

# Power BI Assessment Task - WTF Gyms Dashboard

## Dataset Source

The dataset used for this project was self-generated using Python, leveraging libraries such as NumPy and Faker to create realistic data for WTF Gyms, India's fastest-growing gym tech and fitness brand. This approach allowed for complete control over the data structure and enabled the creation of comprehensive business scenarios reflecting WTF Gyms' unique subscription model. The data was directly inserted into MySQL tables, which were then imported into Power BI, simulating a real-world business intelligence scenario where data is often pulled from relational databases.

## Objective of the Dashboard

This dashboard was designed to provide comprehensive performance monitoring and business intelligence for WTF Gyms, a rapidly expanding fitness chain that's transforming India's fitness industry through an accessible ₹599/month subscription model. The primary objectives are:

1. **Executive Oversight:** Deliver at-a-glance KPIs and performance metrics to support WTF Gyms' ambitious expansion from 11 to 25+ locations
2. **Geographic Analysis:** Enable location-based performance assessment through interactive mapping across WTF Gyms' growing Indian footprint
3. **Gym-specific Performance Tracking:** Allow detailed analysis of individual gym locations with target comparisons to maintain quality across all WTF Gyms facilities
4. **Lead Conversion Analysis:** Provide insights into sales pipeline, conversion rates, and revenue generation to optimize WTF Gyms' affordable subscription model

The dashboard facilitates data-driven decision making by highlighting revenue trends, membership growth, geographical distribution, and sales performance. It enables WTF Gyms' stakeholders to identify top-performing locations and personnel, track performance against targets, and analyze conversion metrics to optimize marketing and sales strategies as they continue their mission of bringing high-quality fitness experiences within everyone's reach.

## Power Query Transformations

Power Query was used extensively to **prepare, sanitize, and model the dataset**, ensuring high data integrity before modeling:

### Core Data Prep and Quality Check:

- Imported raw tables from **MySQL** via native connector.
- Assessed **column quality** (valid, error, empty) and **distribution** via Column Profile and Column Quality views.
- Renamed columns using naming conventions for clarity.
- Handled nulls and outliers using conditional logic (Table.ReplaceValue, Table.SelectRows).

### Date Table (M Language Custom Calendar):

- Built a custom Calendar table using List.Dates() to ensure **complete date coverage** across all metrics.
- Added derived columns: Month Name, Year, Quarter, Month-Year, Week of Year, Weekday Name.

### Column Transformations:

- Created columns like Start of Month, City Initials, and Is Trial Lead using:
- Date.StartOfMonth, Text.Start, if-then-else logic in M.
- Used Split Column, Merge Columns, and Group By for normalizing lead and revenue sources.

### Performance Optimization Techniques:

- Disabled load on intermediary query steps to **reduce memory footprint**.
- Used **query folding** techniques where possible to push transformations to the data source.
- Converted text to categorical columns (via Transform > Data Type) to enhance DAX performance.

**Custom Parameters:**

- Created numeric range parameters for dynamic slicers (e.g., Price Adjustment).
- Used parameters to filter the data during preview for testing and faster load time.

**Key Features Implemented**

**Data Modeling & Analytical Methods**

1. **Star Schema Implementation:** Created a dimensional model with fact and dimension tables to optimize query performance
2. **Comprehensive DAX Measure Library:** Developed a dedicated table containing 54+ custom DAX measures visible in the screenshot, including:
  - Revenue metrics (Total Revenue, Monthly Revenue, Previous Month Revenue, Adjusted Revenue)
  - Membership analysis (Total Members, Monthly Members, Previous Month Members, Target Members)
  - Subscription tracking (Active Subscriptions, Canceled Subscriptions, Expired Subscriptions)
  - Conversion metrics (Overall Conversion Rate, Avg Conversion Time, Conversion Rate %)
  - Lead analysis (Total Leads, Hot Leads, Pending Leads, Leads by Source, Lead Conversion metrics)
  - Performance indicators (Gym Retention Rate, City Per Gym, Adjusted Profit)
  - Response time analytics (Average Response Time, Median Response Time)
  - Target comparisons across multiple business dimensions
3. **Parameters Implementation:**
  - Numeric Range Parameter for profit adjustment scenarios
  - Field Parameters for metric selection and lead analysis
4. **Advanced DAX Techniques:**
  - Time intelligence functions for period-over-period comparisons
  - Conditional formatting measures for employee performance visualization
  - Complex filtering expressions to segment data by location and time periods
  - Target vs. actual calculations for gauge visualizations with goal tracking (visible in the monthly metrics)

**UI/UX Design Elements**

1. **Custom-Designed Backgrounds:** Created three custom UI/UX dashboard backgrounds using Figma that follow WTF Gyms' brand color scheme of black and hot pink, as visible in the screenshot
2. **Navigation System:** Implemented a consistent navigation bar across all pages with:
  - Filter panel toggle button (visible on the left side of the dashboard)
  - Page navigation buttons (clearly visible at the bottom of the interface)
  - Clear filter option
3. **Interactive Elements:**
  - Year and City slicers in a collapsible filter panel
  - Drill-through capability from the Top 10 Gyms chart to the Gym-Wise Performance page
  - Custom tooltips providing additional context on hover
  - Interactive timeline slider for filtering data by date range (visible in the Executive Dashboard)
4. **Visual Consistency:**
  - Bold, modern aesthetic matching WTF Gyms' disruptive brand identity
  - High-contrast color scheme with black background and vibrant pink accents
  - Consistent use of the WTF Gyms logo and brand elements
  - Clean, uncluttered layout with clear visual hierarchy

**Page-Specific Features**

**Executive Dashboard**

- Four branded KPI cards with dedicated icons showcasing WTF Gyms' impressive metrics:
  - ₹1,658M total revenue
  - 8,000 members
  - 4,100 active subscriptions
  - 25.02% overall conversion rate
- Time-series analysis of revenue to track WTF Gyms' growth trajectory in the Indian fitness market
- Ranking visualization of top 10 gyms by revenue with horizontal bar chart using brand color scheme
- New member growth trend area chart showing steady expansion from 25 to 650+ members
- Monthly performance cards tracking:
  - ₹149.15M monthly revenue (goal: ₹166.21M)
  - 1,822 monthly leads (goal: ₹1,950)
  - 749 monthly members (goal: 1,101)
- Spotlight cards for top-performing gym (WTF Gym Gaur Mall RDC, Noida Ghaziabad) and top salesperson (Ekya Suresh)

**Map View**

- Geographic visualization of WTF Gyms' 20 current locations and planned expansion sites

- City-based filtering capability to assess regional performance across India
- Interactive tooltips showing location-specific metrics for both established and upcoming WTF Gyms facilities

### Gym-Wise Performance (Drill-Through Page)

- Gauge visualizations comparing actual performance against targets to maintain consistency across all WTF Gyms locations
- Parameter-driven profit adjustment analysis to optimize the affordable subscription business model
- Metric selection parameter controlling time-series visualization for flexible analysis
- AI-powered report summary using the smart visual card to highlight key insights for each WTF Gyms location

### Lead & Conversion Analytics

- Lead funnel visualization showing conversion stages for WTF Gyms' unique membership journey
- Parameter-controlled metric comparison between potential value and actual revenue from converted leads
- Share of lead types visualization to refine WTF Gyms' marketing approach
- Employee performance table with conditional formatting to identify top sales talent
- Spotlight cards for top-performing employees driving WTF Gyms' subscription growth
- Information button with dynamic insights highlighting exceptional performers like "Nilima Narain recorded the highest revenue from cold leads among Sales employees in 2025, totaling ₹66.26K."

### Advanced Technical Features

1. **Custom Tooltip Page:** Hidden from navigation but accessible on hover, providing detailed insights
2. **Conditional Formatting:** Applied to tables and visualizations to highlight performance thresholds
3. **Dynamic Titles and Subtitles:** Update based on selected filters and parameters
4. **Bookmark Implementation:** Used for filter panel toggle and information panel
5. **Dynamic Filtering:** Cross-filtering capabilities between visuals with appropriate filter direction settings

## Conclusion

This Power BI dashboard demonstrates a comprehensive approach to business intelligence for WTF Gyms, combining technical proficiency in data modeling, DAX, and Power Query with strong UI/UX design principles that align with the brand's modern image. The multi-page layout offers both executive-level insights and detailed analytical capabilities, enabling WTF Gyms' leadership to make data-driven decisions as they pursue their mission of transforming India's fitness industry through an accessible subscription model.

Here's the Link to the Dashboard:

<https://app.powerbi.com/view?r=eyJrIjoieYWRkMjRIN2EtMWQxNy00ZTY1LWEzYTgtZWY4YTA3ZjVhNmRkliwidCI6Ijg4MDM5ZDRiLTU0MjYtNDYyMi1hZGQxLTY0Y2UyNTdmMTJjZCJ9&pageName=2c5a572d382ce78f305b>