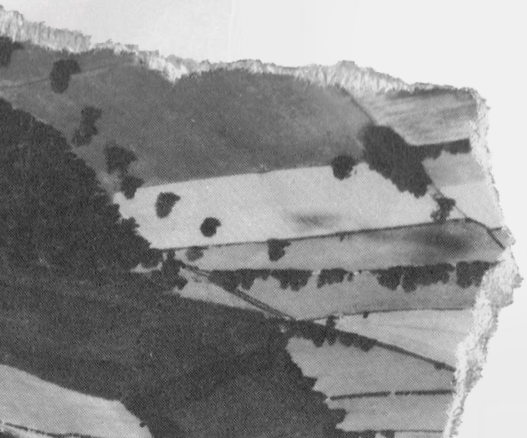
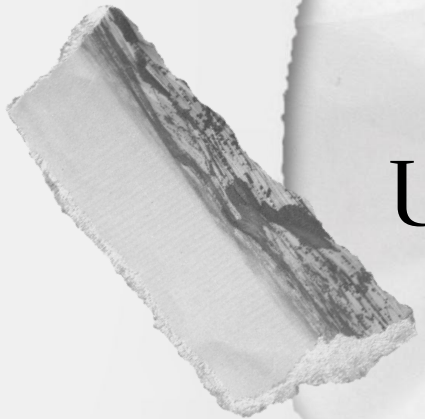




RevoFinance : Expense and Budget Utilization Dashboard

using Tableau Tool

Santa Riyanti T
9/16 January 2026
RevoU FSDA Batch OCT25

MILESTONE 1

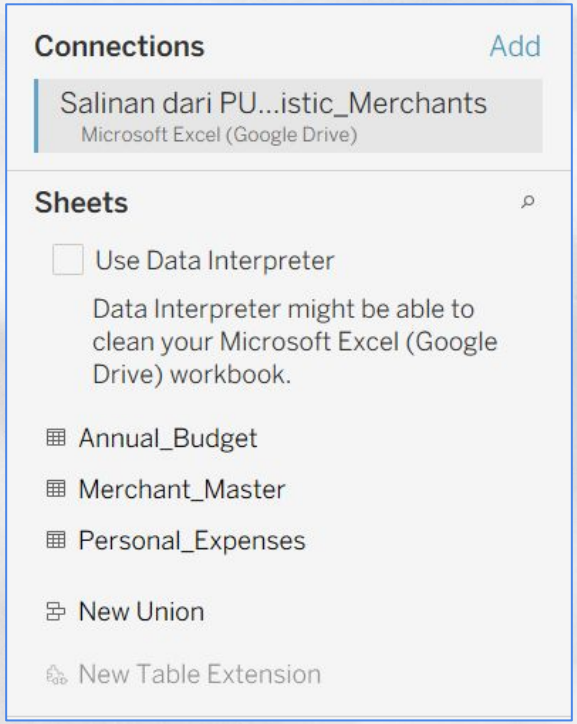
COMPANY OVERVIEW

RevoFinance is a fintech company in Indonesia that helps users track expenses, understand spending behavior, and optimize personal budgets. Through a mobile application integrated with both offline and online merchants, RevoFinance aims to enhance financial literacy and empower individuals to take greater control of their financial health.

PROBLEM STATEMENT

RevoFinance requires an interactive Tableau dashboard to give users clear insights into their spending habits, compare actual expenses with budgets, highlight overspending, and reveal offline spending hotspots empowering smarter financial decisions.

DATASOURCE OVERVIEW



Disclaimer :

- This analysis is for educational purposes and does not reflect the actual business metrics of RevoFinance.
- Insights and recommendations are derived from the provided dataset and may not represent real market conditions.
- All insights, dashboards, and metric should be generated based on personal interpretation and visualization skill.

WORKSHEET OBJECTIVE

a/b. Target User&Purpose Focusing on Decision Making Needs

Target User	Reasoning
Data Analytics Department	• Monitoring user spending behavior • Generating actionable insights for product improvement • Supporting decision making for financial planning features in the app
Marketing Teams	To identify spending patterns for targeted campaigns
Product Managers	To refine app features based on user behavior
Customer Experience Teams	To understand pain points in financial management

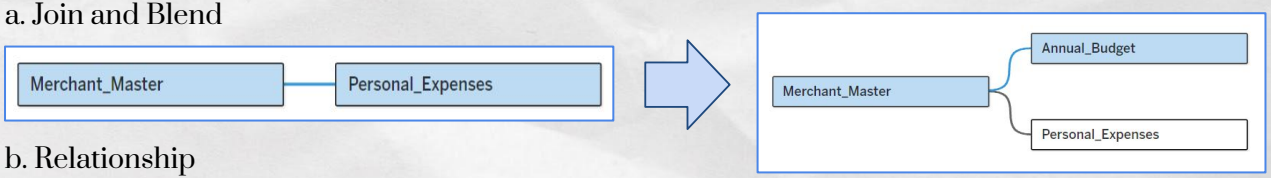
Purpose Focusing on Decision Making Needs
Understanding spending behaviour (The dashboard breaks down expenses by category and merchant, helping identify habits of users app).
Budget Monitoring and Control (By comparing actual expenses against category budgets, can immediately spot overspending of the users app).
Identifying Cost Saving Opportunities (The dashboard can highlights areas where, the users app have excessive spending and suggests where can reduce costs).
Tracking Financial Progress Over Time (The dashboard can give monthly and annual trends of the users app so can allow to assess whether their financial behavior is improving).

c. Metrics

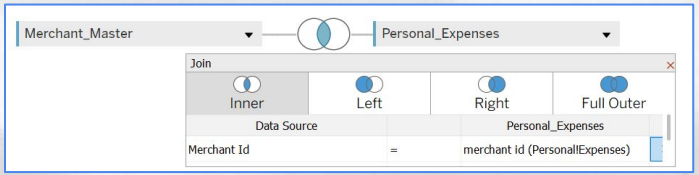
Metric	Metric Formula	Why It's Useful for Users
Total Monthly Spend	{ FIXED DATENAME('month', [Transaction Date]) : SUM([Amount]) }	• Helps identify merchants that contribute to the majority of total spend. • Supports strategic decisions like vendor negotiations, loyalty programs, or cost control.
Total Annual Spend per Year	{ FIXED YEAR([Transaction Date]) : SUM([Amount]) }	• Shows how much of the allocated budget is actually spent in a given year. • Helps identify whether spending is within, below, or above budget limits. (Budget Tracking and Control)
Total Spend per Merchant	{ FIXED [Merchant] : SUM([Amount]) }	• Reveals spending distribution across categories and merchants. (Vendor Performance Tracking) • Useful for detecting dominant merchants in each category (e.g., dining, transport, subscriptions).

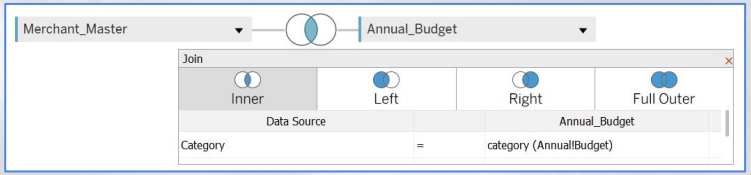
DATA PREPARATION

a. Join and Blend



b. Relationship





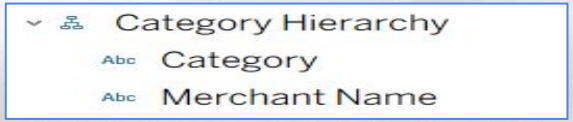
c. Join Logic and Cardinality

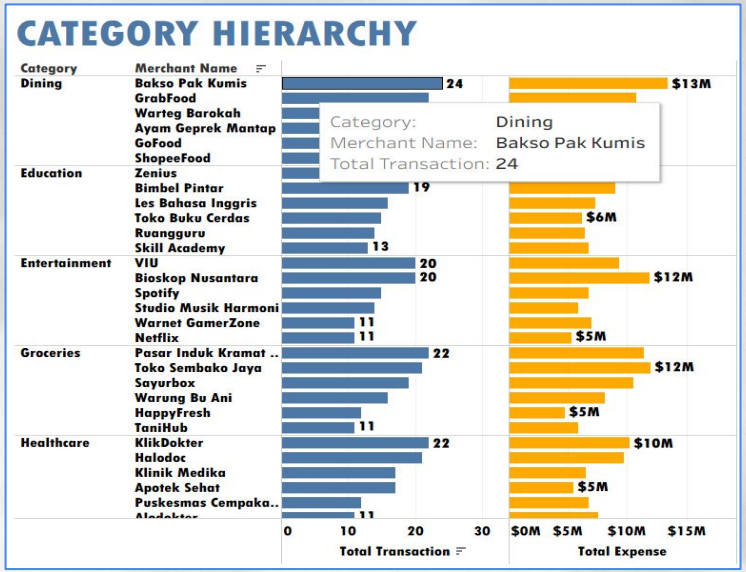
Join	Connecting Column	Logic	Join Type	Relationship	Cardinality	Explanation
Personal_Expenses JOIN Merchant_Master	merchant_id	Each row in Personal_Expenses contains a transaction made at one merchant. The merchant_id column is used to link the transaction to merchant details in the Merchant_Master table.	Inner Join	Personal_Expenses → Merchant_Master	Many to One	Many transactions (Personal_Expenses) can refer to one merchant (Merchant_Master).
Merchant_Master JOIN Annual_Budget	category	Each merchant has a category (e.g., Groceries, Dining, etc.). The category column is used to link merchants to the annual budget in the Annual_Budget table.	Inner Join	Merchant_Master → Annual_Budget	Many to One	Many merchants can belong to one budget category in Annual_Budget.

BASIC VISUALIZATIONS TO INCLUDE

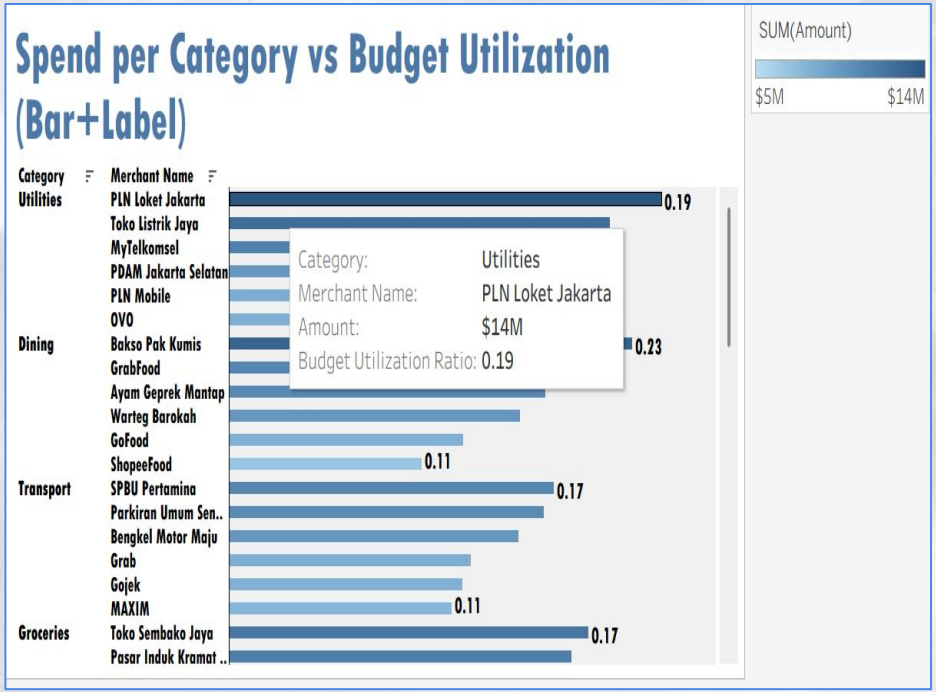
a. Score Card

b. Category Hierarchy





c.l. Spend per Category vs Budget Utilization (Bar+Label)



Executive Summary : Spend vs Budget Utilization

l. Merchant-Level Dominance

- Spending is highly concentrated in a few merchants across categories:
  - *Bakso Pak Kumis (Dining)* – 0.23
  - *Bioskop Nusantara (Entertainment)* – 0.29
  - *Zenius (Education)* – 0.23
  - *iCloud+ (Subscription)* – 0.22
  - *Terminal Kampung Rambutan (Travel)* – 0.22
- These merchants act as spending hotspots and drive overall budget utilization.

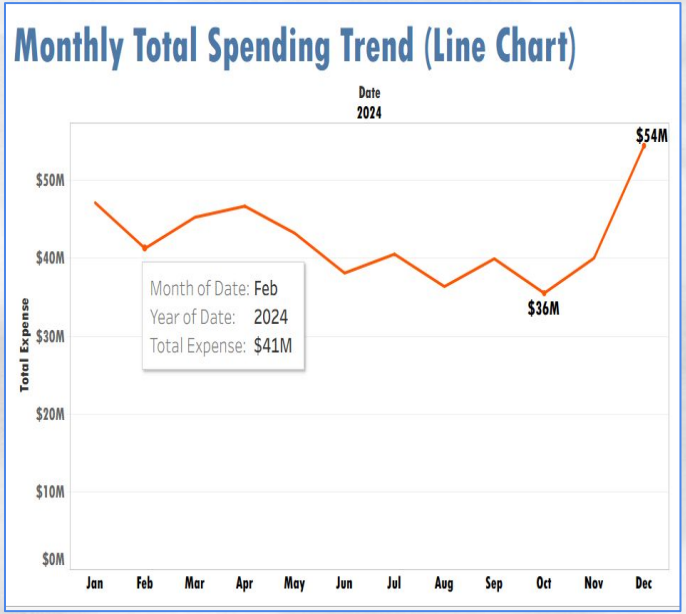
2 . Behavioral Insights

- Offline vs Online : Spending behavior is mixed offline merchants remain strong, but digital platforms are increasingly significant.
- Essential vs Discretionary : Healthcare and Education show consistent utilization (essential), while Entertainment and Subscription vary more (discretionary).

3. Optimization Opportunities

- Focus on high-utilization merchants for loyalty programs, deeper analysis, or cost control.
- Review low-utilization merchants for potential removal, renegotiation, or targeted campaigns.
- Adjust category budgets to reflect actual usage trends rather than assumption.

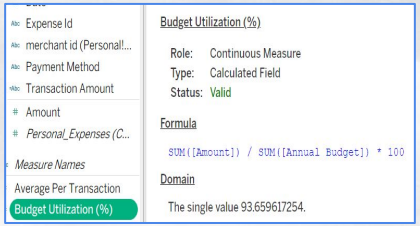
d. Line Chart : Monthly Total Spending Trend



Executive Summary : Monthly Spending Trend (2024)

1. Spending Volatility Across the Year
   - Total expenses fluctuated significantly throughout 2024, ranging from below $30M to a peak of $54M.
   - Spending declined steadily from April to October, reaching a low of $36M in October.
2. Year-End Surge
   - A sharp increase occurred in November and December, with December hitting the highest spending point at $54M.
   - This spike may reflect seasonal factors such as holiday shopping, year-end obligations, or bonus disbursements.
3. Mid-Year Efficiency
   - The period between May and October shows relatively controlled spending, suggesting effective budget management or reduced operational activity.
4. Strategic Implications
   - Forecasting and budgeting should account for year-end surges to avoid overspending.
   - Mid-year dips offer opportunities for savings, reallocation, or investment planning.
   - Consider aligning promotions, audits, or cost-control initiatives with low-spend periods for maximum impact.

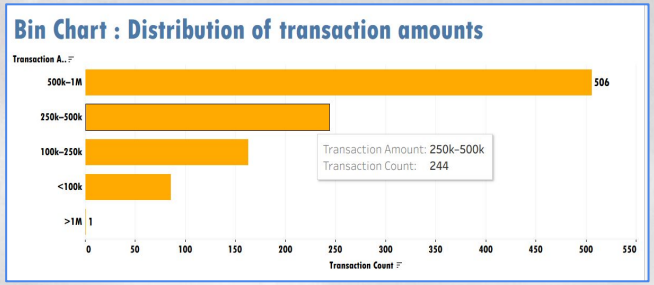
e. Calculated field : Budget Utilization (%)



Insight : Budget Utilization 93.66%

1. High Budget Absorption
   With a utilization rate of **93.66%**, the majority of the allocated budget has
   been actively used. This reflects strong execution of planned programs or activities.
2. Nearing Threshold
   This figure is approaching the maximum limit (100%) :
   - There's a risk of overspending if additional expenses occur.
   - Remaining budget should be closely monitored to avoid breaches.

f. Bin chart : Distribution of transaction amounts



Executive Summary : Transaction Amount Distribution

1. Dominant Transaction Range
   - The **500k–1M** bin holds the highest transaction count at **506**, indicating that most transactions fall within this mid-to-high value range.
   - This suggests a **spending pattern centered around moderate-to-premium purchases** , possibly reflecting operational or consumer behavior.
2. Low-Frequency Extremes
   - The **>1M** bin shows only **1 transaction** , while the **<100k** bin is also relatively short.
   - High-value transactions are **rare**, and low-value transactions are **less frequent** , implying a focus on mid-range spending.
3. Balanced Mid-Tier Activity
   - Bins like 100k–250k and 250k–500k show moderate transaction volumes, supporting a healthy distribution across middle tiers.
   - This may reflect tiered pricing models, segmented customer groups, or controlled expense policies.
4. Strategic Implications
   - **Budget planning** should prioritize the 500k–1M range, where most activity occurs.
   - **Risk monitoring** can focus on outliers in the >1M bin.
   - Consider **targeted promotions or controls** for bins with low activity to optimize transaction spread.

g. Is the visualization presented by the fundamentals of visualization ? Is there a better form of visualization than the one requested ?

g.1. The fundamentals of effective visualization are usually framed, by use 7 Fundamental Principles of Data Visualization :

1. Clear Purpose	Every visualization must answer a specific question: What insight do we want to convey? Example : Line chart for trends, bar chart for comparisons, pie chart for proportions.
2. Choose the Right Chart Type	Trend over time → Line Chart, Category comparison → Bar Chart / Column Chart, Hierarchy → Tree Diagram / Sunburst
3. Simplicity & Clarity	Avoid cluttered visuals or excessive colors. Use contrasting colors and clear labels. and focus on insights, not decoration.
4. Consistency	Keep labels, colors, and scales consistent across the dashboard. Example : All currency values in $ or Rp, all dates in month format.
5. Interactivity & Navigation	Add filters, tooltips, and highlights so users can explore data.
6. Highlight Key Insights	Use annotations and reference lines to emphasize outliers, spikes, or drops.
7. Validation & Effectivenes	Ask: Does this visualization help decision-making? Compare with alternatives : Would a treemap, bullet chart, or stacked bar be more effective?

g.2. There is a better form of visualization than the one requested, especially on Section f (Bin Chart).

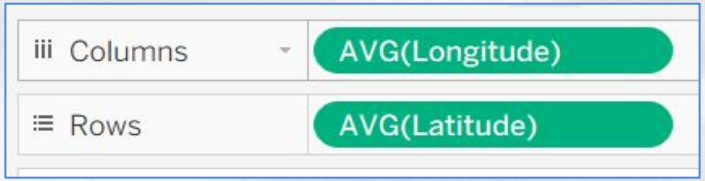
The Strengths of Bin Chart	Limitations of Bin Chart	Better Alternatives
• Distribution Insight : Shows how transaction amounts are spread across bins. • Labeling : Each bin is clearly labeled with count. • Compact Format : Horizontal layout is easy to scan.	• Sparse Data : Only 5 transactions, with 4 in the >1M bin → not much variation. • Empty Bins : Several bins have zero values, which may clutter the view. • No Density or Outlier Detection : Does not show how extreme the >1M transactions are.	Box Plot : Highlights median, quartiles, and outliers.

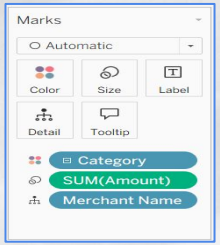
MILESTONE 2

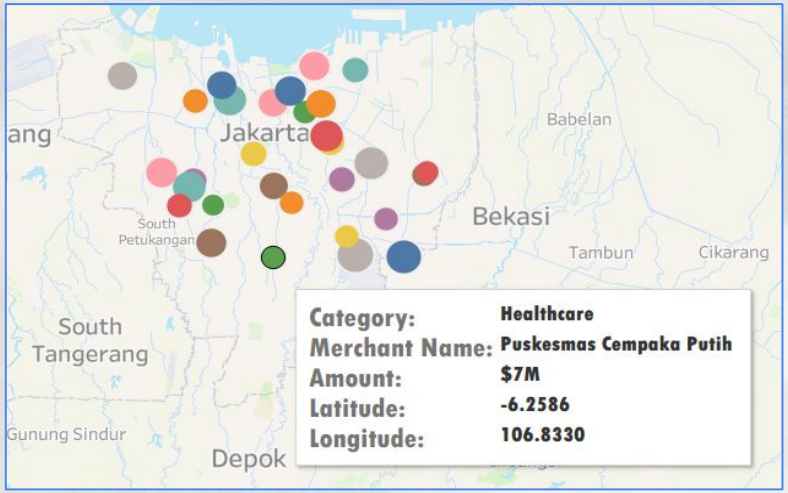
MAP VISUALIZATION

Link Tableau

BUILDING VISUALIZATIONS



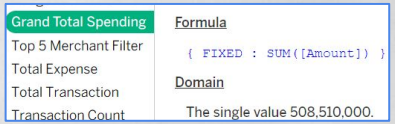


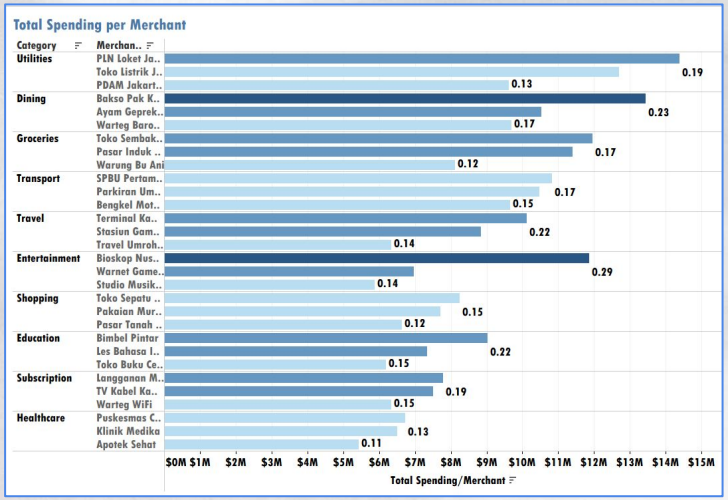


- Offline spending in Jakarta is fairly evenly distributed, with several key hubs standing out. Utilities dominate through PLN Loket Jakarta at $14M, while Healthcare records the lowest spending at Apotek Sehat with $5M. Healthcare spending is both limited in value and geographic spread, likely reflecting restricted access, cost efficiency, or lower budget priority.

ADVANCED CALCULATIONS

a. LOD - Total Spending Per Merchant

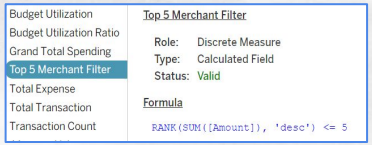


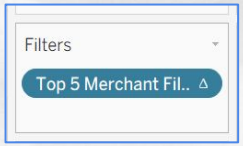


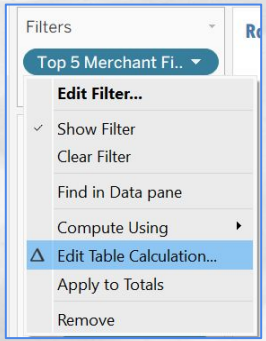
- **Category Distribution**
  Utilities and Transport lead spending (PLN 2.83%, SPBU 2.13%), while subscriptions like iCloud+ and Google One each exceed 1%, showing reliance on digital services. **Recurring Merchants**
  Tokopedia and Shopee dominate e-commerce; Grab and Gojek consistently drive transport spending.
- **Entertainment & Travel**
  Spending is fragmented across Traveloka, Tiket.com, and Terminal Kampung Rambutan, reflecting diverse preferences.
- **Efficiency Opportunities**
  High-share merchants (PLN, SPBU, iCloud+) merit contract reviews, while low-share (<1%) vendors may be consolidated.

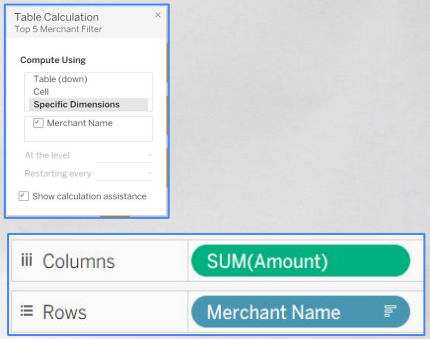
ADVANCED CALCULATIONS

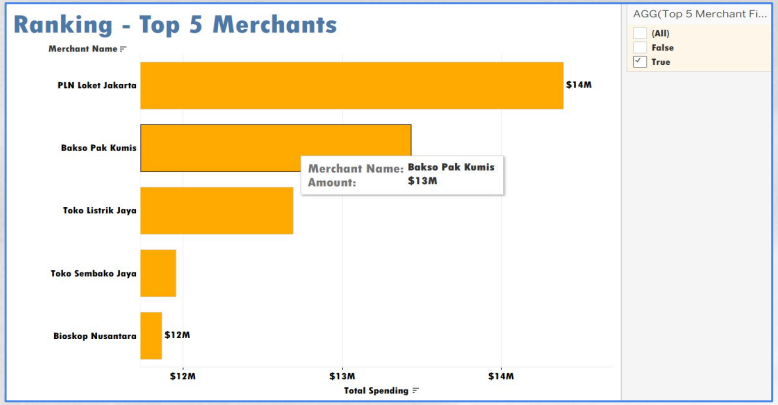
b. Ranking - Top 5 Merchants







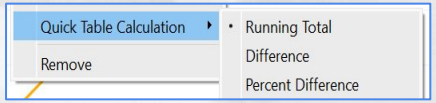


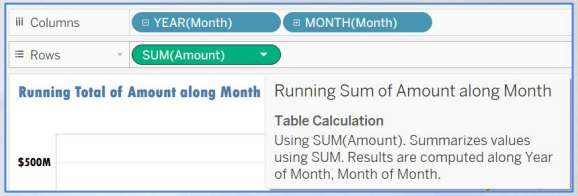


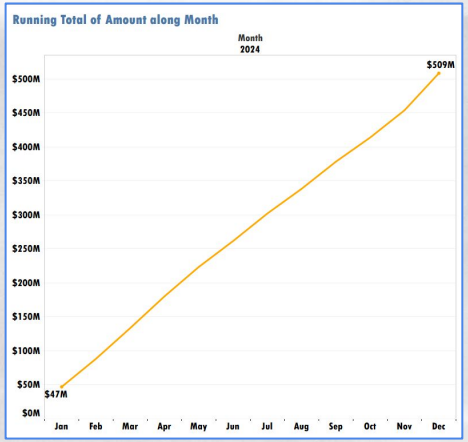
- **Essential Services Dominate**
  PLN Loket Jakarta ($14M) is the largest expense, highlighting electricity as a recurring, non-negotiable cost. Toko Listrik Jaya also ranks in the top 5, reinforcing utilities as a major cost center. **High Spending on Dining**
  Bakso Pak Kumis ($13M) stands out for a food vendor, possibly due to bulk catering, frequent staff meals, or misclassification—worth reviewing for anomalies.
- **Retail & Lifestyle**
  Toko Sembako Jaya and Bioskop Nusantara show that basic goods and entertainment also absorb significant portions of the budget.

ADVANCED CALCULATIONS

c. Table Calculation - Running Total of Monthly Spending



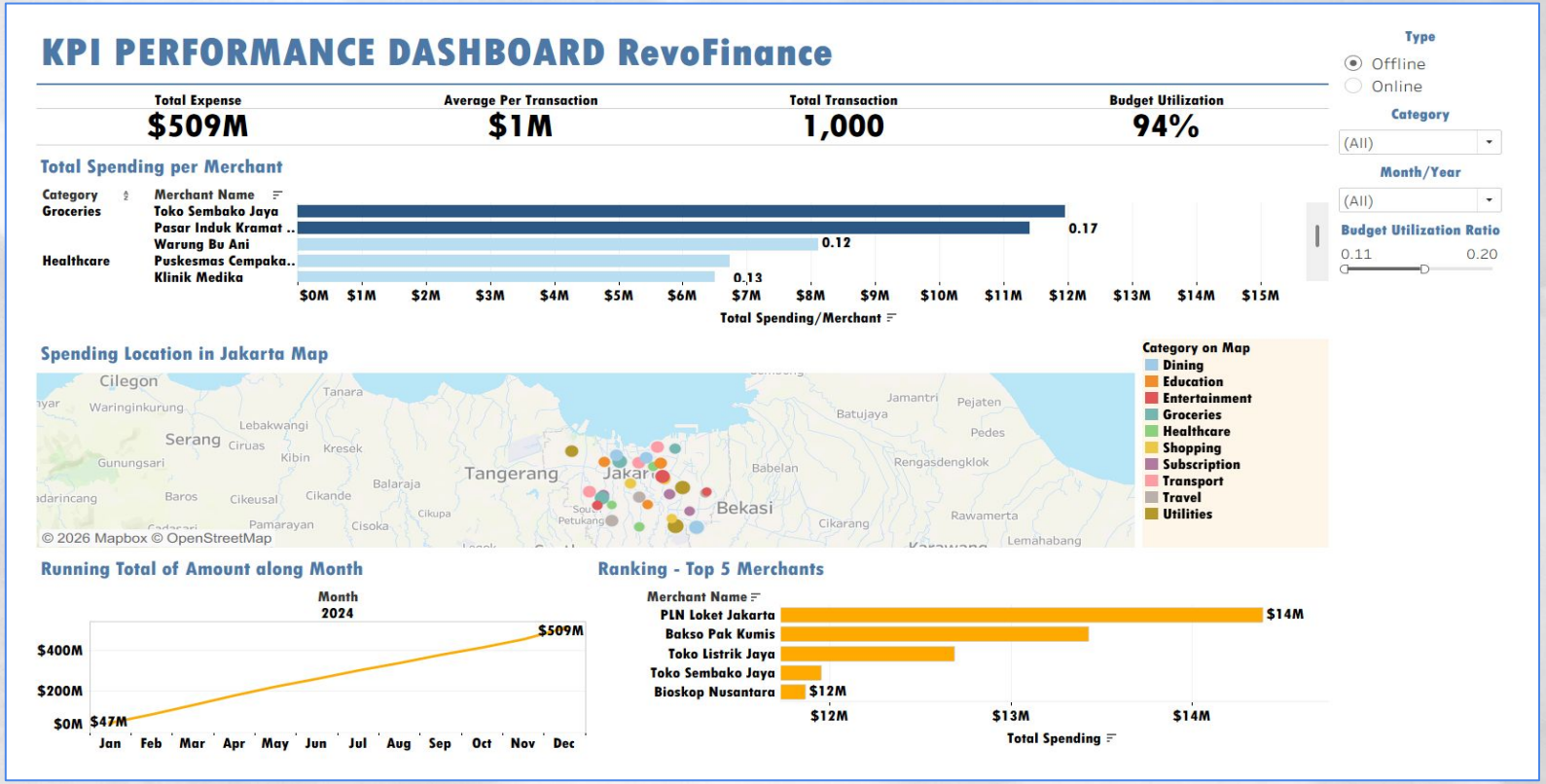




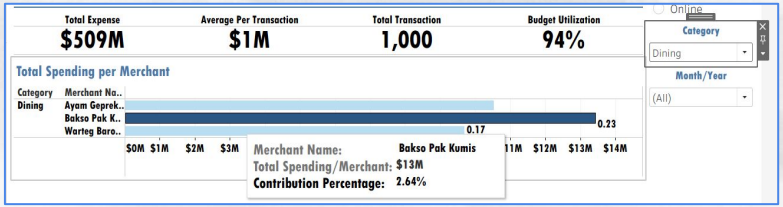
- **Consistent Growth**
  Spending rose steadily from January ($47M) to December ($509M) without declines.
- **Cumulative Total**
  Year-end spending reached $509M, matching the KPI dashboard.
- **Budget Efficiency**
  With 94% utilization and a smooth trend, spending is well-controlled and efficiently managed

DASHBOARD

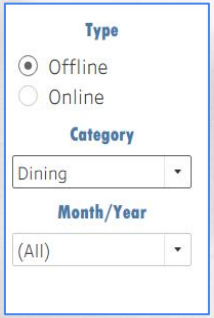
Link Tableau



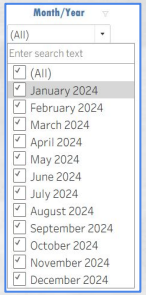
a. Category Filter



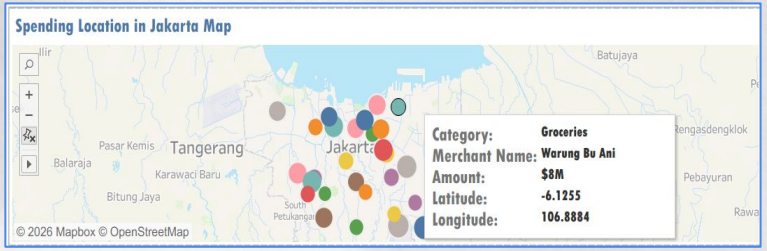
b. Merchant Type Filter (Online/Offline)



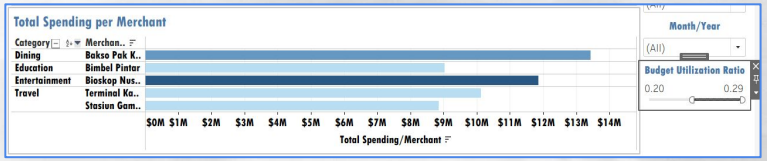
c. Date Range Filter



d. Hover Tooltips and Titles



e. Color Coding Over Budget Categories



KEY INSIGHT&RECOMMENDATION *using OBIPR Framework*

OBJECTIVE

Enable RevoFinance users to :

- Track monthly and annual spending trends
- Visualize spending distribution across categories, locations, and merchants
- Compare actual spend against budgets
- Receive actionable insights to improve financial planning

BUSINESS CONTEXT

RevoFinance is a fintech app helping Indonesian users manage expenses across offline and online merchants. With rising financial literacy and mobile adoption, the app aims to empower users to understand spending behavior, optimize budgets, and strengthen financial health

INSIGHTS

- **Top Spending Merchants :** Utilities (PLN Loket Jakarta), Groceries (Toko Sembako), and Entertainment (Bioskop Nusantara) dominate spending (>2%).
- **Overspending Risk :** Entertainment and Transport categories show higher-than-average spending, suggesting lifestyle-driven expenses.
- **Offline Spending :** Significant portion of transactions occur at traditional merchants (warungs, pasar, loket), confirming offline relevance.
- **Underrepresented Categories :** Education and Healthcare spending is relatively low (<1.5%), despite long-term importance.

PROBLEM STATEMENT

Users struggle to :

- Identify overspending patterns across categories
- Monitor actual vs. budgeted expenses effectively and recognize offline spending hotspots
- Balance short-term lifestyle expenses with long-term investments (education, healthcare)

RECOMMENDATIONS (ACTIONABLE)

- **Budget Alerts :** Implement automated alerts when category spending exceeds budget thresholds.
- **Savings Simulation :** Provide "what-if" scenarios (e.g., reducing entertainment by 20% saves IDR X million/month).
- **Merchant Segmentation :** Cluster merchants into High (>2%), Medium (1–2%), Low (<1%) spend groups for tailored strategies (discounts, promotions, loyalty programs).
- **Offline Mapping :** Visualize offline merchant hotspots to help users track where most physical spending occurs.

THANK YOU