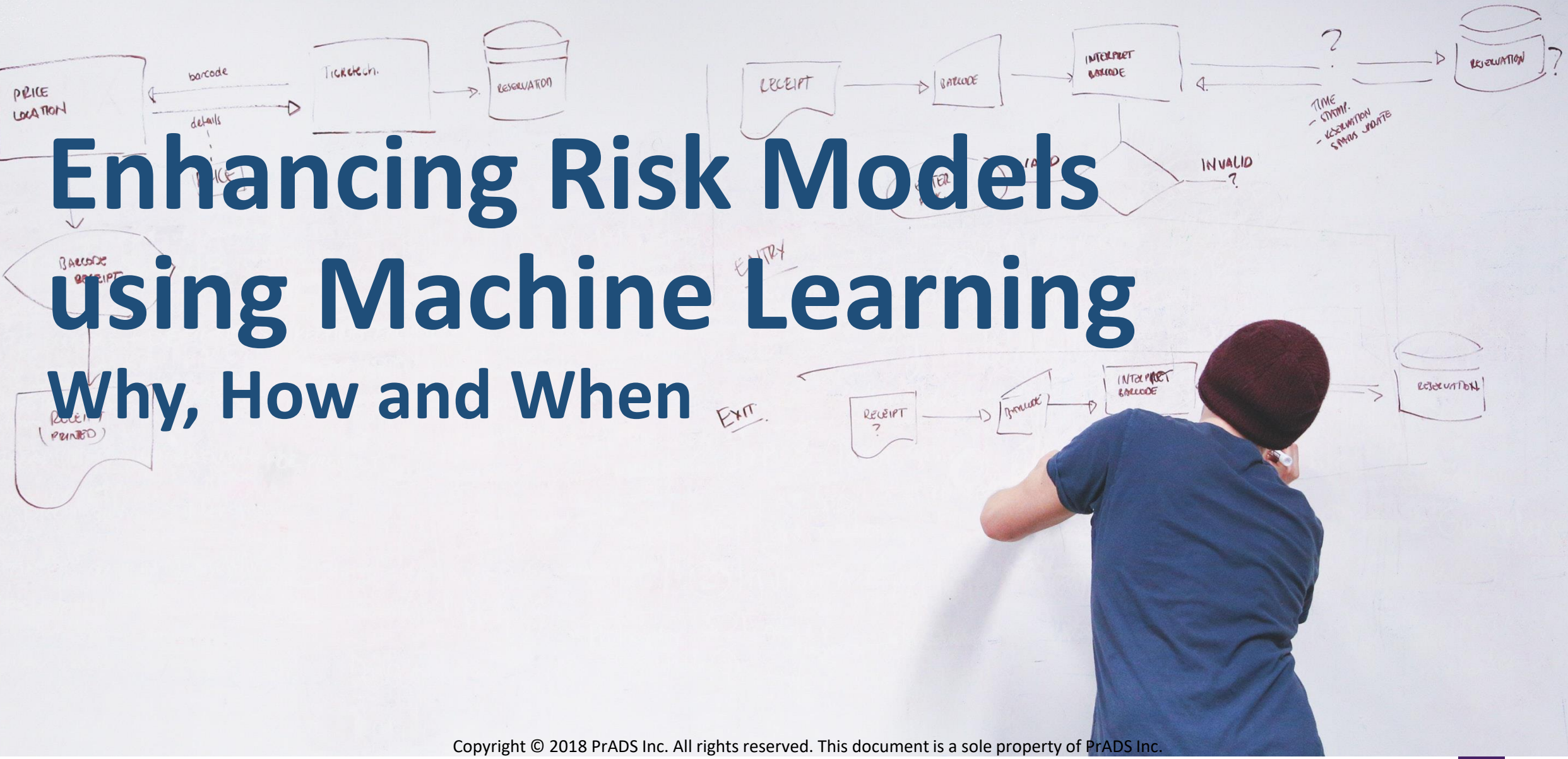
PrADS
Decisive Edge

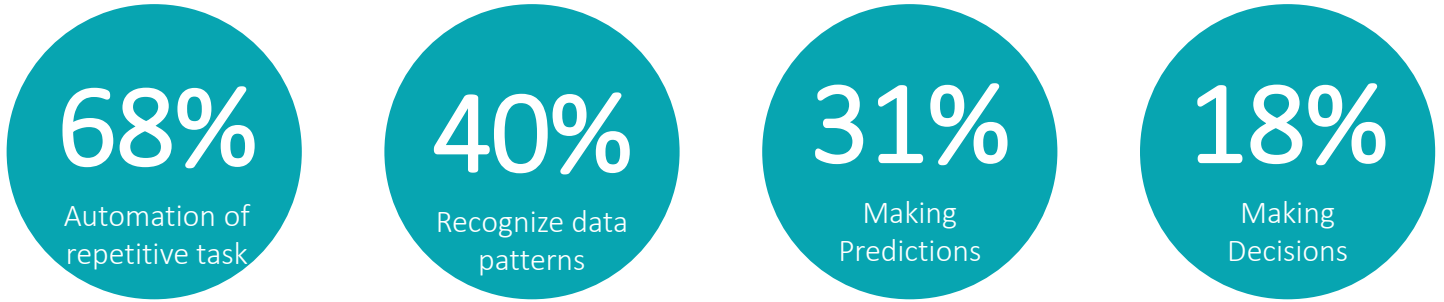
#MakingAnalyticsWork

Enhancing Risk Models using Machine Learning

Why, How and When



Machine Learning is gaining traction



Simple → **Complex**

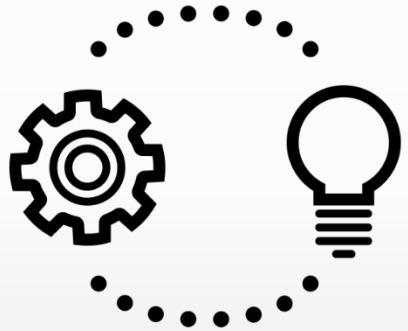
Financial Services	Review loan documents	<	Sort applications according to broad parameters	<	Approve loans and offer additional services
Telecommunications	Track contract expiration dates	<	Offer standard renewal incentives	<	Tailor offerings based on individual characteristics
Retail	Monitor inventory	<	Restock based on inventory levels	<	Order goods based on predictive analytics
Healthcare	Parse medical records and medical literature	<	Suggest treatment options	<	Devise individual treatment plans

Courtesy - Service now: Global CIO point of view report 2017

What's driving Machine Learning?

- Explosion in Data Availability
- Massive Computing Power
- Cheap Storage
- Powerful Analytical Tools
- Digital Platforms

Supply

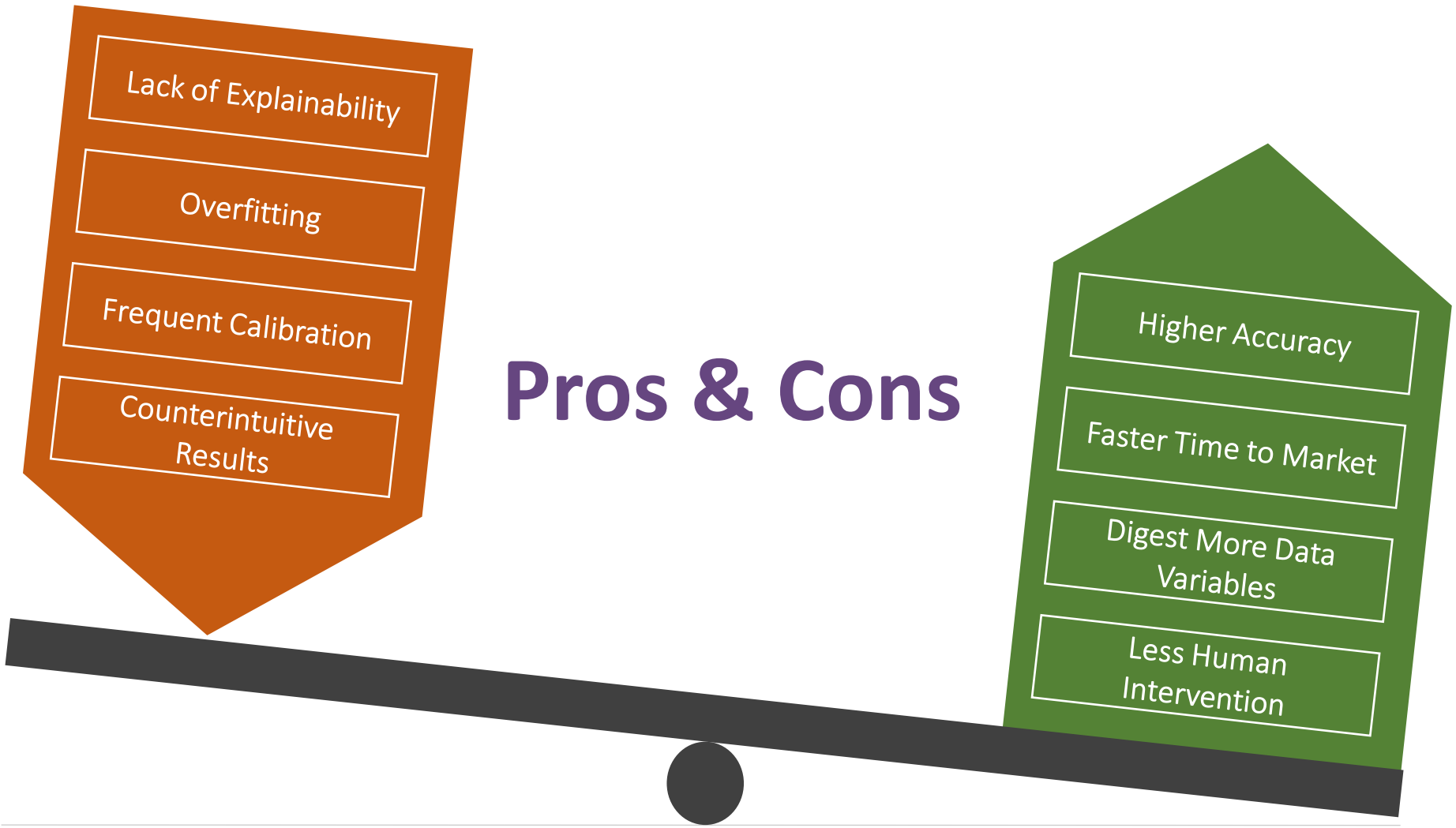


Machine Learning

- Competitive Pressure
- Complex Business Problems
- Customer Expectation
- Regulatory Compliance

Demand

Pros & Cons



A Success Story

Client – A leading provider of commercial data, analytics and insights for global businesses.

Background

Developed a suite of risk models to predict


Business failures

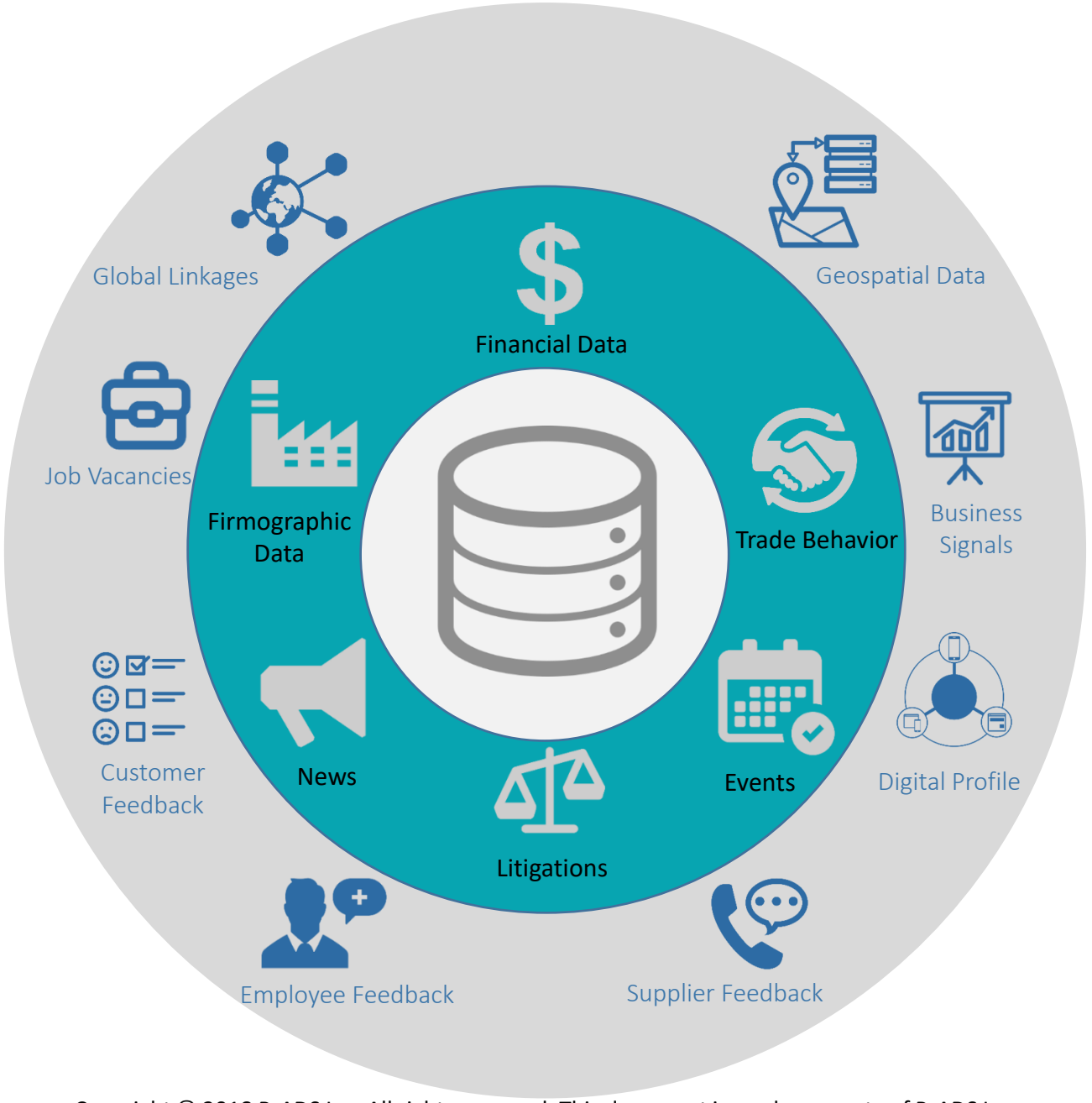

Payment propensity

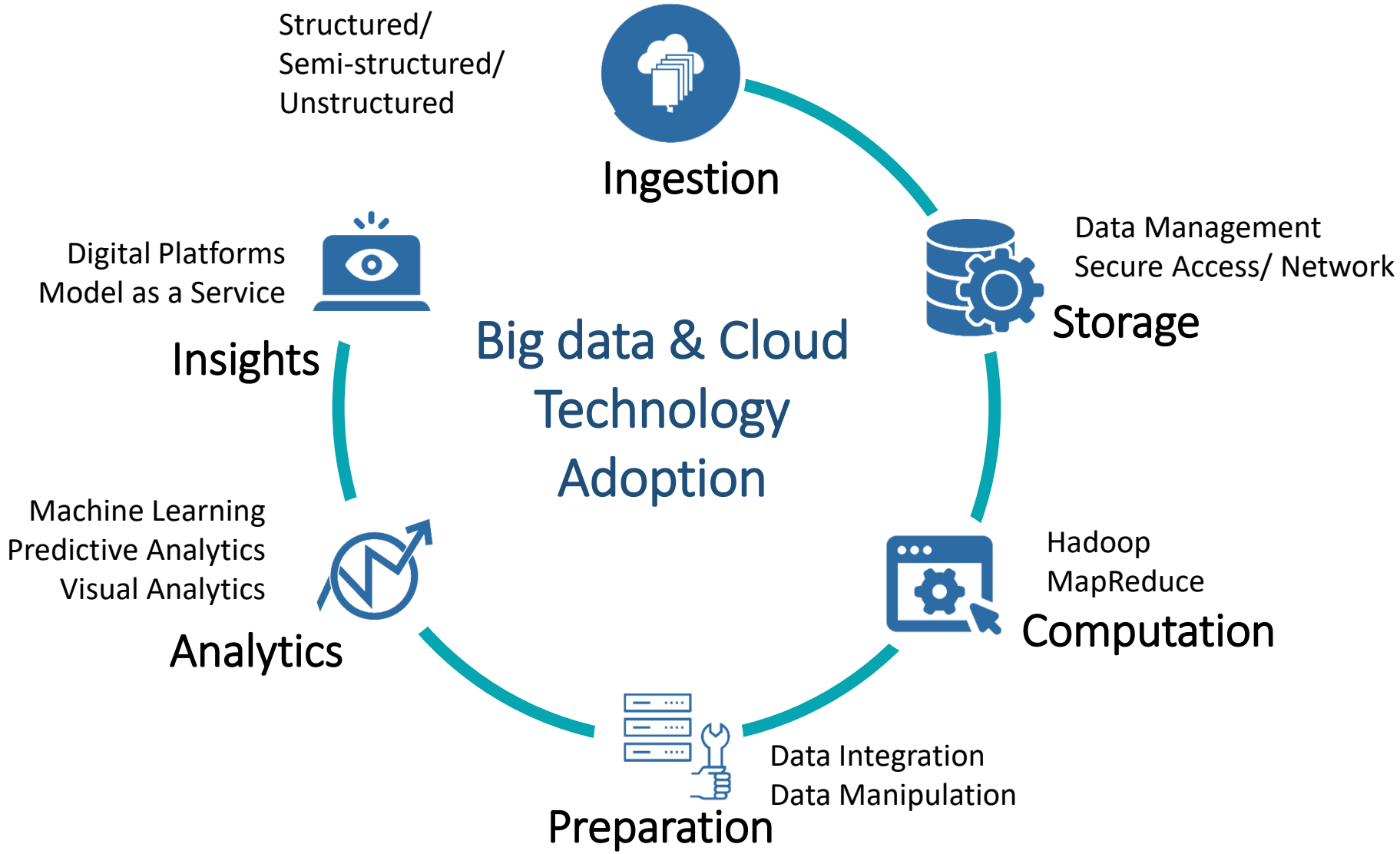

Bankruptcy

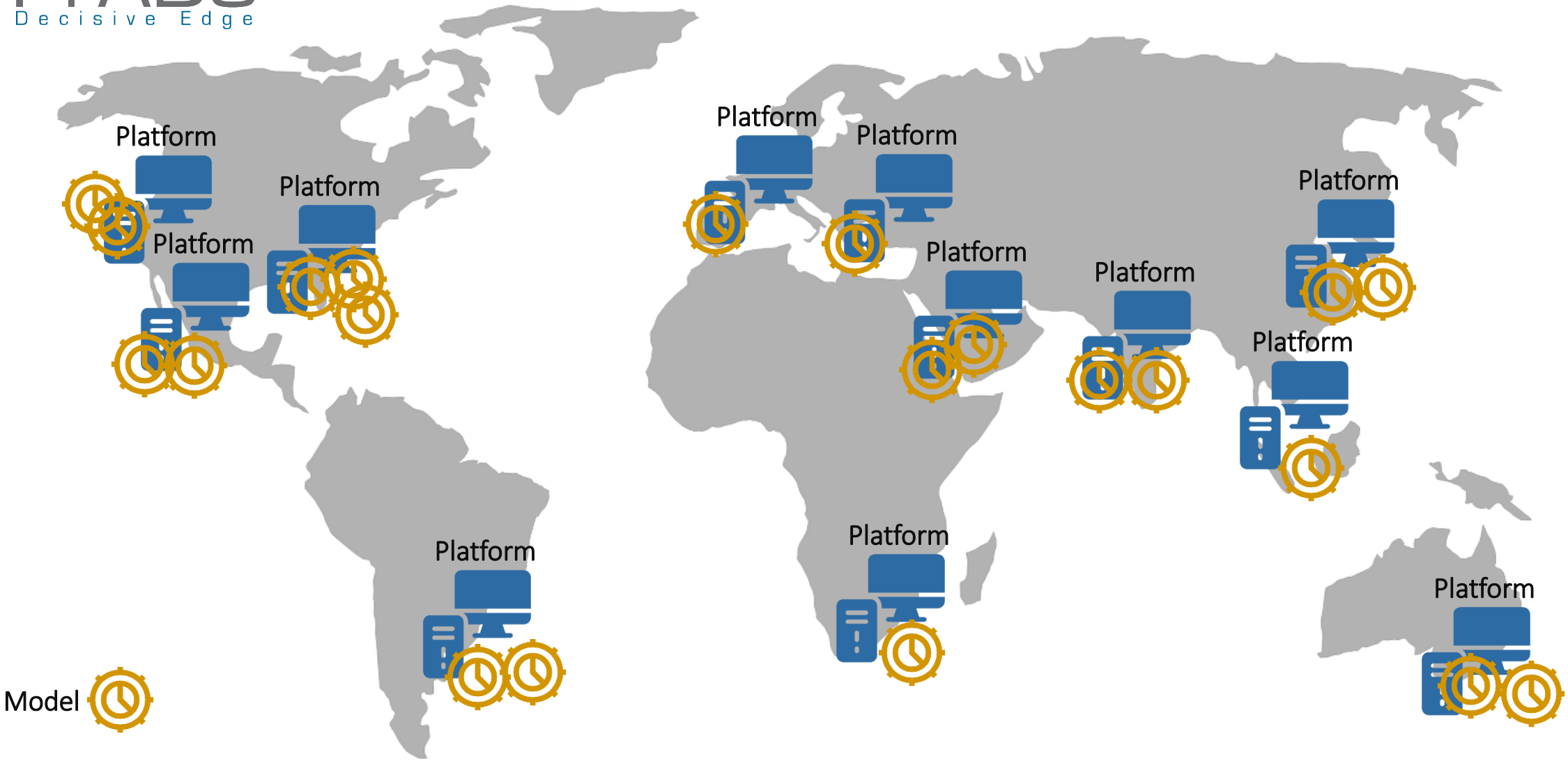

Delinquency

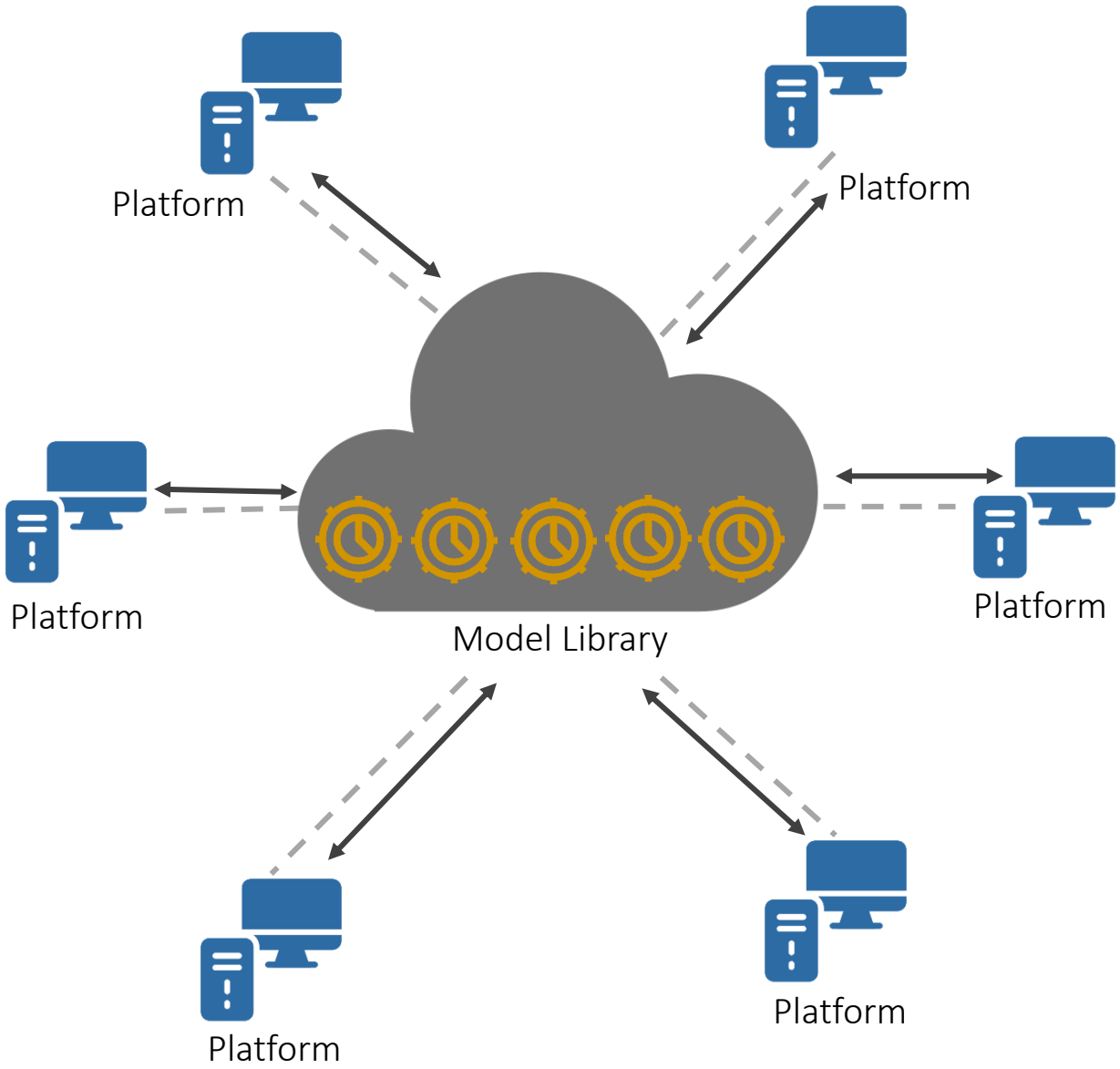
Traditional statistical methods were used for model development, providing fairly good discriminatory power.

What changed?









Ready to accept models which were not fully explainable

More accurate model

Ready to ingest more sophisticated models

Modeling Framework

Data Append

Enriched data with additional variables like, Business Signals, Digital Profile, etc.

Model Development using Machine Learning

Random Forest	Gradient Boosting
Sub-Samples are considered and tree models are built in parallel	More regularized model formalization to control over-fitting, which gives better performance
Each record has equal probability of getting into any sample	Enhanced technological improvements to accommodate large data and efficient performance

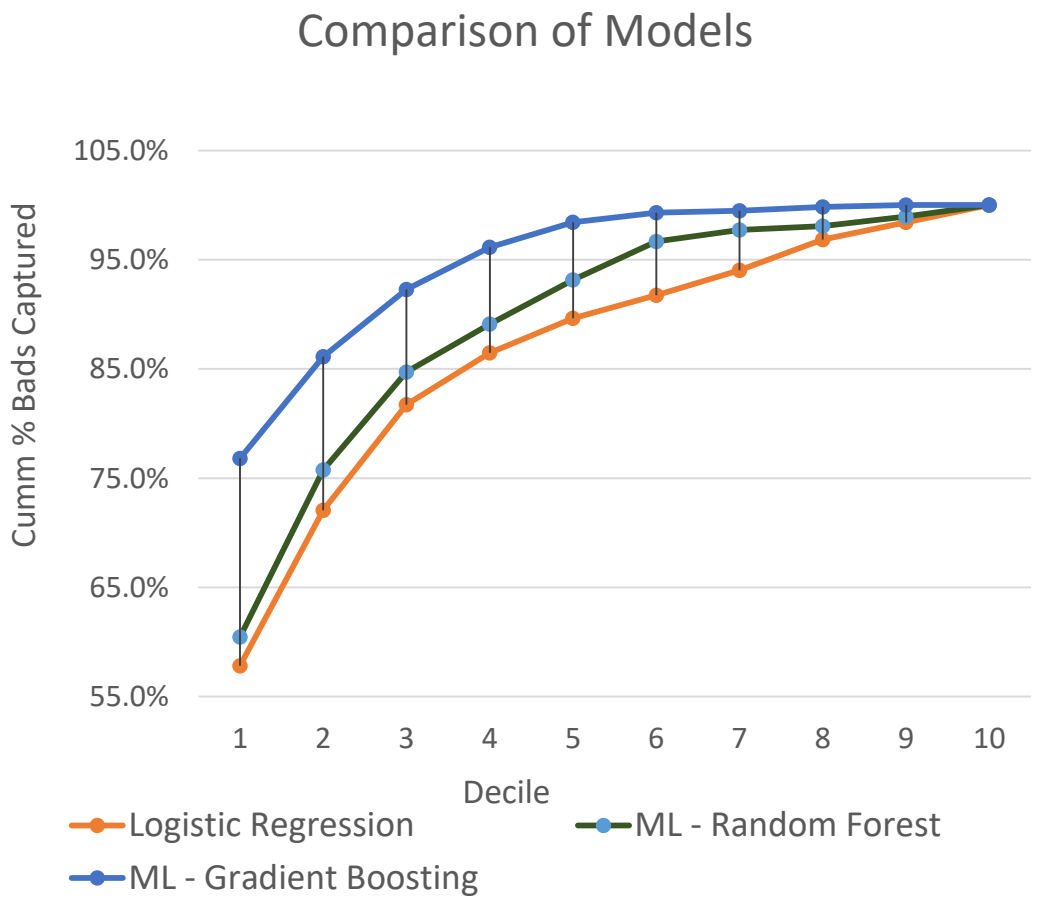
Cross Validation

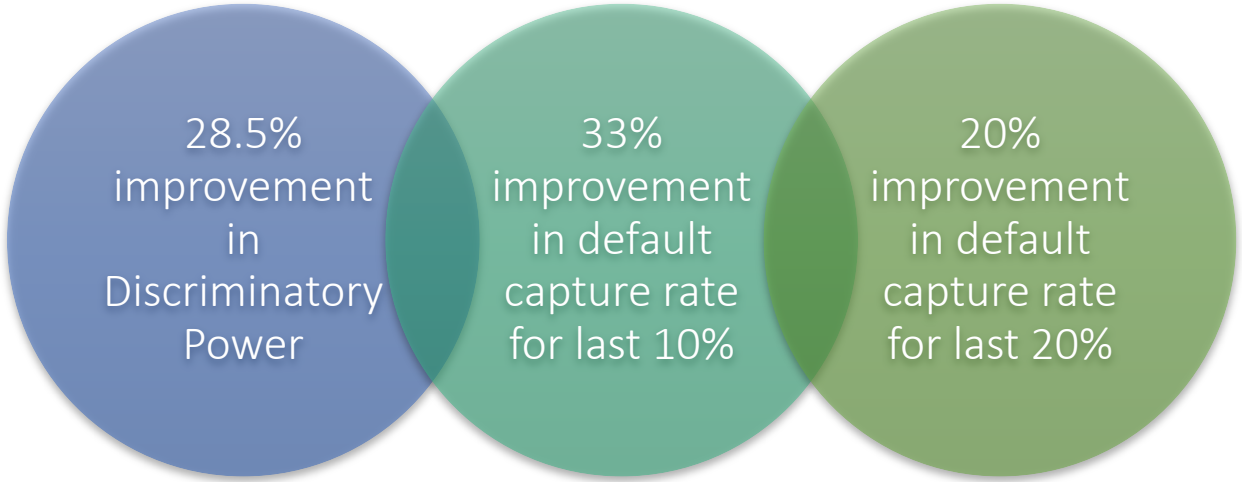
To test the model stability we used k-fold cross-validation (CV).

Tackling Explainability

While the model remains a black box when built using Machine Learning Models, we were able to identify the top features (variables) that comes out to be significant in predicting the event.

Results

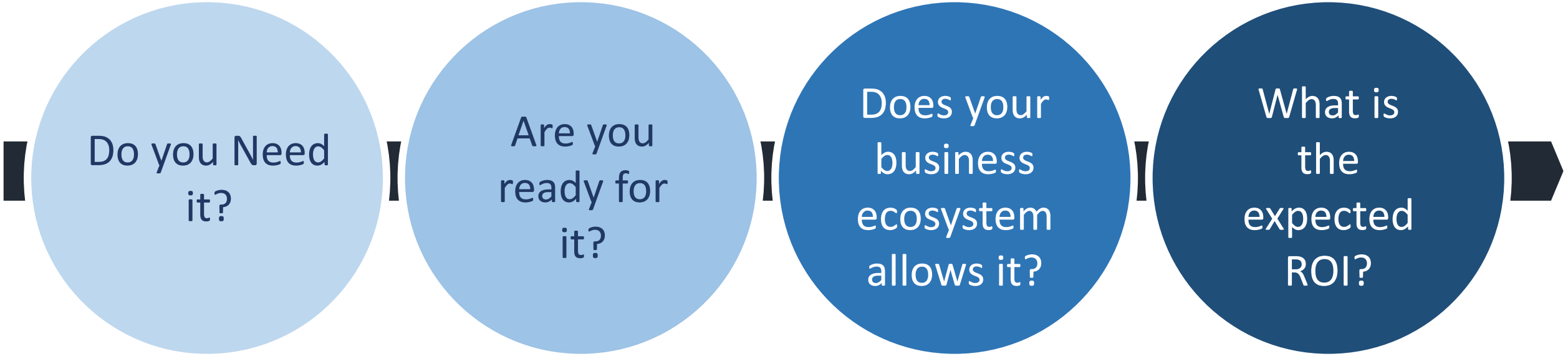




"Machine Learning have changed the benchmark from what was achieved with analytics, helping customers significantly lower business risk."

Key Takeaways

Machine Learning…. Yes or No



Key Takeaways

Often **Why** and **When** are more important questions than **How**

Our Story

Founded in

2010

Global Footprint with Local Experience

Comprehensive Services Across Delivery Cycle

Powered by dun & bradstreet Analytics

200+

Success Stories

Indispensable Industry Insights

Trusted

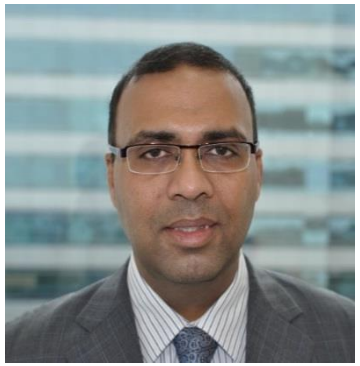
Analytics partner

Focus on Business Value & Outcomes

ADEO™ Framework

4A Methodology

Meet us at Booth #310



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