

# Customer Feedback Analytics Dashboard

## Project Overview

The **Customer Feedback Analytics Dashboard** is an interactive data visualization tool developed in **Power BI** to analyze customer experiences and satisfaction levels for a hotel. This dashboard helps stakeholders monitor customer sentiment, identify trends, and make **data-driven decisions** to enhance service quality.

By leveraging **customer feedback data**, the dashboard provides insights into key metrics such as **overall ratings, Net Promoter Score (NPS), feedback categories (room, restaurant, facilities, staff), visit purposes, and information sources**. The interactive visualizations allow users to drill down into specific areas of customer experience, helping hotel management improve guest satisfaction and business performance.

## Features and Functionalities

### 1. Key Performance Indicators (KPIs)

The dashboard provides a high-level summary of key customer experience metrics:

- **Overall Rating:** Displays the average customer rating out of 5.
- **Net Promoter Score (NPS):** Measures customer loyalty by classifying customers into:
  - **Promoters (9-10)** – Highly satisfied customers who are likely to recommend the hotel.
  - **Passives (7-8)** – Neutral customers who are satisfied but not enthusiastic.
  - **Detractors (0-6)** – Dissatisfied customers who may discourage others from staying.

### 2. Purpose of Visit Analysis

- Categorizes customer visits into **Business, Vacation, Function, and Others**.
- Helps the hotel tailor services and offers to different customer segments.

### 3. Customer Demographics – Gender Distribution

- Visual representation of the percentage of **male and female** customers.

- Useful for understanding guest demographics and designing targeted marketing campaigns.

#### 4. Customer Feedback Breakdown

A detailed analysis of customer ratings across four key service areas:

- **Facilities** (e.g., hotel ambiance, amenities)
- **Restaurant** (e.g., food quality, dining experience)
- **Room** (e.g., cleanliness, comfort)
- **Staff** (e.g., customer service, professionalism)

Each category is visualized using **bar charts, heatmaps, and sentiment analysis** to highlight areas for improvement.

#### 5. Source of Information Analysis

- Identifies how customers discovered the hotel, including:
  - **Hotel Booking Sites**
  - **Word of Mouth**
  - **Internet Ads**
  - **Search Engines**
- Helps the marketing team optimize ad spending and improve customer outreach strategies.

#### 6. Source Trend Analysis

- Tracks the trend of **customer acquisition sources** over time using line charts.
- Assists in evaluating which marketing channels are most effective in bringing new customers.

### Visualization Techniques Used

#### 1. Power BI Visualizations

- **Bar Charts** – Used for visualizing ratings across different feedback categories.

- **Line Charts** – Show trends in customer acquisition sources over time.
- **Pie Charts** – Represent gender distribution and visit purposes.
- **Heatmaps** – Identify areas of high and low customer satisfaction.

## 2. DAX (Data Analysis Expressions)

- **SUM, AVERAGE, and COUNT functions** to calculate key metrics.
- **IF() and SWITCH() functions** for conditional formatting (e.g., highlighting low satisfaction scores).
- **RANKX() function** to rank feedback scores and NPS contributors.

## 3. Power Query for Data Transformation

- **Data Cleaning:** Removed duplicate entries, handled missing values.
- **Data Grouping:** Binned ratings into different satisfaction levels (High, Medium, Low).

## 4. Interactive Filters and Navigation

- **Slicers:** Allow users to filter data by customer segments, feedback categories, and time periods.
- **Bookmarks & Buttons:** Enable smooth navigation between different dashboard sections.

## How to Use the Dashboard

### Step 1: Analyze Customer Satisfaction

- Check the **Overall Rating and NPS Score** to assess customer satisfaction.
- Identify the percentage of Promoters, Passives, and Detractors.

### Step 2: Identify Areas for Improvement

- Review **feedback scores** for Facilities, Restaurant, Room, and Staff.
- Use the heatmap to pinpoint areas needing attention.

### Step 3: Understand Customer Demographics

- Use the **Gender Distribution** chart to understand customer profiles.

- Check the **Purpose of Visit** chart to see why guests stay at the hotel.

#### **Step 4: Evaluate Marketing Effectiveness**

- Check the **Source of Information Analysis** to see where customers are learning about the hotel.
- Monitor **Source Trend Analysis** to track changes in customer acquisition over time.

#### **Step 5: Apply Filters for Deeper Insights**

- Use the **region, gender, visit purpose, and time filters** to get more specific insights.

### **Future Enhancements**

#### **1. Sentiment Analysis Integration**

- Implement **Natural Language Processing (NLP)** to analyze customer comments and reviews.

#### **2. Predictive Analytics for Customer Experience**

- Use **machine learning models** to forecast customer satisfaction trends based on historical data.

#### **3. Real-Time Feedback Tracking**

- Integrate live feedback collection from hotel management systems for real-time analysis.

#### **4. Customer Segmentation**

- Classify customers based on behavior patterns to offer personalized services.

### **Conclusion**

The **Customer Feedback Analytics Dashboard** is a powerful tool that enables hotel management to:

- Monitor guest satisfaction effectively.
- Identify key areas for improvement.
- Optimize marketing strategies.
- Improve overall customer experience.