**Report: Coffee Shop Sales Analysis**

**1. Daily Transaction Count by Day**

* **Visualization**: Line Chart
* **Details**: Shows the count of transactions for each day.
* **Fields**:
  + Axis: date
  + Values: DailyTransactionCount (count of transactions for each date)

**2. Sales Over Time**

* **Visualization**: Line or Area Chart
* **Details**: Displays sales trends over a selected period (daily, weekly, or monthly).
* **Fields**:
  + Axis: date (drill down into day, week, month as required)
  + Values: TotalRevenue (sum of money for each date)

**3. Frequency of Coffee Purchases**

* **Visualization**: Bar Chart
* **Details**: Counts how often each type of coffee is purchased to identify popular coffee types.
* **Fields**:
  + Axis: coffee\_name
  + Values: TransactionCount (count of coffee\_name)

**4. Revenue per Coffee Type by Payment Method**

* **Visualization**: Stacked Bar Chart
* **Details**: Shows revenue contribution per coffee type, split by payment method (cash or card).
* **Fields**:
  + Axis: coffee\_name
  + Legend: cash\_type (payment method)
  + Values: TotalRevenue (sum of money for each coffee type)

**5. Top-Selling Coffee Types**

* **Visualization**: Bar Chart
* **Details**: Displays coffee types ranked by revenue to show top sellers.
* **Fields**:
  + Axis: coffee\_name
  + Values: TotalRevenue (sum of money for each coffee type)
* **Sort**: By TotalRevenue in descending order

**6. Sales Distribution by Time of Day**

* **Visualization**: Column Chart
* **Details**: Displays sales distribution across different times of day (morning, afternoon, evening).
* **Fields**:
  + Axis: TimePeriod (a calculated column that categorizes datetime into Morning, Afternoon, Evening)
  + Values: TotalRevenue (sum of money)

**7. Transaction by Day of the Week**

* **Visualization**: Column Chart
* **Details**: Shows the number of transactions for each day of the week to identify peak days.
* **Fields**:
  + Axis: DayOfWeek (a calculated column that extracts the day from date)
  + Values: TransactionCount (count of date for each day of the week)
* **Sort**: By DayOfWeekNumber to display days in logical order (Monday, Tuesday, etc.)

**8. Sales by Payment Type**

* **Visualization**: Pie or Donut Chart
* **Details**: Shows the percentage split of total sales by payment method (cash vs. card).
* **Fields**:
  + Legend: cash\_type
  + Values: TotalRevenue (sum of money for each payment type)

**Additional Notes**

* **Dynamic Filtering**: Add slicers for Week days and Cash Type to allow for further filtering by date and coffee type.
* **Title & Formatting**: Label each chart clearly and use consistent colors and fonts for a cohesive report. Add descriptive titles for each section, e.g., "Daily Transaction Count," "Top-Selling Coffee Types."
* **Tooltips**: Customize tooltips for each visual to show additional information, like the exact sales or transaction count when hovering over data points.

This report layout provides a comprehensive view of coffee shop sales trends, customer preferences, and revenue insights across various dimensions.