KPI Description (in words): Repeat purchase rate per month (per store)

KPI formula: (Customers with more than 1 transaction in the month ÷ Total customers in the month) × 100, per month, per store

Steps to realize KPI: 1. Created a view via SQL query.

```
CREATE OR REPLACE VIEW kpi_repeat_purchase_rate_monthly AS
WITH customer_txn AS (
  SELECT
    store_code,
    DATE_TRUNC('month', purchased_at)::date AS kpi_month,
    customer_id,
    COUNT(*) AS txn_count
  FROM receipts
  GROUP BY store_code, DATE_TRUNC('month', purchased_at), customer_id
)

SELECT
  store_code AS kpi_store_code,
  kpi_month AS kpi_month,
  ROUND(
    COUNT(*) FILTER (WHERE txn_count > 1) * 100.0 / COUNT(*),
    2
  ) AS kpi_value,
  COUNT(*) FILTER (WHERE txn_count > 1) AS kpi_current_value,
  COUNT(*) AS kpi_previous_value
FROM customer_txn
GROUP BY store_code, kpi_month
HAVING COUNT(*) > 0;
```

2. Visualized via Tableau as a graph titled "Repeat Purchase Rate (%) per Month".

Additional Notes: kpi_value is the percentage rate. kpi_current_value counts repeat customers (txn_count > 1). kpi_previous_value counts total customers in that store-month.

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KPI Description (in words): Customer acquisition rate per month (per store)

KPI formula: (New customers in the month ÷ Total customers in the month) × 100, per month, per store

Steps to realize KPI: 1. CREATE OR REPLACE VIEW kpi_customer_acquisition_rate_monthly AS

```
WITH first_purchase AS (
  SELECT
    customer_id,
    store_code,
    DATE_TRUNC('month', MIN(purchased_at))::date AS first_month
  FROM receipts
```

```
    GROUP BY customer_id, store_code
),
monthly_customers AS (
    SELECT
        store_code,
        DATE_TRUNC('month', purchased_at)::date AS kpi_month,
        COUNT(DISTINCT customer_id) AS total_customers
    FROM receipts
    GROUP BY store_code, DATE_TRUNC('month', purchased_at)
),
new_customers AS (
    SELECT
        store_code,
        first_month AS kpi_month,
        COUNT(customer_id) AS new_customers
    FROM first_purchase
    GROUP BY store_code, first_month
)

SELECT
    monthly_customers.store_code AS kpi_store_code,
    monthly_customers.kpi_month AS kpi_month,
    ROUND(new_customers.new_customers * 100.0 / monthly_customers.total_customers, 2) AS kpi_value,
    new_customers.new_customers AS kpi_current_value,
    monthly_customers.total_customers AS kpi_previous_value
FROM monthly_customers
JOIN new_customers
  ON monthly_customers.store_code = new_customers.store_code
 AND monthly_customers.kpi_month = new_customers.kpi_month
WHERE monthly_customers.total_customers > 0;
```

2. Visualized via Tableau as a graph titled "Customer Acquisition Rate (%) per Month".

Additional Notes: kpi_value is the acquisition rate (%). kpi_current_value is the count of new customers (first purchase in that store-month). kpi_previous_value is total customers in that store-month.

KPI Description (in words): Customer growth rate per month (per store)

KPI formula: ((Customers this month − Customers previous month) ÷ Customers previous month) × 100, per month, per store

Steps to realize KPI: 1. Created a view via SQL query.

```
CREATE OR REPLACE VIEW kpi_customer_growth_rate_monthly AS
WITH monthly_customers AS (
    SELECT
        store_code,
        DATE_TRUNC('month', purchased_at)::date AS kpi_month,
        COUNT(DISTINCT customer_id) AS total_customers
```

```
    FROM receipts
    GROUP BY store_code, DATE_TRUNC('month', purchased_at)
),
months_with_numbers AS (
    SELECT
        store_code,
        kpi_month,
        total_customers,
        EXTRACT(YEAR FROM kpi_month) AS year_num,
        EXTRACT(MONTH FROM kpi_month) AS month_num
    FROM monthly_customers
)

SELECT
    current_month.store_code AS kpi_store_code,
    current_month.kpi_month AS kpi_month,
    ROUND(
        (current_month.total_customers - previous_month.total_customers) * 100.0
        / previous_month.total_customers,
        2
    ) AS kpi_value,
    current_month.total_customers AS kpi_current_value,
    previous_month.total_customers AS kpi_previous_value
FROM months_with_numbers AS current_month
JOIN months_with_numbers AS previous_month
  ON current_month.store_code = previous_month.store_code
 AND (
     (current_month.month_num = previous_month.month_num + 1 AND current_month.year_num =
previous_month.year_num)
     OR
     (current_month.month_num = 1 AND previous_month.month_num = 12 AND current_month.year_num =
previous_month.year_num + 1)
 )
WHERE previous_month.total_customers > 0;
```

2. Visualized via Tableau as a graph titled "Customer Growth Rate (%) per Month".

Additional Notes: The first month for each store is not shown because it has no “previous month” to compare. Negative values mean the customer base decreased compared to the previous month.

KPI Description (in words): Revenue per customer per month (per store)

KPI formula: Total revenue in the month ÷ Total unique customers in the month, per month, per store

Steps to realize KPI: 1. Created a view via SQL query.

```
CREATE OR REPLACE VIEW kpi_revenue_per_customer_monthly AS
WITH revenue AS (
    SELECT
```

```
    receipts.store_code,
    DATE_TRUNC('month', receipts.purchased_at)::date AS kpi_month,
    SUM(receipt_lines.value) AS total_revenue
  FROM receipts
  JOIN receipt_lines
    ON receipts.receipt_id = receipt_lines.receipt_id
  GROUP BY receipts.store_code, DATE_TRUNC('month', receipts.purchased_at)
),
customers AS (
  SELECT
    store_code,
    DATE_TRUNC('month', purchased_at)::date AS kpi_month,
    COUNT(DISTINCT customer_id) AS total_customers
  FROM receipts
  GROUP BY store_code, DATE_TRUNC('month', purchased_at)
)

SELECT
  revenue.store_code AS kpi_store_code,
  revenue.kpi_month AS kpi_month,
  ROUND(revenue.total_revenue / customers.total_customers, 2) AS kpi_value,
  revenue.total_revenue AS kpi_current_value,
  customers.total_customers AS kpi_previous_value
FROM revenue
JOIN customers
  ON revenue.store_code = customers.store_code
 AND revenue.kpi_month = customers.kpi_month
WHERE customers.total_customers > 0;
```

2. Visualized via Tableau as a graph titled "Revenue per Customer (£) per Month".

Additional Notes: kpi_value is average revenue per customer. kpi_current_value is total monthly revenue. kpi_previous_value is total unique customers used as the divisor.