**Sakila DVD Rental Store Power BI Dashboard Documentation**

**Project Overview**

The Sakila DVD Rental Store Power BI Dashboard project aims to revolutionize decision-making in the competitive DVD rental market. By leveraging the rich dataset provided by the Sakila DVD Rental Store Database, this comprehensive Power BI dashboard offers valuable insights into customer behavior, film inventory management, staff performance, and store operations.

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**Objective**

The primary goal of this project is to empower rental store owners with a robust Power BI dashboard that facilitates data-driven decision-making. By optimizing film inventory, enhancing customer satisfaction, improving staff performance, and streamlining store operations, the dashboard aims to achieve success in the competitive DVD rental market.

**Dataset Description**

The Sakila DVD Rental Store Database comprises multiple tables representing different entities and their relationships. Key components include the Actor, Address, Category, City, Country, Customer, Film, Inventory, Language, Payment, Rental, Staff, and Store tables.

**Purchasing Patterns**

**Question:** What are the purchasing patterns of new customers versus repeat customers?

**Analysis:** To analyze purchasing patterns, we need historical transaction data. The Power BI dashboard provides insights into customer segmentation, cohort analysis, and trends over time.

**Steps:**

1. **Load Data:**
   * Import historical transaction data.
2. **Customer Segmentation:**
   * Utilize Power BI's features to segment customers based on their purchase history.
3. **Cohort Analysis:**
   * Create cohorts based on customer registration or first purchase date.
4. **Visualization:**
   * Visualize purchasing patterns over time, distinguishing between new and repeat customers.

**Film Insights**

**Question:** Which films have the highest rental rates and are most in demand?

**Analysis:** Identify films with the highest rental rates and overall demand to optimize inventory and cater to customer preferences.

**Steps:**

1. **Rental Rate Analysis:**
   * Aggregate rental rates for each film.
2. **Demand Analysis:**
   * Count the number of rentals for each film.
3. **Visualization:**
   * Visualize top-performing films based on rental rates and demand.

**Staff and Customer Dynamics**

**Question:** Are there correlations between staff performance and customer satisfaction?

**Analysis:** Explore potential correlations between staff performance and customer satisfaction using available variables.

**Steps:**

1. **Data Check:**
   * Confirm the availability of staff performance metrics.
2. **Correlation Analysis:**
   * Utilize statistical tools in Power BI to analyze the relationship.
3. **Visualization:**
   * Visualize the correlation results.

**Store Operations**

**Question:** Are there seasonal trends in customer behavior across different locations?

**Analysis:** Identify seasonal trends in customer behavior to optimize store operations and marketing campaigns.

**Steps:**

1. **Data Preparation:**
   * Extract customer-specific rental information.
2. **Seasonal Analysis:**
   * Analyze rental trends by month and district.
3. **Visualization:**
   * Visualize seasonal trends across different locations.

**Customer Satisfaction and Loyalty**

**Question:** How does customer loyalty impact sales revenue over time?

**Analysis:** Examine the impact of customer loyalty on sales revenue to enhance customer satisfaction and repeat business.

**Steps:**

1. **Data Extraction:**
   * Extract customer payment data.
2. **Loyalty Analysis:**
   * Calculate revenue over time for loyal customers.
3. **Visualization:**
   * Visualize the impact of customer loyalty on sales revenue.

**Demographic Analysis**

**Question:** What are the demographics and preferences of the highest-spending customers?

**Analysis:** Retrieve information about customers, their rented films, and total spending to identify high-value customer demographics.

**Steps:**

1. **Data Extraction:**
   * Extract customer, film, and payment data.
2. **Demographic Analysis:**
   * Analyze spending patterns based on demographics.
3. **Visualization:**
   * Create visuals showcasing demographics and preferences of high-spending customers.

**Impact of Language on Customer Behavior**

**Question:** Are certain language films more popular among specific customer segments?

**Analysis:** Count the number of films for each language to identify language preferences among customer segments.

**Steps:**

1. **Data Merge:**
   * Merge film and language tables.
2. **Language Analysis:**
   * Count films for each language.
3. **Visualization:**
   * Visualize language preferences among customer segments.