

# Data Analyst Intern Assessment - Report

## 1. Introduction

This report presents the analysis of a dataset containing booking information for a multi-service business. The objective of this assessment is to clean, analyze, and visualize the data while identifying key insights. The dataset includes different types of bookings, such as class reservations, facility rentals, and party bookings. Given that this dataset is a real-world export, it contains inconsistencies and missing values that were addressed during the cleaning process.

## 2. Data Cleaning & Preprocessing

To ensure data integrity, the following steps were performed:

- Handled Missing Values: Missing values in columns such as Instructor and Facility were filled based on available data.
- Removed Duplicates: Checked and eliminated duplicate records to avoid redundancy.
- Standardized Formats: Reformatted date values for consistency and corrected text formatting issues.
- Created Derived Columns: Extracted Month-Year from Booking\_Date for better visualization.
- Addressed Null Values: Columns like Subscription\_Type were found to have all NULL values and were excluded from the analysis.

## 3. Exploratory Data Analysis (EDA)

EDA helped uncover patterns in bookings, customer behavior, and revenue generation:

- The majority of bookings were for facility rentals and party reservations.
- Certain instructors were more frequently associated with specific class types.
- Bookings showed seasonal trends, with spikes in certain months.
- High revenue was linked to specific facility types.

## 4. Dashboard Walkthrough

### Page 1: Booking Overview & Key Metrics

#### 1)Key Performance Indicators (KPIs) - Card Visuals

**Total Revenue:** Displays the total revenue generated from all bookings.

Formula: SUM(Price)

**Total Bookings:** Shows the total number of bookings.

Formula: COUNT(Booking\_ID)

**Average Revenue:** Represents the average revenue per booking.

Formula: AVERAGE(Price)

## 2)Slicers (Dropdown Filters) for User Interaction

**Status:** Allows filtering based on booking confirmation status (e.g., Pending, Confirmed, Canceled).

Field Used: Status

**Booking Month:** Enables filtering bookings by month and year.

Field Used: Booking Month Year (Measure)

## 3)Line Charts for Trend Analysis

Count of Bookings Over Time: Tracks the number of bookings per month to identify demand trends.

Fields Used:

X-axis: Booking Month Year

Y-axis: COUNT(Booking\_ID)

**Price by Booking Month:** Shows revenue fluctuations over different months.

Fields Used:

X-axis: Booking Date

Y-axis: SUM(Price)

## 4)Pie Chart for Booking by Theme

Booking Count by Theme: Provides a visual breakdown of booking count by Theme.

Fields Used:

Values: COUNT(Booking\_ID)

Legend: Theme

## 5)Stacked Line Chart for Revenue Breakdown

Revenue by Booking Type: Compares revenue distribution among different types of bookings (e.g., Classes, Facility Rentals, Subscriptions).

Fields Used:

X-axis: Booking Type

Y-axis: SUM(Price)

## 6) **Clustered Bar Chart for Facility-Based Revenue**

Revenue by Facility: Highlights which facilities generate the most revenue.

Fields Used:

X-axis: Facility

Y-axis: SUM(Price)

## **Page 2: Booking Insights & Revenue Analysis**

### 1) **Donut Chart** - Revenue by Service Type

Purpose: Displays the revenue distribution across different service types (e.g., Play area, Party room, Gymnastics, Dance, Art)

Fields Used:

Legend: Service\_Type

Values: SUM(Price)

### 2) **Clustered Bar Chart** - Count of Bookings by Class Type

Purpose: Shows the total number of bookings for each class type (e.g., Art, Gymnastics, Yoga).

Fields Used:

X-axis: Class\_Type

Y-axis: COUNT(Booking\_ID)

### 3) **Stacked Bar Chart** - Revenue by Instructor

Purpose: Analyzes revenue contributions by each instructor, helping to evaluate their performance.

Fields Used:

X-axis: Instructor

Y-axis: SUM(Price)

### 4) **Table** - Instructor Performance

Purpose: Provides detailed insights into each instructor's performance, including the number of bookings and total revenue generated.

Fields Used:

→Instructor

→Class\_Type

→COUNT(Booking\_ID)

→SUM(Price)

5)**Table** - Service Details

Purpose: Displays available services along with their service type and associated themes.

→Fields Used:

→Service\_Name

→Service\_Type

→Theme