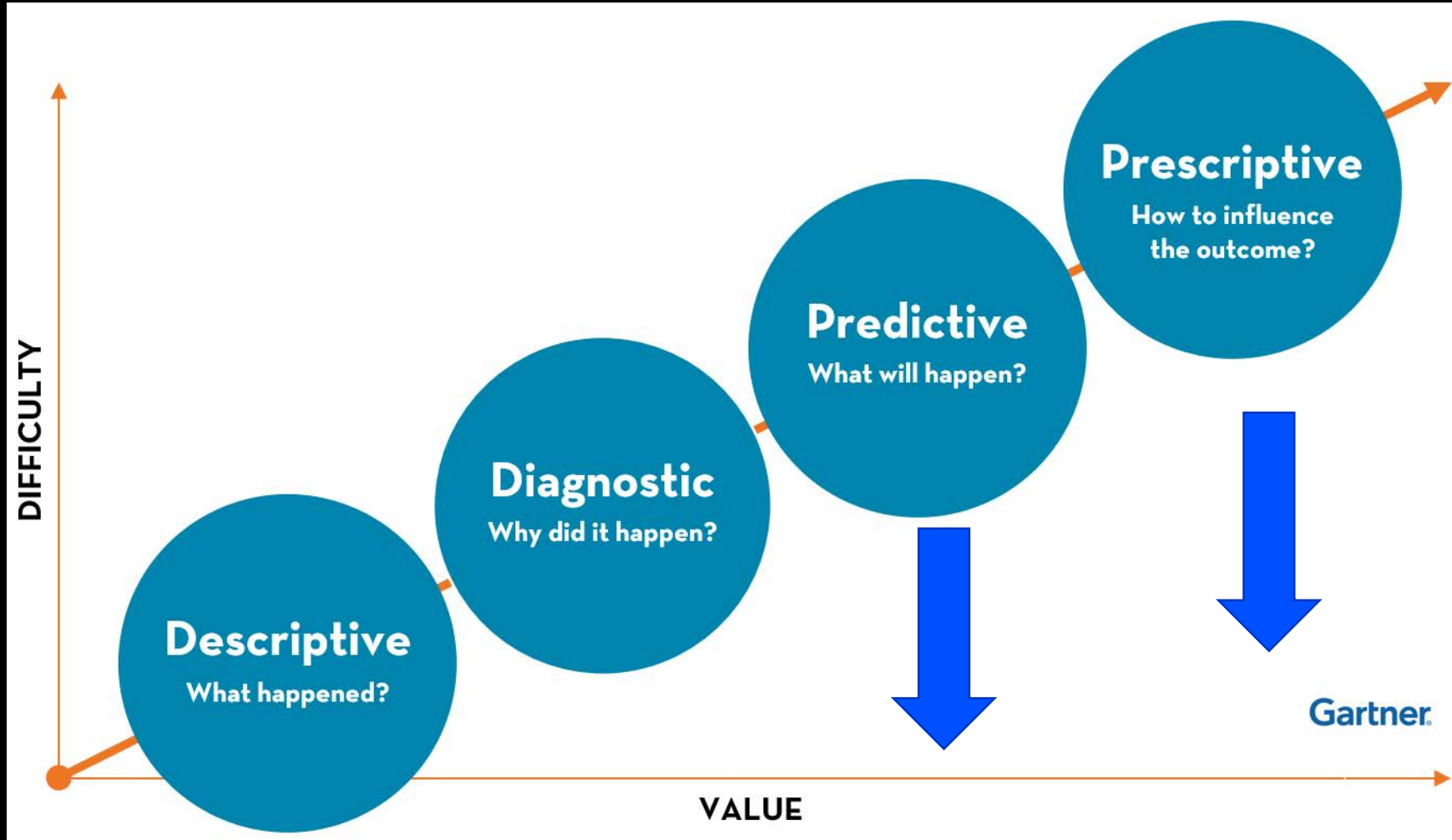# Today, the Data Value Journey is flattening!

What has happened in the last 3-5 years is that the path to confidently using data in Predictive and Prescriptive Models is more straightforward and organizations have less pre-work to do.

Current AI/ML Scaling Challenge

- **Why** did this happen?

- What will happen **tomorrow?**

- What can I do to **change** that outcome?

- How can I do all of this more **quickly?**
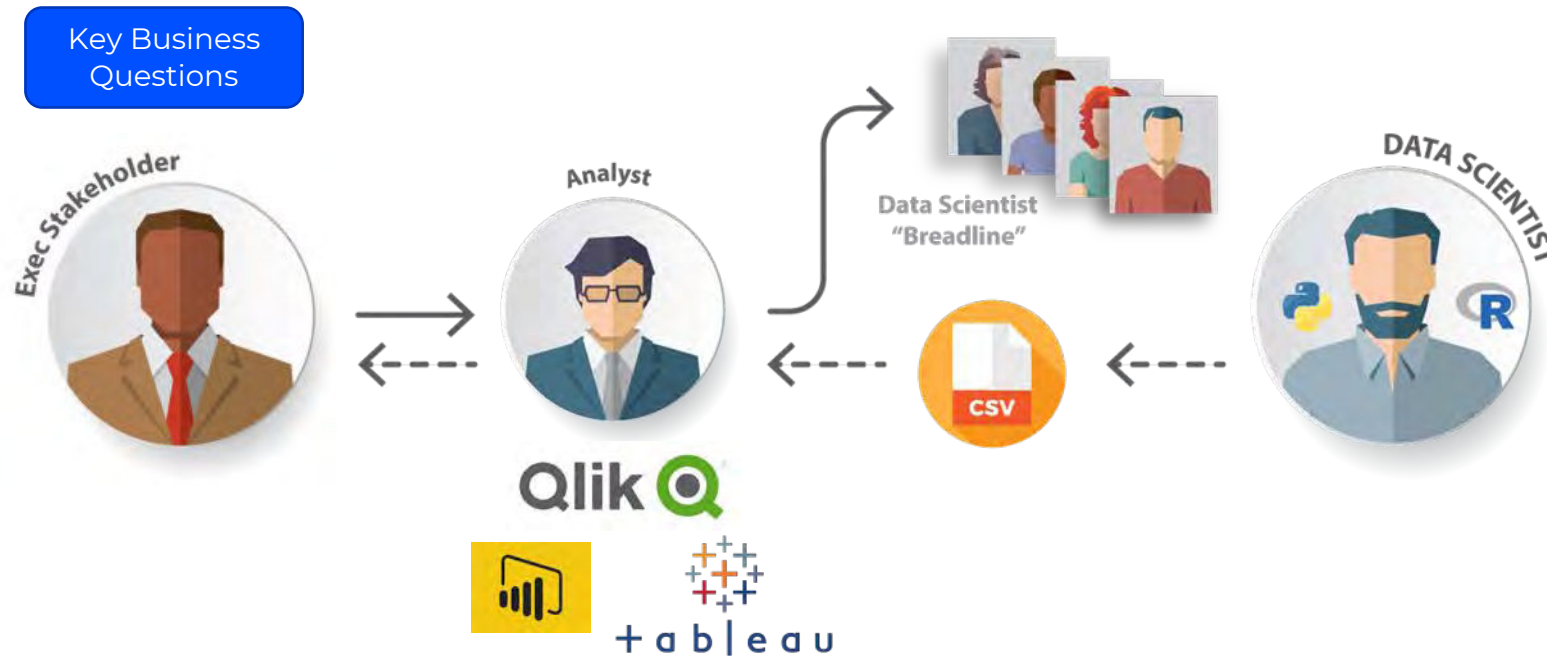
Creating Citizen Data Scientists
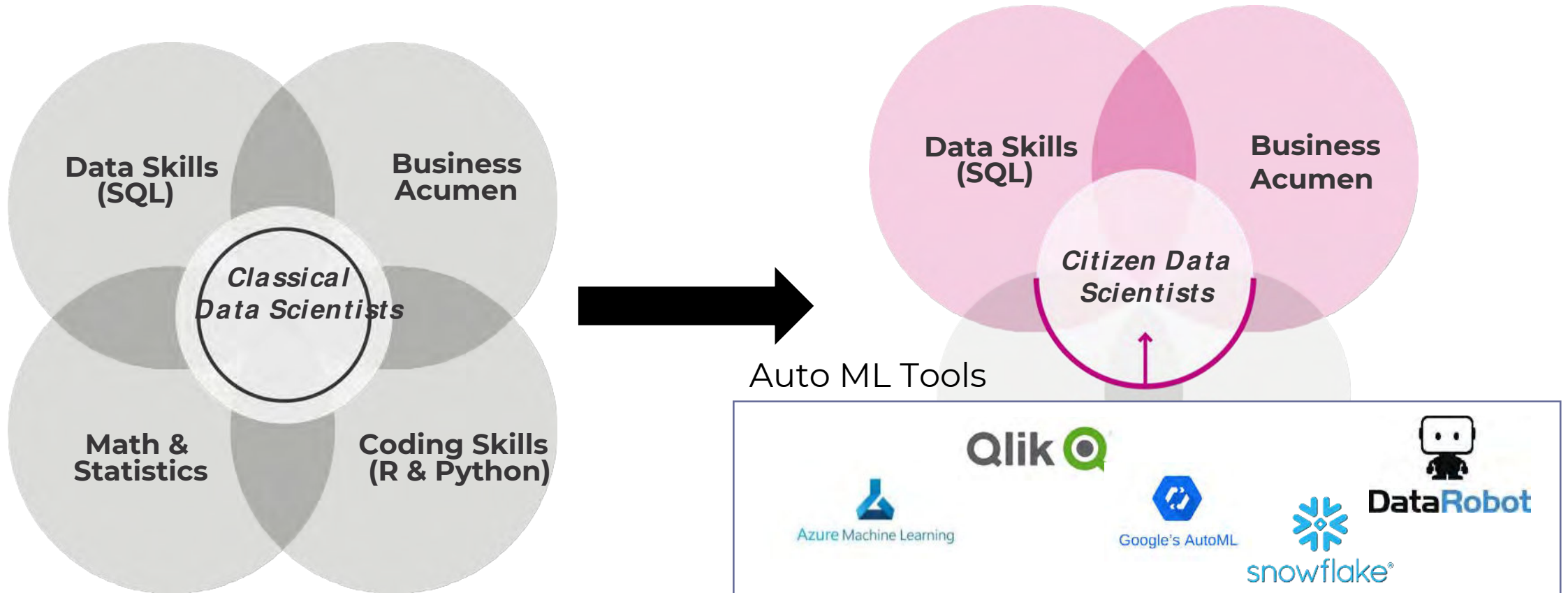
Enable business analysts with data science capabilities to make smarter decisions, faster through automated machine learning.

Ideal AI / ML Team

Type 1

Passive, reactive to historical reporting

Data-Driven Executive

Type 2

AI-Empowered, proactive decision-making

Ideal AI / ML Team

Type 1   **Data-Driven Executive**   **Type 2**

Passive, reactive to historical reporting → AI-Empowered, proactive decision-making

Analyst / Product Lead

Historical/Reactive Reporting (Product), BI Analyst, → Citizen Data Scientist

Ideal AI / ML Team

Type 1 **Data-Driven Executive** **Type 2**

Passive, reactive to historical reporting → AI-Empowered, proactive decision-making

Analyst / Product Lead

Historical/Reactive Reporting (Product), BI Analyst, → Citizen Data Scientist
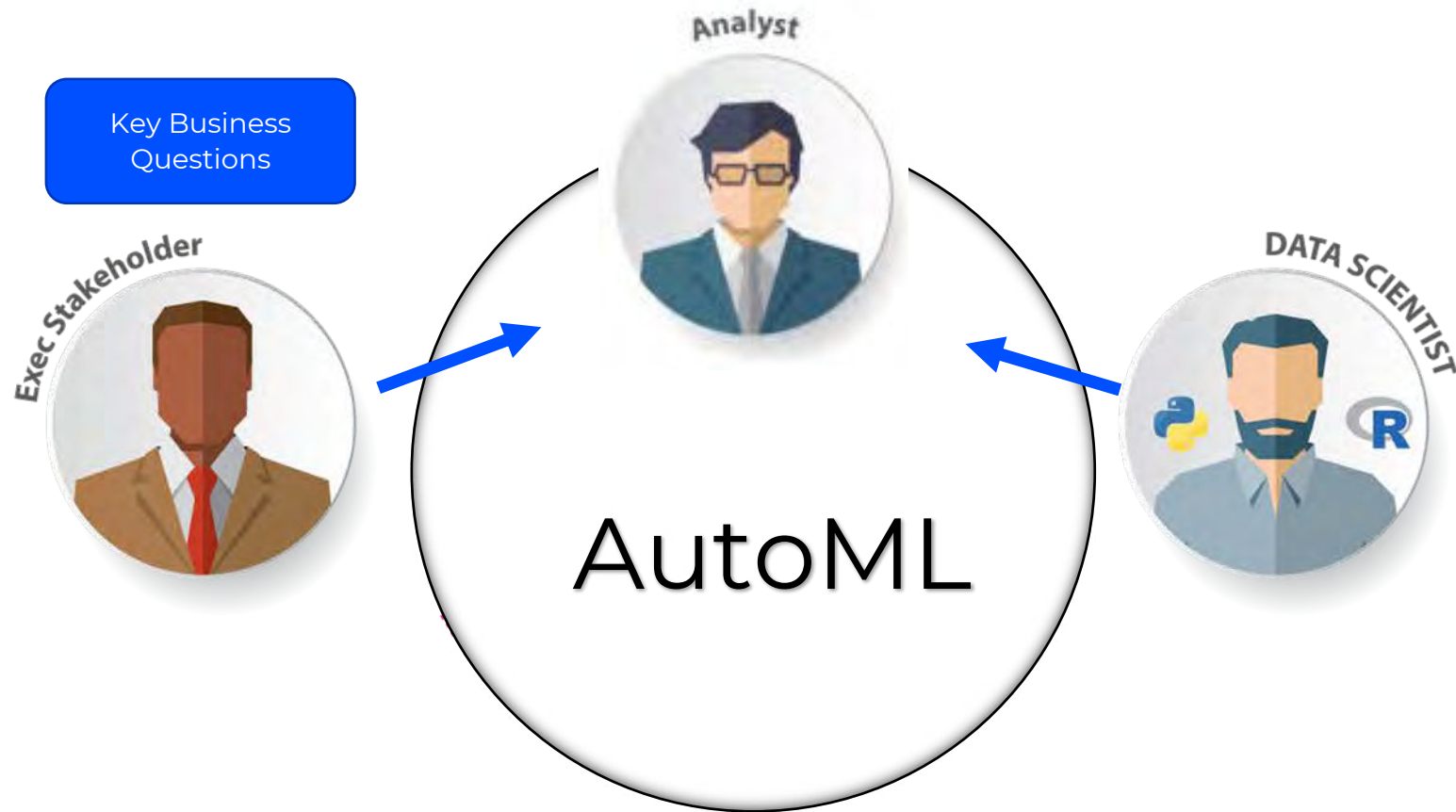
Data Scientist

Artisan, crafting the perfect single model → DS Leader - Educating, Validating, Collaborating
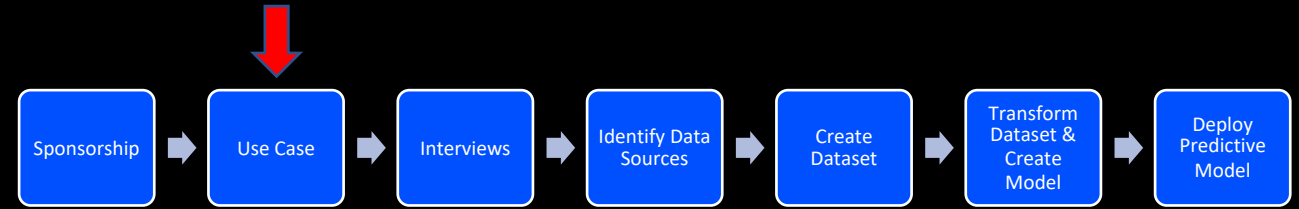
AI / ML Workflow

Model, Analyze, Collaborate, Iterate, Predict, & Plan

Start with a Proof of Concept

Steps to running an AI or ML project

Sponsorship → Use Case → Interviews → Identify Data Sources → Create Dataset → Transform Dataset & Create Model → Deploy Predictive Model

Sample Use Cases

Credit Scoring and Risk Assessment

Customer Retention

Lead Scoring

Personalized Member Services

Marketing Mix Optimization

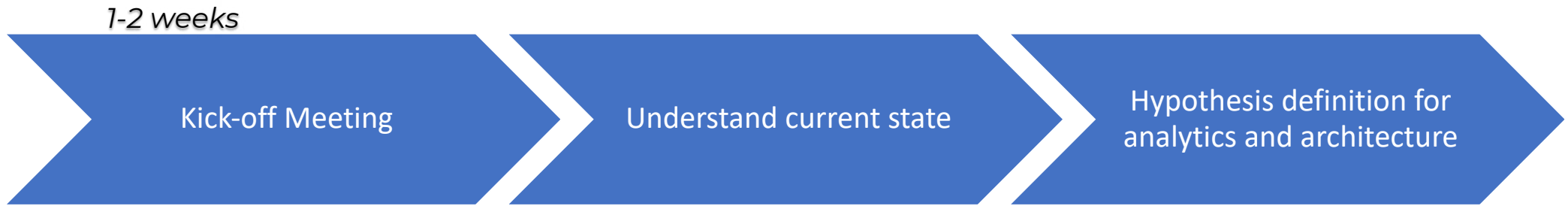Fraud Detection

Outlier Transactions

Forecasting

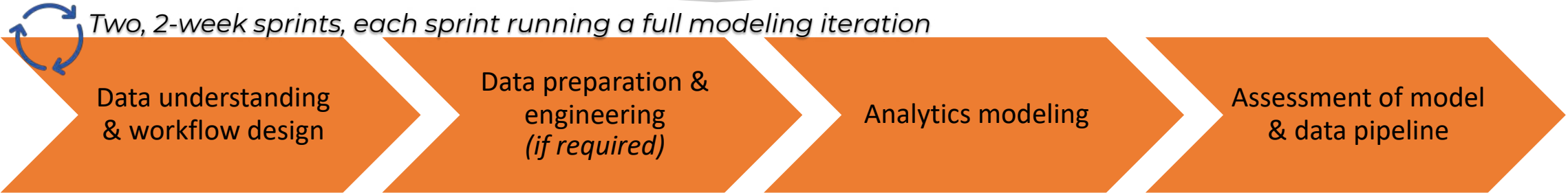Employee Retention

Marketing and Member Acquisition

Cross-sell/Upsell

Member Lifetime Value

What does an AI / ML pilot look like

1-2 weeks

Kick-off Meeting → Understand current state → Hypothesis definition for analytics and architecture

leads to

Two, 2-week sprints, each sprint running a full modeling iteration

Data understanding & workflow design → Data preparation & engineering *(if required)* → Analytics modeling → Assessment of model & data pipeline

leads to

Project Closure

How Can Wipfli help with your AI & ML Journey?

Model Compliance

- Financial Institutions use models and they need help auditing them, preferably from external auditors.

- Complexity in AI/ML makes the audit process more complex, but there is a need to demonstrate confidence in the model outcomes.

- Models are intrinsic to FI processes and there is a need to audit them to meet compliance requirements.

- Examples of banking processes that use models for automation:

  ▶ Identification of money laundering activities per BSA regulations

  ▶ Credit rating models

  ▶ Loan applications
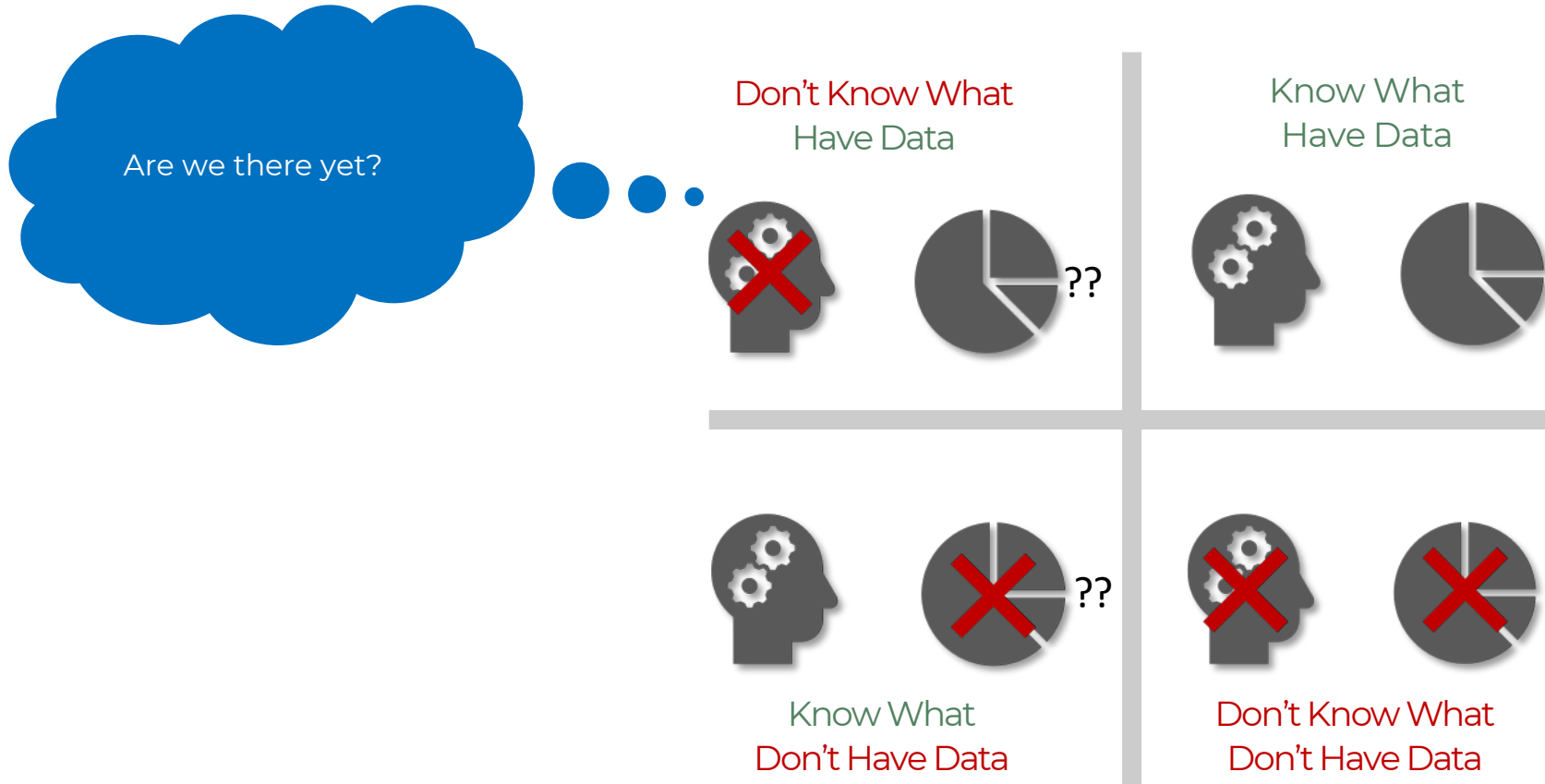
US Laws that need to be considered

These laws regulate credit reporting and credit decision making. It requires creditors to explain why a loan was denied.

- **Equal Credit Opportunity Act (ECOA):** Prohibits credit discrimination on the basis of race, color, religion, national origin, sex, marital status, age, or because you get public assistance.

- **Fair Credit Reporting Act (FCRA):** Promotes the accuracy, fairness, and privacy of consumer information contained in the files of consumer reporting agencies.

- **Algorithmic Accountability Act. :** If passed, it will direct the Federal Trade Commission (FTC) to develop regulations requiring large firms to conduct impact assessments for existing and new high-risk automated decision systems

- **Financial Industry Regulatory Authority (FINRA)**

- **National Fair Housing Alliance**

Possible audit areas for AI/ML Models

- Transparency & Explainability

  ▶ Do the training data, data processing and model outcomes have biases

  ▶ How explainable/interpretable are the models

- Accuracy

  ▶ False-Positives: Are "good" applicants getting rejected

  ▶ False-Negatives: Are "bad" applicants getting approved

- Inappropriate/unexplainable feature selection and treatment

  ▶ Is the name or race of an applicant part of the data

  ▶ Is race or language a feature of the model

  ▶ Is address used in scoring the applicant

- Data integration and quality process

  ▶ How is data collected, integrated and managed

- Security & Scalability

  ▶ People and processes that govern access to the model/data/process

  ▶ What safeguards do they have for data breaches, identity theft

  ▶ Security around the IP of the model

  ▶ Process for Data Subject Access Requests (DSAR) (included in CCPA)

  ▶ Failure points in the P-P-T process when volumes scale up

- Model maintenance/governance process

  ▶ How is new data and features incorporated into the model

  ▶ Are model developers trained to be sensitive towards unconscious bias

Are we ready for ML?

Are we there yet?

Don't Know What
Have Data

Know What
Have Data

??

Know What
Don't Have Data

??

Don't Know What
Don't Have Data

ML vs. BI Decision Matrix

Can we determine the new members most likely to churn within their 90-day introductory period with enough lead time to insert measures / touchpoints to keep these members engaged?

?

Lessons learned

- Your institution can use AI / ML today!

- Project champions and stakeholders that are aligned to vision are key.

- Data analytics & automation projects are part of your continuous improvement process.

- Data analytics & automation projects are as much systems integration projects – both yielding positive results.

- A lot of hype about ease of automation in the market. Recommend you start using an affordable Auto ML Toolset.

- Baby steps!   Start with a proof-of-concept (POC) project.

Qlik Auto ML

Demo of Qlik Auto ML

The original predicted churn for this member is 70%, but if we get them enrolled in online account access, their risk of churn reduces to 32.5%

- Time to build with the correct data set and readily available tools (Qlik as an example) was days, not months or years.

- Memo: validation and bias detection (of the base data set) are keys to post-model success

READY?

Jen Ehmcke
Data Nerd
Jen.Ehmcke@wipfli.com

Carlos Vega
Digital Strategy
Financial Services Practice
Carlos.Vega@wipfli.com

Jeremy Solsaa
Digital Growth Leader
Financial Services
Jeremy.Solsaa@wipfli.com

WIPFLI | DIGITAL