

# Business Insights Report

## Generated Insights & Analysis

### Business Insight Report

#### 1. Summary of CSV Files

Dataframe: Customer\_Transactions/portfolio.csv - The dataset contains information about offers including the reward amount, available communication channels, difficulty to achieve the offer, duration, offer type, and offer ID.

Dataframe: Customer\_Transactions/profile.csv - This dataset includes customer profile data with attributes like gender, age, customer ID, membership start date, and income. Some entries are missing values for gender and income, and there are incorrect entries for age (e.g., age above 100).

Dataframe: Customer\_Transactions/transcript.csv - It records events related to offers, capturing data such as customer ID, event type, offer ID, and timing of the event.

#### 2. Quality Check Before Pipeline

- Customer\_Transactions/portfolio.csv Missing Values: 0 Duplicate Entries: 0 Improvement Suggestion: Consider exploring the 'channels' column for structured data transformation.

- Customer\_Transactions/profile.csv Missing Values: High count in gender and income columns, incorrect age values. Duplicate Entries: 0 Improvement Suggestion: Address incorrect 'age' values and investigate patterns in missing data.

- Customer\_Transactions/transcript.csv Missing Values: 0 Duplicate Entries: 0 Improvement Suggestion: Normalize 'value' column which contains dictionary-like structures for analysis.

#### 3. Relationships Between Datasets and Business Insights

- Offers and Channels: Offers can be delivered through various channels such as email, mobile, web, and social. Analyzing which channels have the highest success rates can guide marketing strategies in optimizing channel utilization. - Customer Profiles and Offer Engagement: By analyzing how different customer segments (e.g., based on age, income, and membership duration) interact with offers, personalized marketing strategies can be developed to increase engagement and conversion rates.

- Event Timing Patterns: Understanding when offers are received, viewed, or completed in relation to customer profiles can help in scheduling campaigns more effectively to align with customer availability

or preferences.

#### 4. Business Recommendations

- Enhance Data Quality: Address missing and erroneous data in the profile dataset to ensure accurate customer segmentation and analytics. - Personalized Marketing: Utilize customer profile data to tailor offers that align with individual preferences and behaviors, potentially increasing customer satisfaction and loyalty.

- Optimize Channel Effectiveness: Continuously evaluate the performance of communication channels and allocate marketing resources strategically to the most effective ones.

- Behavioral Insights: Gain deeper insights into customer behavior by integrating and analyzing how different customer segments respond to different types of offers across various channels and times.

### **Recommended Transformations**