Final Presentation

MedAire Inc.

Date: 05/02/2025

Dynamic Rolling Forecast Model for MedAire Inc.

Team 11

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Course: MSBA 593 – Capstone Project

Client: Rob Miller, MedAire Inc.

Faculty Advisor: Dr. Lu Xiao (luxiao@asu.edu)

Overview

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Problem Statement

- **Business Need:**
  - Forecast revenue across regions and products in a fast-changing market
  - Replace rigid static forecasts with a more dynamic, automated solution
- Traditional forecasting methods lack flexibility to react to real-time changes
- Revenue affected by:
  - Renewals (RNW), Do-Not-Renew (DNR)
  - Pricing changes
  - New business (clients/products)

Project Objective

- Expand Phase 1 model (contractual) by integrating transactional revenue
- Clean and consolidate invoiced sales and P&L files
- Build automated forecast logic
- Design a Power BI dashboard for scenario-based planning

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Tools

- **Excel:** Preliminary transformation and validation
- **Python:** Data wrangling, filtering, KPI alignment
- **Power BI:** Dynamic dashboards with filterable visuals
- **Data Sources:**
  - Invoiced Sales Data
  - Outlook EBIT (P&L)

StakeHolder Meeting

- **18+ meetings** with MedAire & Dr. Xiao
- Feedback guided changes:
  - Removed ML forecast in favor of **rule-based logic**
  - Ensured transparency & auditability in Excel and BI
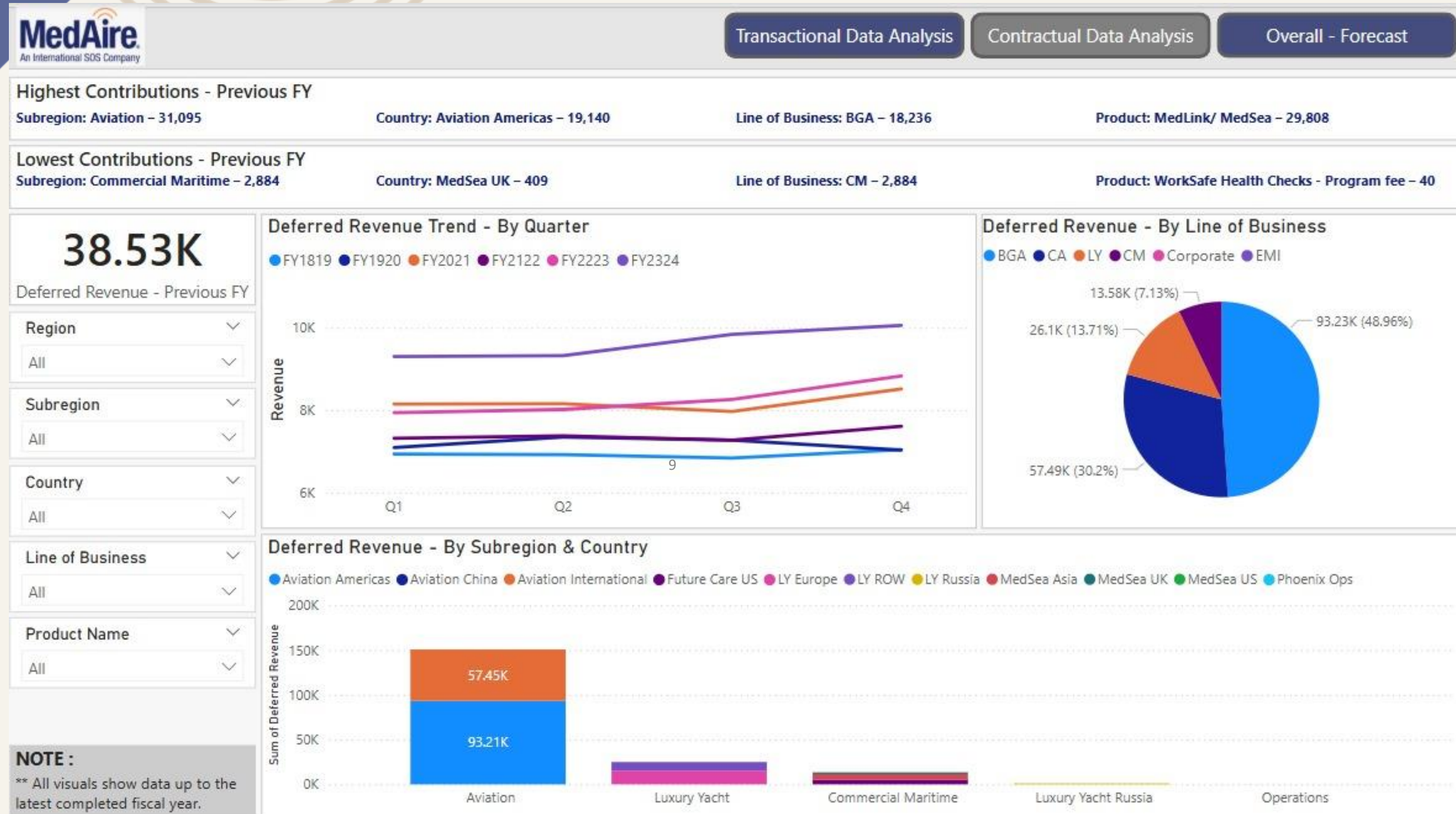- Shared files: FY 2425 A&M Inv Sales, Outlook EBIT, etc.

Project Progression

Index	Task	Owner (team member)	Start Date	End Date	Dependencies (Task Indices)	Status*
1	**Exploratory Data Analysis**					
1.1	Determine Data to Use for Model	Dheeraj	01/21	02/04		Completed
1.2	Consolidating Data to One File	Dominic	02/04	02/11	1.1	Completed
2	**Developing Model for Revenue Forecast**					
2.1	Determine Formula for Revenue Calculation	Dheeraj	02/11	02/18		Completed
2.2	Exploring Best ML Algorithm for Forecasting	Ayush	02/11	02/25	1.2	Completed
2.3	Company Cost Model	Riya	02/11	02/25	1.2	Completed
2.4	Testing Validity of Model	Sravani	02/18	03/05	2.2 & 2.3	Completed
3	**PowerBI Dashboard Creation**					
3.1	Basic Layout & Design	Riya	03/04	03/14		Completed
3.2	Formula Logic Implementation	Dheeraj	03/14	03/21		Completed
3.3	Consolidating Transactional Data	Ayush	03/21	03/28		Completed
3.4	Consolidating Contractual Data	Dominic	03/21	03/28		Completed
4	**PowerBI Dashboard Implementation**					
4.1	Transactional Data Transformation How-To	Ayush	03/28	04/04	3.3	Completed
4.2	Contractional Data Transformation How-To	Dominic	03/28	04/04	3.4	Completed
4.3	Fine-Tune Logic	Sravani	04/04	04/25	3.2	Completed
4.4	Final Design & Layout	Riya	04/04	04/25	3.1	Completed

*(Not Started, In Progress, Blocked, Completed)

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Exploratory Data Analysis

- Contractual

Exploratory Data Analysis

- Transactional

MedAire.
An International SOS Company

Transactional Data Analysis | Contractual Data Analysis | Overall - Forecast

Highest Contributions - Previous FY
Subregion: Aviation – 47,603   Country: Aviation Americas – 31,140   Line of Business: BGA – 18,363   Product: Equipment – 36,463

Lowest Contributions - Previous FY
Subregion: Commercial Maritime – 3,782   Country: Future Care US – 2,460   Line of Business: CM – 3,782   Product: Cross Border – 83

60.55K
Deferred Revenue - Previous FY

Region — All
Subregion — All
Country — All
Line of Business — All
Product Name — All

Deferred Revenue Trend - By Quarter
●FY1819 ●FY1920 ●FY2021 ●FY2122 ●FY2223 ●FY2324

Deferred Revenue - By Line of Business
●CA ●BGA ●LY ●CM ●Industrials ●Energy ●Financials

17.49K (5.23%)
57.15K (17.07%)
157.73K (47.12%)
101.82K (30.42%)

Deferred Revenue - By Subregion & Country
●Aviation Adjs... ●Aviation A... ●Aviation C... ●Aviation Int... ●Future Car... ●LY Europe ●LY ROW ●LY Russia ●MedSea Asia ●MedSea ... ●MedSea UK ●MedSea US ●Phoenix ...

83.41K
177.2K
38.74K

Aviation | Luxury Yacht | Commercial Maritime | Luxury Yacht Russia | Operations

NOTE :
** All visuals show data up to the latest completed fiscal year.

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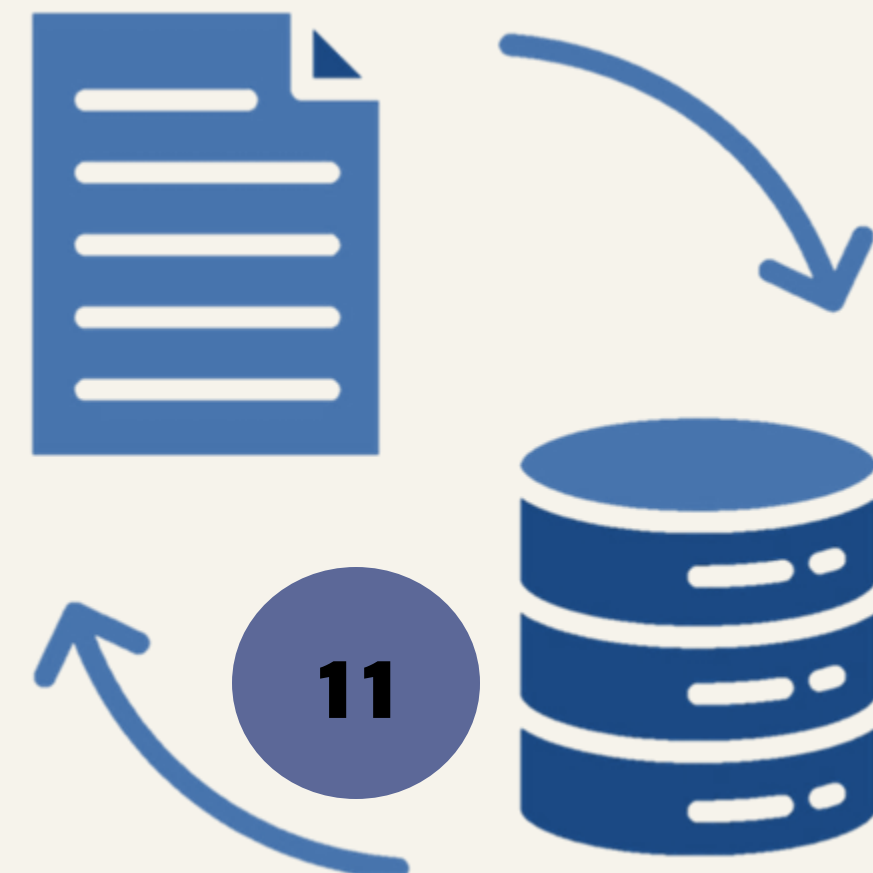
Data Transformation

- Standardized date formats
- Tagged revenue types (contractual vs transactional)
- Aggregated monthly totals
- Implemented DNR, RNW, pricing % change logic
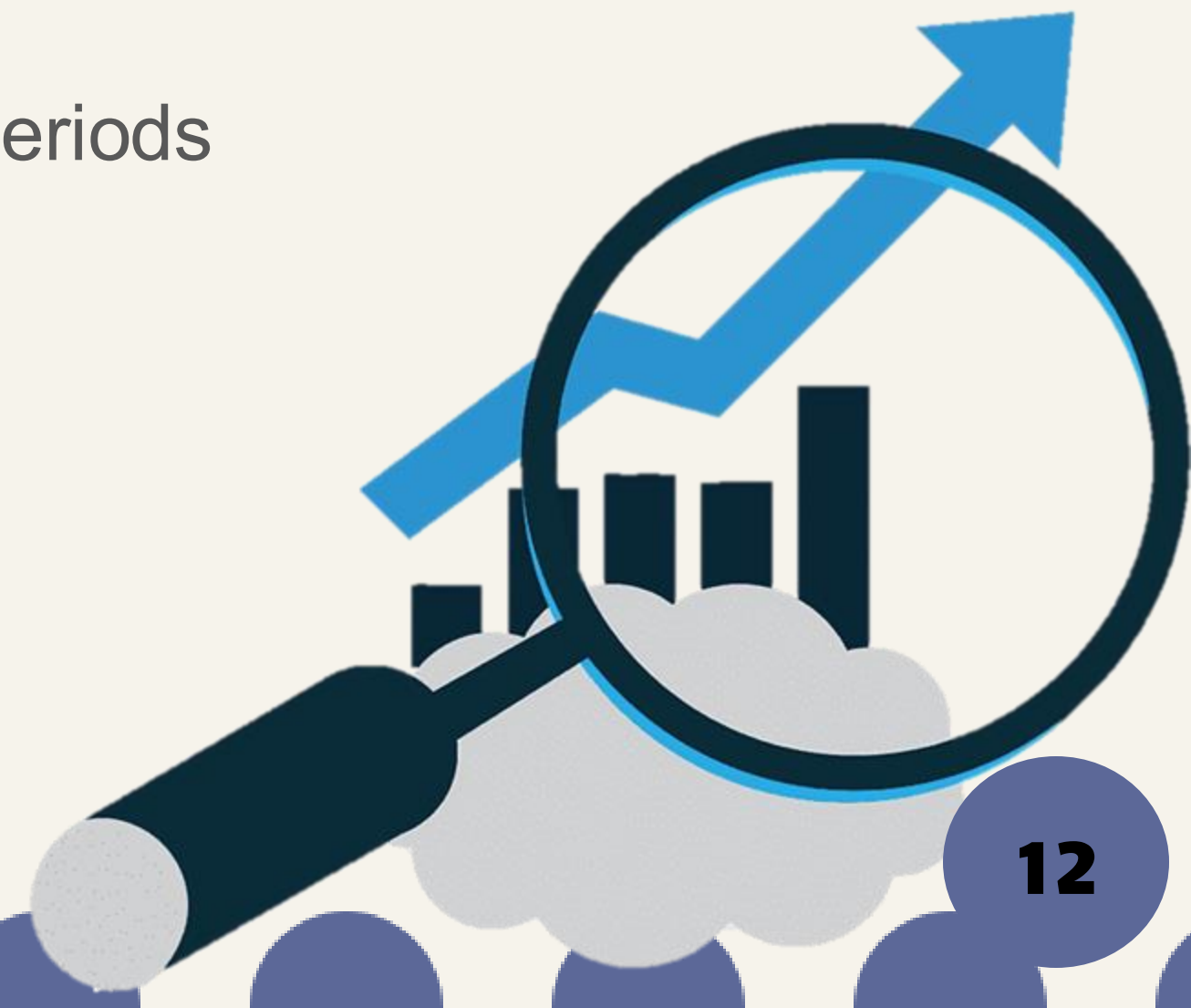- Exported cleaned datasets to Power BI
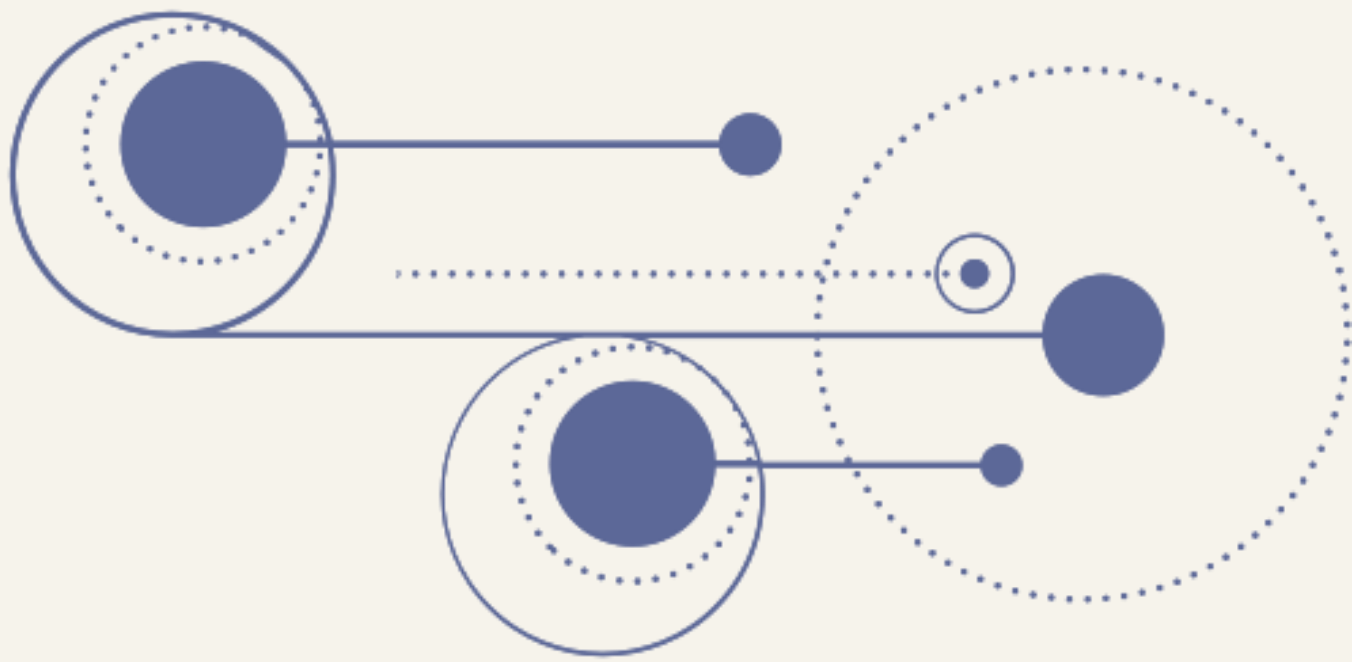
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Forecast Model

- Used prior month/year data as baseline
- Incorporated **levers**:
  - DNR%, Pricing %, New Clients, Refunds
- Recalculated renewals revenue over future periods
- Ensured month-by-month predictability

Power BI Dashboard

Key Insights/ Key Takeaways

- A forecast model was built to track monthly revenue from contracts and transactions.

- It showed patterns like seasonal changes and yearly growth.

- Transactional revenue changed more due to pricing and market shifts.

- Power BI dashboards helped explore data by region, market, and product.

- Small changes (like more renewals or new products) had a big effect on revenue.

- The forecast matched past data well and showed how timing affected revenue.

Final Deliverable

- Excel File - Data source for Power BI
- Python File - Data Cleaning code
- PowerBI Dashboard - EDA Dashboards (Contractual & Transactional) and Overall Forecast Dashboard

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Future Scope

- Automate ETL pipeline (Excel → Python → Power BI)
- Integrate forecasts with enterprise finance systems
- Apply predictive ML models when data stabilizes
- Extend dashboard to include cost, margin, and client risk scoring

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THANK YOU!