AI & Data Solutions 1 Pagers (A Selected List)

Summary	AI Drivers	Benefiting Orgs
Most Profitable Customers (80-20 Quad Segmentation)	RFM margin patterns	Sales, Marketing, Product, Finance
B2B Deal Scoring	Deal / discount score	Sales, Sales Ops, Finance
Customer Lifetime Value Predictive Model	Churn prediction	Sales, Operations, Customer Success, Finance
Sales Pipeline Revenue Forecasting	Demand/usage patterns	Sales, Sales Ops, Product, Finance
Opportunity Pipeline Win/Loss Predictive Model	Deal win likelihood	Sales, Marketing, Operations, Finance
M&A Operational Financial Performance	Weighted scoring	Finance, Corp. Dev., Operations
Spare Parts Operations Improvements	Efficient frontier	Finance, Supply Chain, Services, Operations
Predictive Maintenance to Lower Product Returns	Probability of failure/repair	Finance, Supply Chain, Support, Operations
Device IoT Analytics to Improve Customer Support	Support issue prediction	Support, Supply Chain, Manufacturing
Financial Analytics Workflow Automation	Forecasting	Finance, Operations

# Most Profitable Customers (80-20 Quad Segmentation)

Benefiting Orgs: Sales, Marketing, Product, Finance

Description:

- Innovation enabler to simplify, focus, & speed up growth.
- Up-ends the growth paradox: "Growth creates complexity and complexity kills growth"
- Customer/Product Quad Segmentation analysis to determine most profitable quartiles
- Say NO to be able to say YES to what really matters
- Drive/institute performance-based tactics & actions through your organization

Solution Summary:

- Statistical analysis of customers & products into profitability quartiles
- Provides complexity reduction playbook for quartile rationalization and simplification with process actions
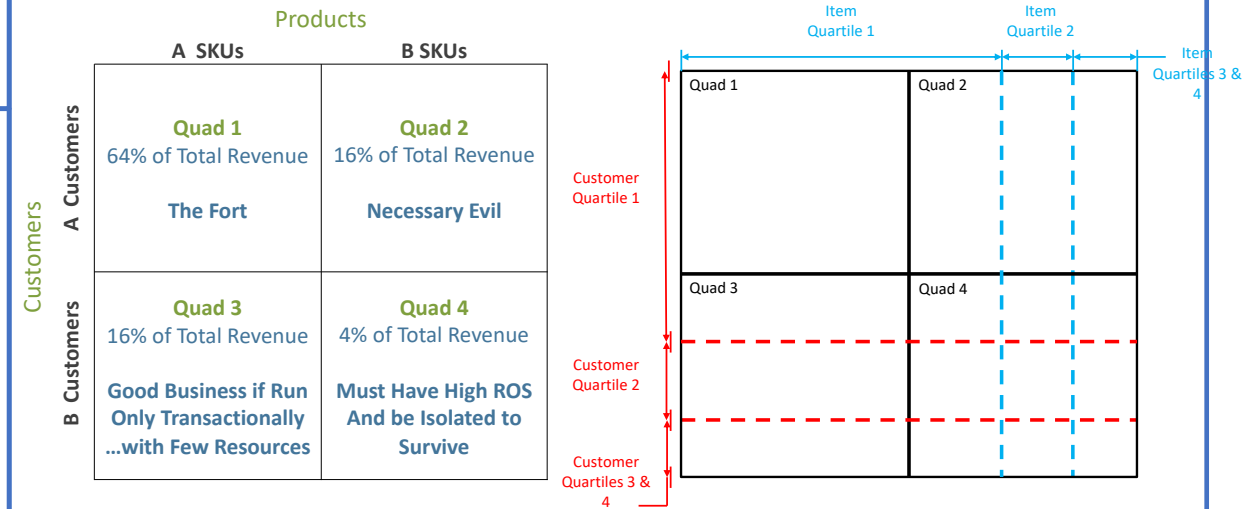
Benefits:

- Improved margins and PBIT (how much, where to deploy)
- Confidence in large accurate bets for people and speed
- Enables rapid data-driven decision-making to pivot towards growth

Level of Effort:
- 4 - 6 weeks @ 1.5 resources

Deal Scoring

Benefiting Orgs: Sales, Sales Ops, Finance

Description:
- Provide scoring for quotes to allow sellers, sales management, finance and others to easily assess the quality of a quote relative to similar quotes historically and relative to desired quote characteristics.
- Users can drill down on scores to see how the deal is rated on various dimensions such as discount percentage, contract terms, deal size, market segment, etc.
- Deal score automatically drives approval requirements, guides sellers to generate quotes requiring no approvals

Solution Summary:
- Statistical analysis of historical sales
- Deal segmentation across various dimensions – Product Family, Geography, Customer Type, Deal Size
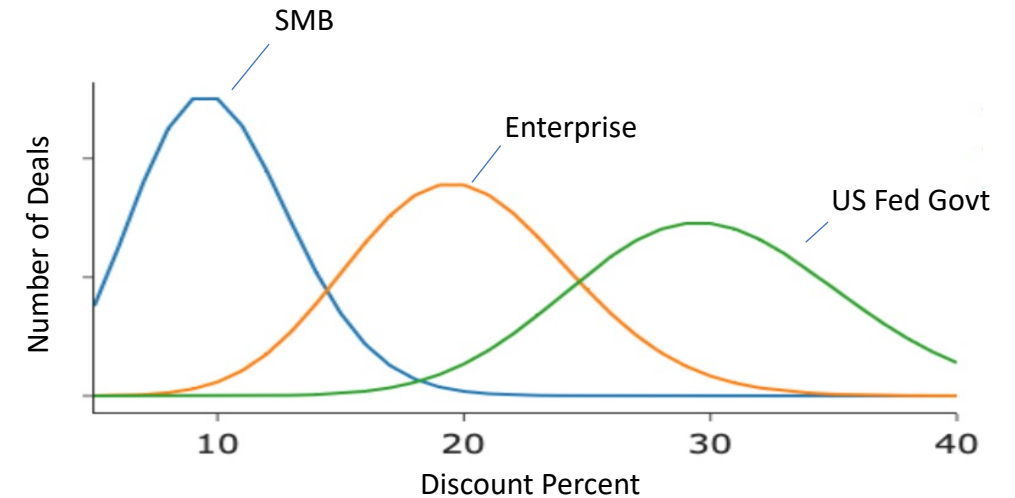
Benefits:
- Improved margins
- Sellers are empowered to create and deliver quotes to customers faster and with fewer approvals
- Reduced quote approval volume for seller and approvers

Level of Effort:
- 5 - 7 months @ 4 resources

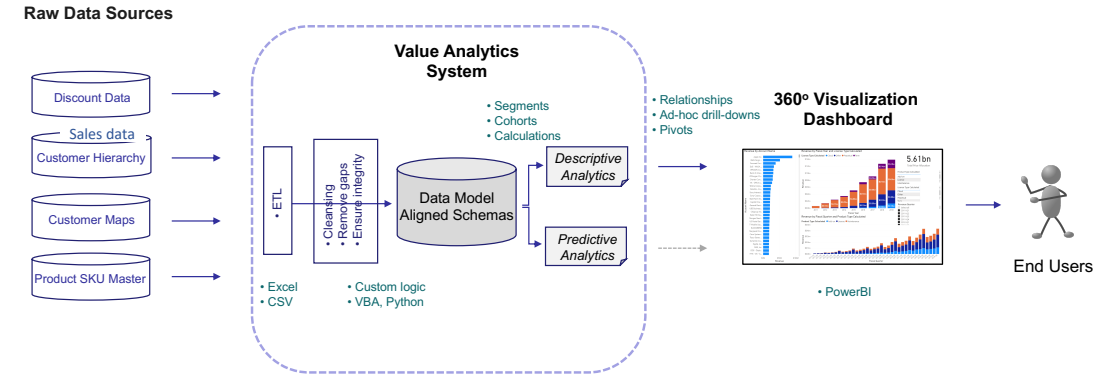# Customer Lifetime Value Predictive Model

Benefiting Orgs: Sales, Operations, Customer Success, Finance

Description:

- Provides description of best customers and lifetime revenue
- Integrates sales history and customer master data into unified data model
- Creates sophisticated logic for customer churn, product usage, and growth
- Solution integrated into analytics process with documentation and user training

Solution Summary:

- Identifies highest revenue/account, low and high churn rates/groups, impact of product usage on account value
- ML model for predicting customer churn
- Insights into corrective actions to increase lifetime value

Benefits:

- Provides an analytical Customer Lifetime Value and growth framework
- Measures customer churn and predicts likelihood
- Purchase trend/pattern analysis reveals valuable customer journeys, early warning of churn
- Correlated business drivers of revenue improve sales efficiency

Level of Effort: 12 - 16 weeks @ 3 resources

Opportunity Pipeline Revenue Forecast Model
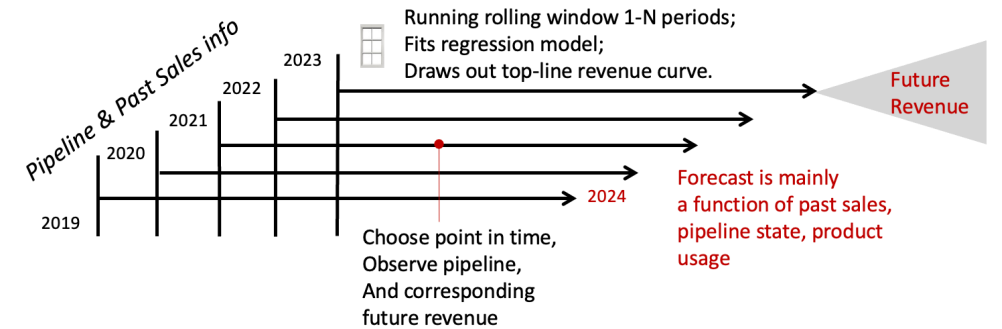
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Description:

- Goal to improve revenue forecast accuracy from sales pipeline
- Use sales history, product usage, and pipeline data
- Look across geo, customer, product, business segments
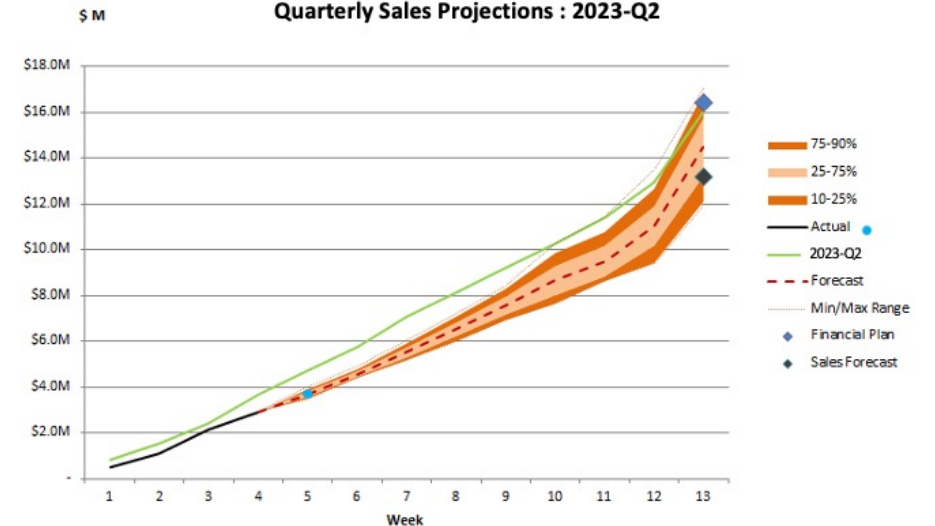
Solution Summary:

- ML model identifies patterns in past sales, product, & pipeline conversions w. repeatable technique
- Examines feature predictor sensitivity
- Use different models to capture different aspects of underlying behavior (combination best practice)
- Model performance measured through MAPE back-testing

Benefits:

- Better quality, confidence intervals, more actionable forecasts
- Improved understanding of demand dynamics
- Enhanced forecast accuracy improves downstream operations

Running rolling window 1-N periods;
Fits regression model;
Draws out top-line revenue curve.

Pipeline & Past Sales info

2019 · 2020 · 2021 · 2022 · 2023 · 2024

Future Revenue

Forecast is mainly a function of past sales, pipeline state, product usage

Choose point in time, Observe pipeline, And corresponding future revenue

Quarterly Sales Projections : 2023-Q2

$ M

75-90%	
25-75%	
10-25%	
Actual	
2023-Q2	
Forecast	
Min/Max Range	
Financial Plan	
Sales Forecast	

Week

Level of Effort: 12 - 14 weeks @ 3 resources

# Opportunity Pipeline Win/Loss Predictive Model

Benefiting Orgs: Sales, Marketing, Operations, Finance

Description:

- Provides process to assign each pipeline opportunity a probability of winning or losing
- Gives more accurate revenue prediction based on qualified opportunities
- Creates sophisticated logic for customer churn, product usage, and growth
- Implemented as tool for business owners by product, region, sector, etc.

Solution Summary:

- ML classification to predict pipeline conversion and rates
- Finds most important predictors from all opportunity features
- ML solution framework maps to client's business processes
- Model performance measured through MAPE back-testing

91% class. accuracy
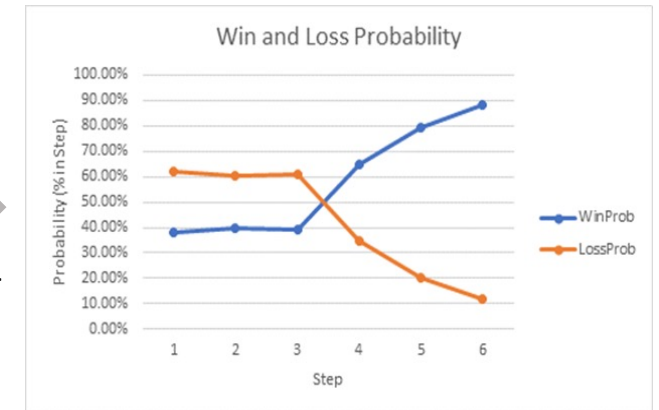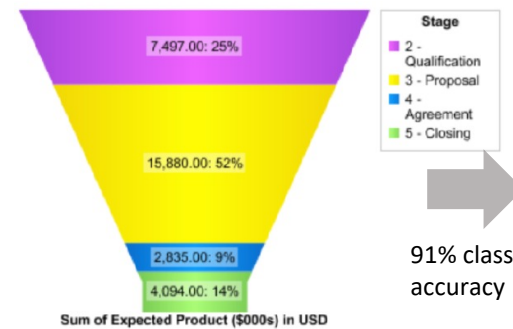
Benefits:

- Improved pipeline win rates
- Use likelihood info to qualify opportunities, early in cycle
- Use qualified opportunities to make revenue predictions
- Insights allow sales decisions for resource prioritization and increased effectiveness
- Deal closing accuracy benefits downstream operations

Level of Effort: 10 - 12 weeks @ 2 resources

# M&A Operational Financial Performance

Benefiting Orgs: Finance, Corp. Dev., Operations

Description:

- Provides acquisition financial performance and weighted scoring model
- Provides M&A operational reporting and BI for companies
- Defines and measures key indicators statistics of acquisition success across HR, financials, product, processes, and systems.

Solution Summary:

- Provides visualizations of financial, GTM, HR/cultural KPIs
- Built ML weighted scoring model for deal similarity
- Allow leadership early insights into acquisition risks and success factors.
- ML solution framework maps to client's business processes
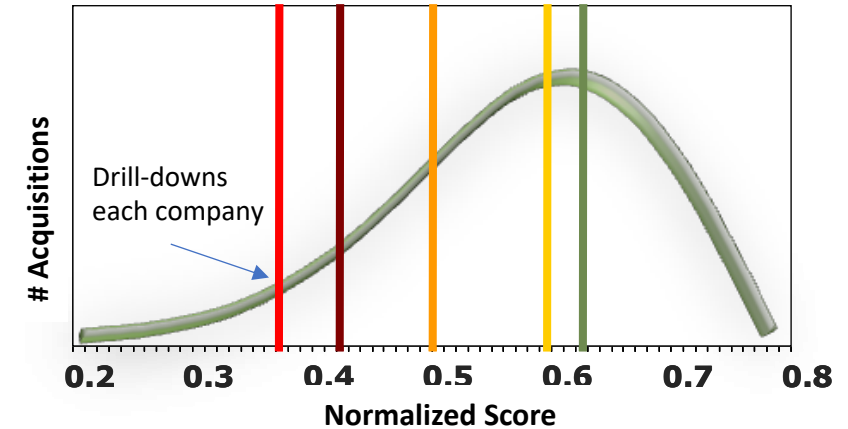
Benefits:

- Improved pipeline win rates
- M&A operational trend measurements
- Insights driven from forecasts/actuals
- Scoring model for predictive visibility of acquisition success
- Enables early corrective action in case of emerging issues

Level of Effort: 10 - 12 weeks @ 2 resources

Spare Parts Operations Improvements

Benefiting Orgs: Finance, Supply Chain, Services, Operations

Description:

- Company's strategic goals is to structure spare operations to drive a profitable and reliable spare parts business

- Existing part classification and inventory policy hinders ability to meet business goals

Solution Summary:

- Designed framework for spare part classification & determined client specific inventory strategy based on operational criticality, inventory & ordering cost, lead time, and historical & projected usage

- Developed algorithm to allocate inventory to optimize aggregate service level by identifying parts with highest 'service level return on inventory investment'

- Implemented set of tools to (1) classify parts, (2) forecast parts usage, and (3) recommend inventory levels
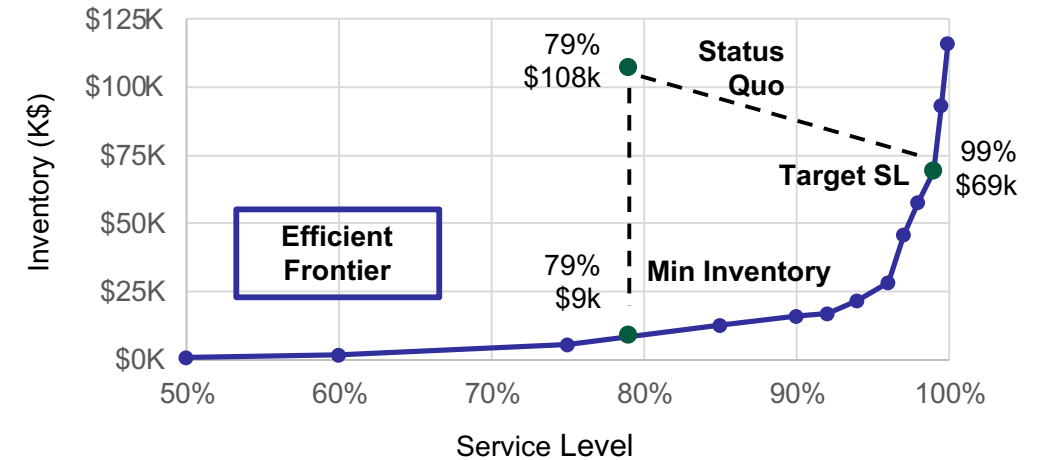
Benefits:

- Reduced spare part classes that are stocked in depots to support service orders for nearby customer installations by 50%
- Improved service level by 20% while reducing inventory by 35% for selected parts
- Enables improved business processes

Level of Effort: 10 - 12 weeks @ 2 resources

# Predictive Maintenance to Lower Product Returns

**Benefiting Orgs:** Finance, Supply Chain, Support, Operations

Description:

- Computer equipment company determined that RMA operational costs were increasing
- High rates of "No problem found" for returned products
- Objective to reduce service costs & increase asset availability

Solution Summary:

- Aggregated historical manufacturing test data on product failure rates
- Calculated segmented product failure rates and mean survival times.
- Designed system architecture to analyze live product sensor data (physical environment) and past problem categorization
- Built regression model to estimate probability of part failure as a function of time
- Built logistic classifier to predict failure within time windows

(Actual-Predicted) Return Date
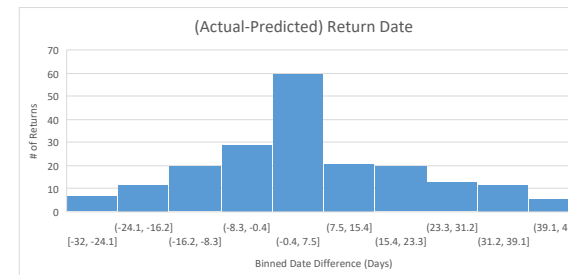
- Regression models predicted remaining useful lifetime
- Classification models predicted failure within a given time window
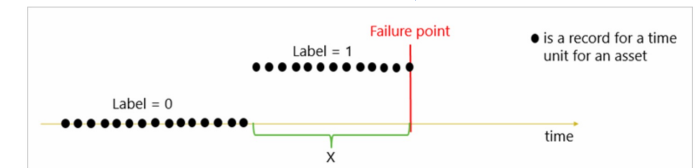
Benefits:

- Predicted repair date compares well statistically w. actuals
- Allowed tech support to estimate validity of reported problem
- Used to reduce unplanned downtime
- Connecting failures/reliability to IB used for demand purposes

Level of Effort: 12 - 14 weeks @ 2 resources

Device IoT Analytics to Improve Customer Support

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Benefiting Orgs: Support, Supply Chain, Operations

Description:

- High cost of mobile phone service repairs and process
- High rates of "No Trouble Found" and repeat issues (Bounce)
- Large customer dis-satisfaction with repairs resulting in legal escalations

Solution Summary:

- Analyzed existing baseline phone repair & case support data
- Constructed Google Cloud environment to analyze daily phone operational data (Tbytes/day)
- Designed solution framework to target battery failures and repair probabilities
- Built and tested multiple models for battery condition metrics, return reasons, failure modes, phone usage behavior
- Recommended highest-performing approaches for business process implementation and service technician dashboard

Customer Complaints and NTF

ROC Curve — Gradient boost classifier to predict Bounce
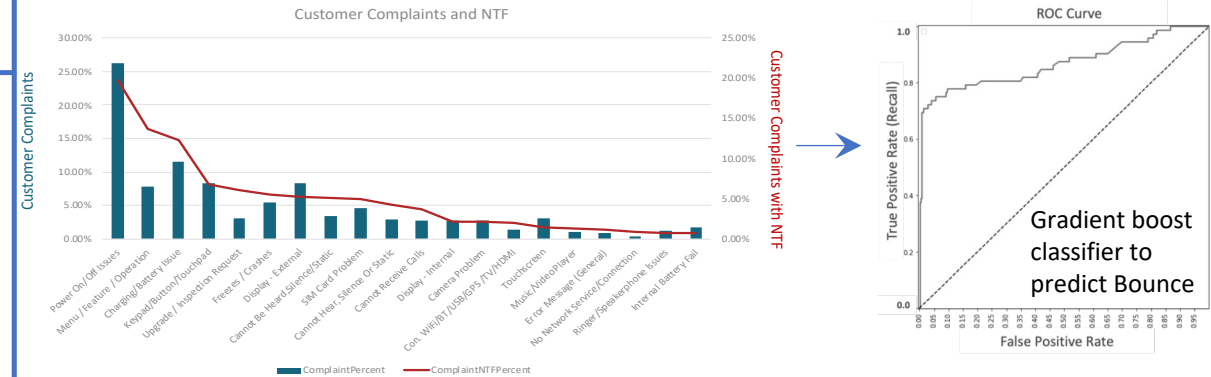
Benefits:

- Improved technician productivity
- Decreased Bounce (Repeat) Issues by 69%
- Lowered NTF rate by 44%
- Phone app usage clusters do not lead to statistically significant return rate differences

Level of Effort: 14 - 16 weeks @ 3 resources

# Financial Analytics Workflow Automation

Benefiting Orgs: Finance, Operations

Description:
- Disparate non-standard processes for data aggregation & reporting
- Lack of trust in data and poor decision utility
- Pressure to expand markets and increase revenue

Solution Summary:
- Built Analytics CoE and led reporting team delivering weekly business metrics across 8 company departments.
- Implemented RPA automation with guardrails checks on top of Snowflake DW with Qlik reporting system
- Drove insights from forecasts/actuals, improved business decision speed and accuracy;
- Built M/M revenue and profitability trend forecasting
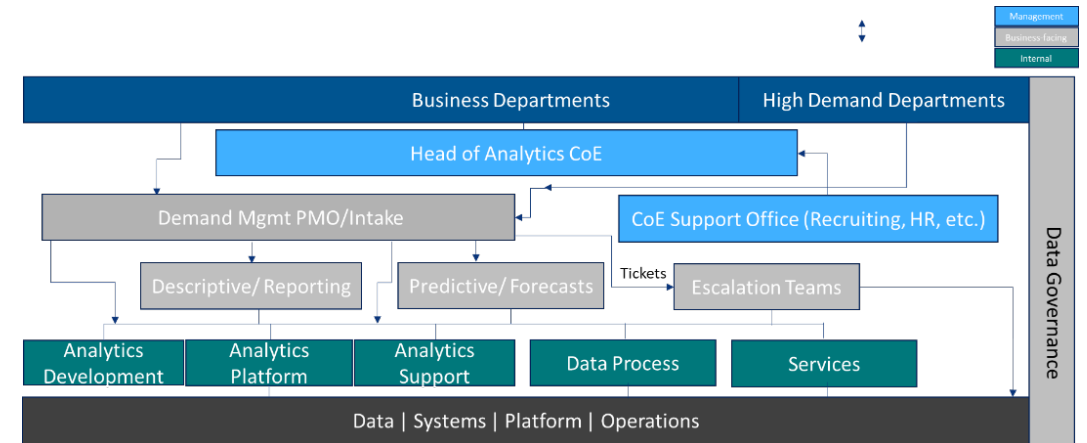
Benefits:
- Consistent financial reporting timeliness and accuracy
- Improved insights and business decision speed
- Ability to incorporate other data sources into analytics
- Aggregated and rationalized financial forecasts from different departments into a unified view

Level of Effort: 10 - 12 weeks @ 4 resources + ongoing