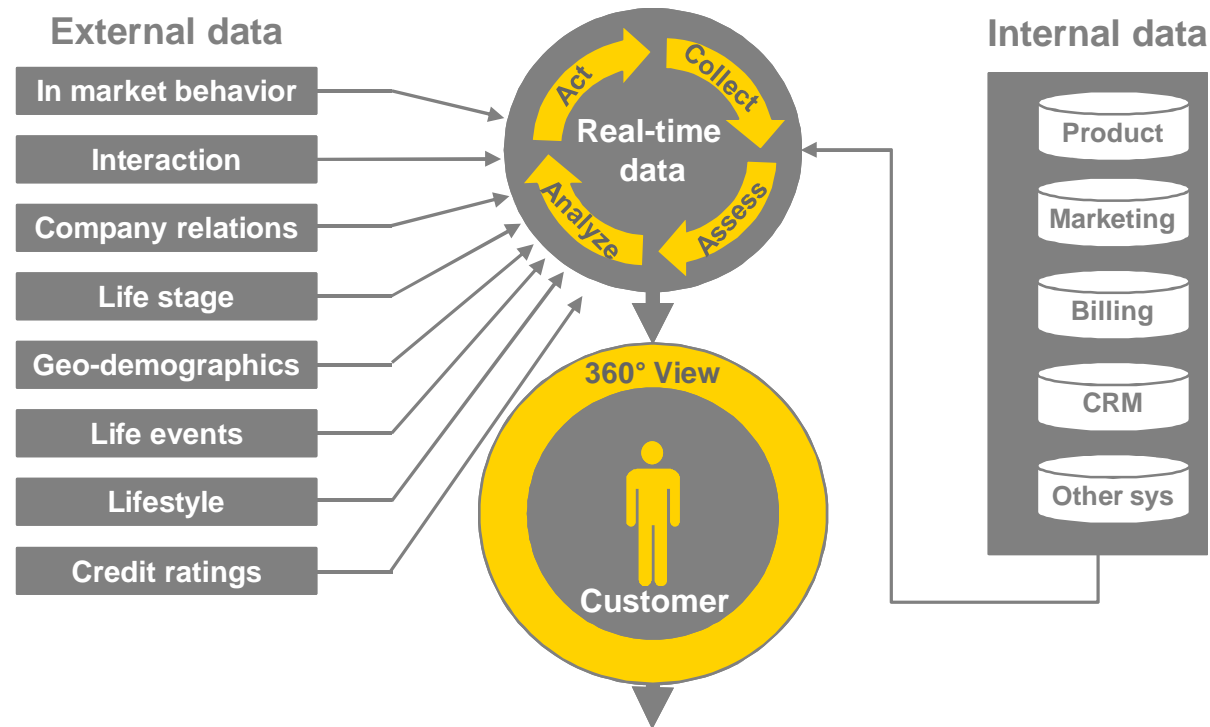
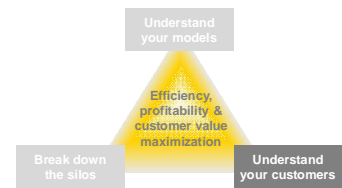
Increase awareness of model usage and materiality

- ▶ Create an enterprise-wide understanding of what models are used, where they are used and for what purpose
- ▶ Understand the range of model usage in the risk and customer analytics departments

Consistent approach to managing models

- ▶ Adopt consistent development standards for new models and model changes across the organization
- ▶ Use resources efficiently for model review and validation

Understand and leverage the data available across the organization



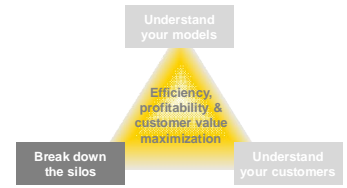
Customer-Centric Analytics

- ▶ Segmentation
- ▶ Customer Acquisition
- ▶ Cross-sell flags
- ▶ Regression models
- ▶ Agile analytics
- ▶ Campaigning
- ▶ Customer Retention
- ▶ Up-sell flags
- ▶ Proactive models
- ▶ Accurate calculations

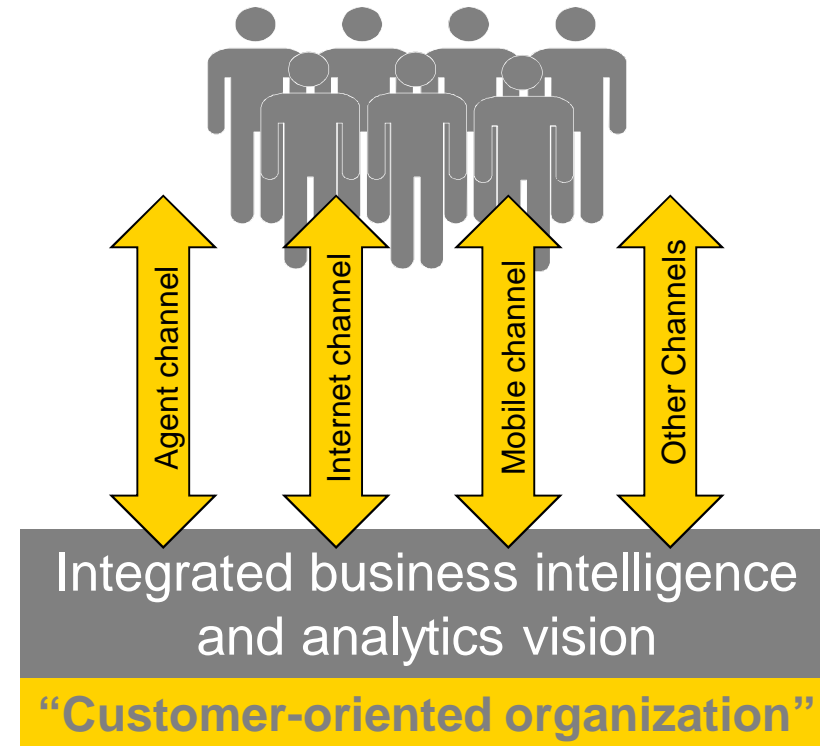
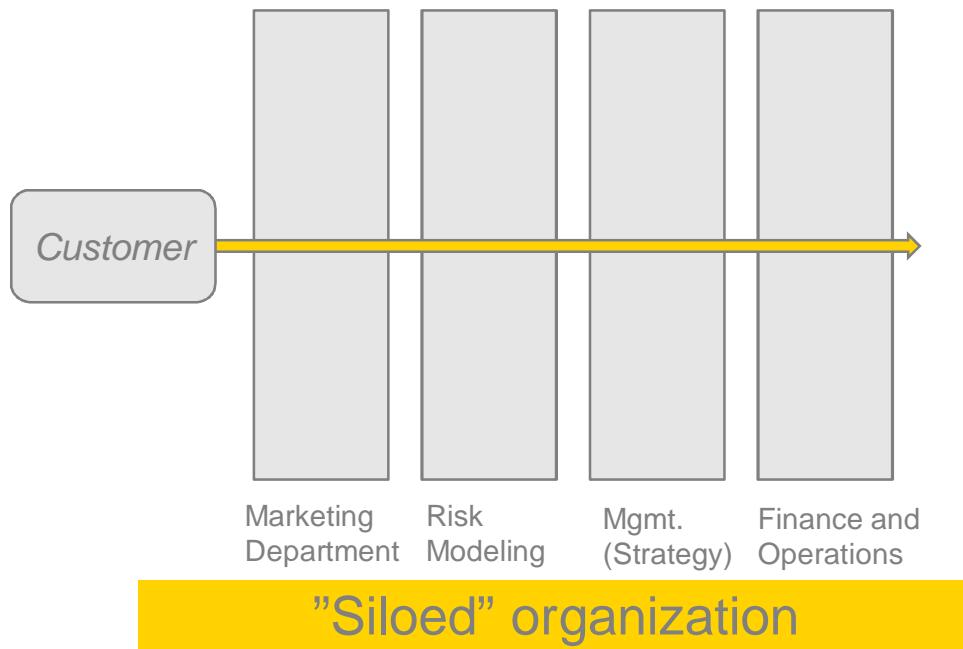
Benefits

- ▶ Increased customer revenue
- ▶ Improving risk management
- ▶ Focus efforts on profitable customers
- ▶ Compliance with legislation
- ▶ Increased cross/up-selling
- ▶ Improving customer satisfaction
- ▶ One version of the truth
- ▶ Reduced time to market
- ▶ Improve customer retention

Customer information is scattered across systems and the organization - Break down the silos!



- ▶ Align incentives with enterprise-wide value maximization rather than rewarding individual business units for volume generated



A single view of the customer seeks to realize the financial benefits of the offerings by tailoring them to the customer needs



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Wrap up

Create a model inventory and ensure that it is used
One of the most important tools when defining and recalibrating your strategy

Understand your models

Profitability through customer value maximization

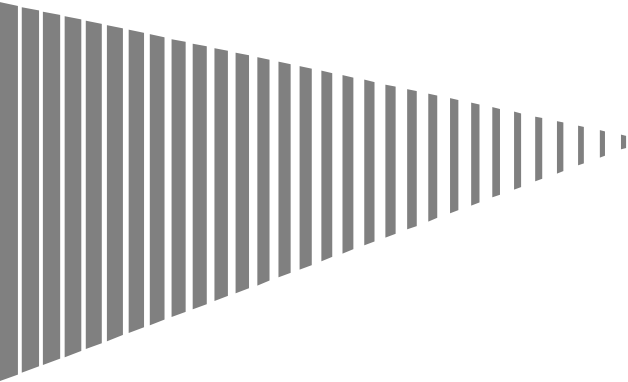
Align incentives towards customer-value maximization
i.e analytics vision across product and line of business

Break down the silos

Understand your customers

Secure a 360° view of your customer through shared data management

Thank you!



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