



Pharma Commercial Operations Use-Cases

Case Study : Pharma Product Customer Adoption Model

Problem Statement

Develop **predictive customer adoption model** to identify those most likely to adopt, which will aid in the strategic deployment of personal promotion to influence adoption patterns

Data Assets Definitions and Utility

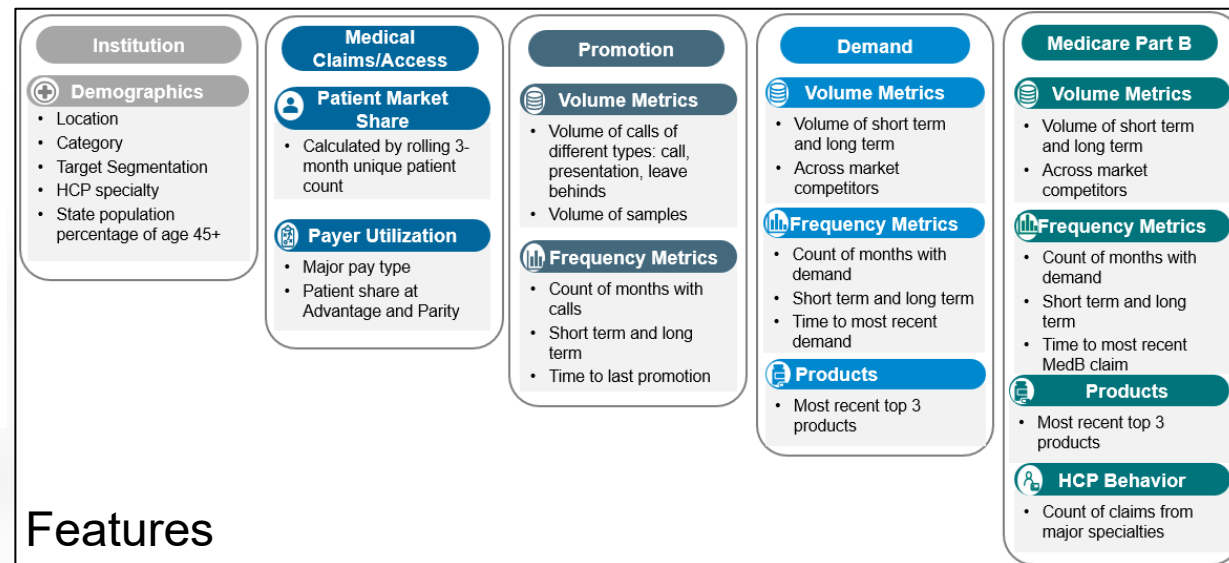
- **Demand** - Drug Distribution Data(DDD) & Xponent Plan Trak Rx).
- **Medical Insurance Claims** data
- **Personal Promotion** such as In-person vs Tele, Leave behinds: branded and unbranded/patient brochure and samples.
- **Patient Access**: Patient counts by payor and number of lives by payor and channel
- **Mapping** data HCP/HCO to address, district/territory roll up

Approach

- The data assets were used as features for the customer adoption model with adopter and non-adopters as targets.
- The model data is structured monthly for individual customers.
- Each month, a retrospective analysis spans the previous 12 months, considering various historical data sources.
- The consolidated demand data is used to determine whether a customer adopts the product or not.

Key Takeaway

- Ensemble of **Random Forest, CatBoost and Neural Networks** ML models with a prediction accuracy of 85%.
- Customer adoption is predominantly influenced by **product's historical demand** frequency and volume
- **Promotion frequency** and **face-to-face detailing** are more important to the customer.
- The patient share of Advantaged/Parity plan shows more importance than other payer/plan.



Target



Case Study : Pharma product sales demand and SFE analysis

Problem Statement

To analyze and determine the product demand relationship between various data assets to streamline market penetration efforts at territory and national level.

Data Assets Definitions and Utility

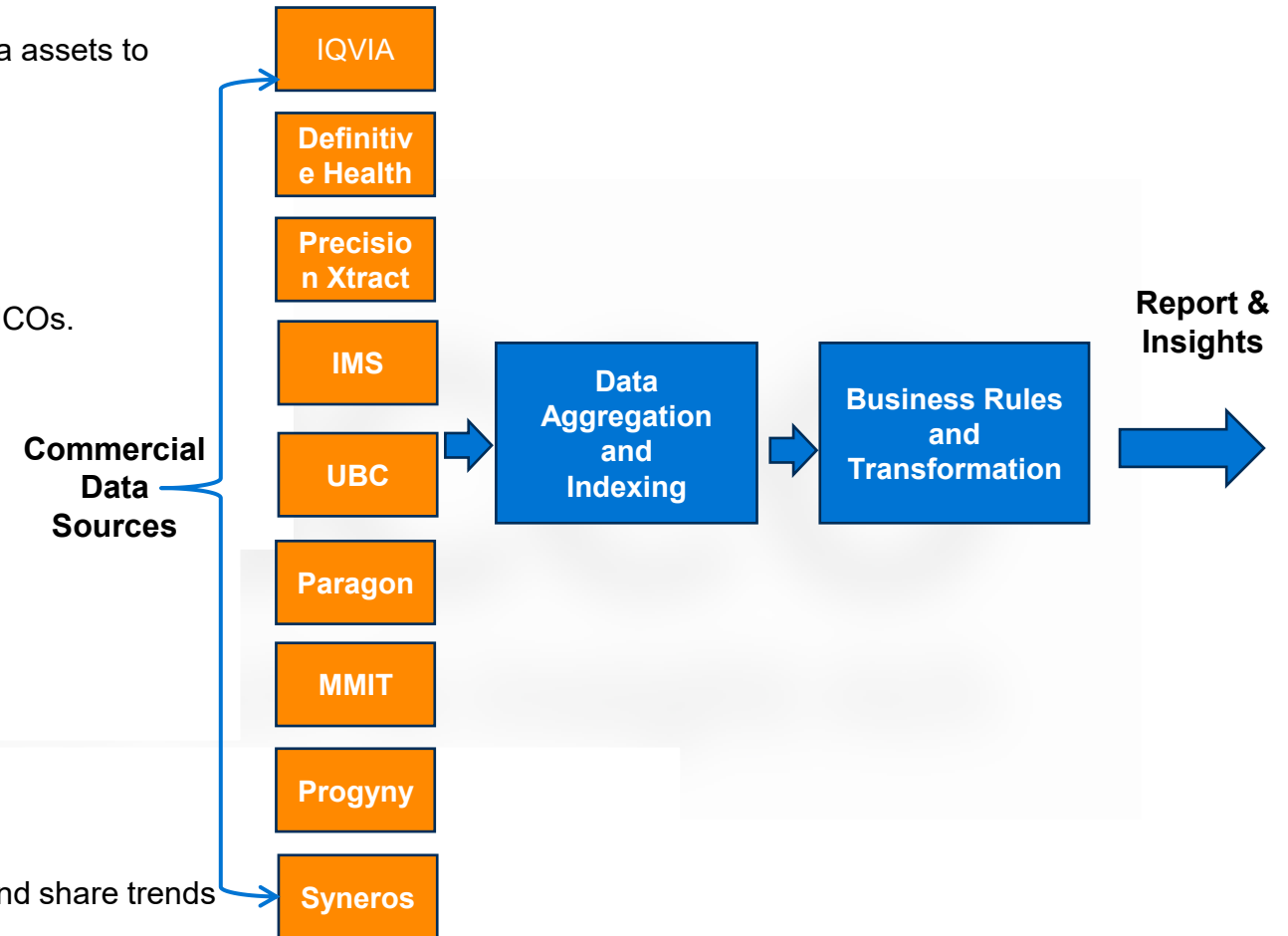
- **Demand RX sales** data with HCPs, RX quantity, date etc.
- **Drug Distribution Data(DDD)** at HCO level.
- **Affiliation** data to map HCPs with corresponding HCOs.
- **Market Segmentation & Target** data to segregate target/non-target HCPs/HCOs.
- **Dispense** data.
- **Medical Insurance Benefits Verification & Claims** data.
- **SFE (Sale Force Effectiveness)** and call metrics data
- **Mapping** data HCP/HCO to address, district/territory roll up

Approach

- Consume data from DW and apply transformations based on business rules
- Automate the process to generate reports to extract actionable insights.
- Strategize with the stakeholders on key KPI parameters.

Key Analytical Works

- **Competitor Product Analysis** MoM Rx, Claims, Patient share & Market/brand share trends
- Compare that with the **ship share inventory data** for demand fulfilment.
- **Target to Non-target Segments** Rx, Calls performance analysis of HCOs, sales team(SFE) to arrive at next focus segments.
- **Demand to Benefits Verification** case analysis to understand covered/partially covered/not-covered products.
- Track special pharmacy groups for a deeper understanding of **drug distribution & customer insights**.



Data Expertise in Pharmaceutical Commercial Operations



An end-to-end data solution that delivers integrated commercial insights for a Pharmaceutical leader, enabling informed business decisions across Sales, Supply Chain, and Medical Affairs.

Highlights

- Comprehensive Commercial Data Analysis:** Integrates varied data sources (CRM, Claims, Market data) for unified commercial insights.
- Secure Data Integration Pipeline:** Ensures confidential patient and HCP data is protected throughout processing.
- Advanced Predictive Analytics:** Develops models to identify high-potential patients and optimize resource allocation.
- Market Access Optimization:** Analyzes patient-level data to develop value-based pricing models.
- Enhanced Patient Journey Insights:** Identifies barriers to adherence and develops targeted interventions.
- Real-time Sales Performance:** Delivers dashboards within Salesforce for tracking sales metrics.
- Supply Chain Intelligence:** Implements predictive analytics to forecast demand and optimize inventory.
- Financial Analytics Integration:** Develops cost-benefit analyses and streamlines financial reporting.
- Therapeutic & Patient Financial Analysis:** Analyzes treatment outcomes, out-of-pocket costs, and claim/rejection patterns for better understanding and optimization

Technical Stack

- Data Sources:** Salesforce CRM, Claims Data, Supply Chain Systems, Market Research
- Data Storage:** Cloud-based Data Lake for integrated pharmaceutical data
- Data Processing & Analytics:** Predictive modeling, Machine Learning algorithms,
- Business Intelligence & Security:** Custom dashboards, Compliance-focused security protocols

Results at Glance

- Maximize Sales Performance:** Target high-potential HCPs and patients for improved market penetration.
- Optimize Pricing Strategy:** Develop value-based pricing models aligned with patient outcomes.
- Streamline Supply Chain:** Forecast demand accurately to optimize inventory and reduce costs.

Solution Offerings we provided:

