

# Diwali Expense Data Analysis (2024–2025)

## 1. Introduction

This report presents an analysis of personal Diwali expenses for the years 2024 and 2025. The objective is to track spending patterns, income, savings, and budget adherence, using **Power BI** and **DAX** to generate visualizations and key financial metrics. This project simulates an industry-standard financial analysis workflow applied to personal data.

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## 2. Objective

- Analyze Diwali expenses and income for 2024 and 2025.
  - Identify trends in spending and savings performance.
  - Compare year-over-year financial behavior.
  - Track category-wise spending and optimize future budgets.
  - Apply financial KPIs commonly used in business to personal data.
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## 3. Tools & Technologies

- Power BI:** For data visualization, dashboards, and interactive reports.
  - DAX (Data Analysis Expressions):** For creating calculated columns and measures, such as total income, expenses, net savings, and budget accuracy.
  - Excel / CSV:** Source format for storing expense and income data.
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## 4. Data Structure

The analysis uses a table named `Expenses` with the following columns:

Column Name	Description	Data Type
date	Date of expense or income	Date
Category	Income or Expense	Text
source	Source of income/expense	Text
item	Item purchased or income description	Text
item_category	Category of the item (e.g., Food, Clothing)	Text
description	Additional details	Text
amount	Amount spent or received	Numeric
payment_method	Mode of payment (Cash, Card, etc.)	Text
budget	Planned budget for the year	Numeric
saving_target	Target savings for the year	Numeric

## 5. Methodology / Step-by-Step Implementation

### 5.1 Data Preparation:

- Collected own data and structured by chatgpt for make it ready for analysis .
- Created a new date table from existing table and connected it to the existing dataset using a **many-to-one relationship** via DAX.

```
Date = CALENDAR(MIN(Expenses[Date]), MAX(Expenses[Date]))
```

### 5.2 Year Column:

- Added a **calculated column** to categorize data by year (2024 and 2025).

```
Year = YEAR(Expenses[Date])
```

### 5.3 Measures for Income & Expenses:

- Created DAX measures to calculate **total income** and **total expenses** for both years.

```
expense2024 = CALCULATE(SUM(Expenses[Amount]),FILTER(Expenses,Expenses[Category] = "Expense" && Expenses[Year] = 2024 ))
```

```
expense2025 = CALCULATE(SUM(Expenses[Amount]),FILTER(Expenses,Expenses[Category] = "Expense" && Expenses[Year] = 2025 ))
```

```
income2024 = CALCULATE(SUM(Expenses[Amount]),FILTER(Expenses,Expenses[Category] = "income" && Expenses[Year] = 2024 ))
```

```
income2025 = CALCULATE(SUM(Expenses[Amount]),FILTER(Expenses,Expenses[Category] = "income" && Expenses[Year] = 2025 ))
```

### 5.4 Visual Cards:

- Added **card visuals** to display total income and expenses for each year.

### 5.5 Category-wise Expense Analysis:

- Created **pie charts** for 2024 and 2025 showing expense distribution by category.

### 5.6 Year-over-Year Comparison:

- Created a DAX measures for calculating year-over-year expense and income for both years.

```
yoy income % = DIVIDE((Expenses[income2025] - Expenses[income2024]),Expenses[income2024])*100
```

```
yoy income % = DIVIDE((Expenses[income2025] - Expenses[income2024]),Expenses[income2024])*100
```

- Built **clustered bar charts** comparing total expenses and income between 2024 and 2025.

### 5.7 Table Visuals:

- Added **table visuals** to display measures for year-over-year comparison for income and expense metrics for both year.

### 5.8 Net Savings:

- Created measures for **net savings** in both years and displayed them using **bar charts**.

Net saving 2024 = `Expenses[income2024]-Expenses[expense2024]`

Net saving 2025 = `Expenses[income2025]-Expenses[expense2025]`

### 5.9 Budget Accuracy:

- Calculated **budget accuracy measures** for 2024 and 2025.

Budget Accuracy 2024 = `(CALCULATE(  
SELECTEDVALUE(Expenses[Budget]),  
Expenses[Year] = 2024  
)/Expenses[expense2024]) *100`

Budget Accuracy 2025 = `(CALCULATE(  
SELECTEDVALUE(Expenses[Budget]),  
Expenses[Year] = 2025  
)/Expenses[expense2025]) *100`

### 5.10 Saving Rate:

- Created measures for **saving rates** and visualized them with cards.

saving rate 2024 = `((CALCULATE(  
SELECTEDVALUE(Expenses[Budget]),  
Expenses[Year] = 2024  
)-Expenses[expense2024])/Expenses[expense2024]) *100`

saving rate 2025 = `((CALCULATE(  
SELECTEDVALUE(Expenses[Budget]),  
Expenses[Year] = 2025  
)-Expenses[expense2025])/Expenses[expense2025]) *100`

### 5.11 Category-wise YoY Expenses:

- Built **bar charts** to represent category-wise year-over-year expenses.

### 5.12 Total Savings:

- Calculated **total savings** measures for both years.

saving2024 = `CALCULATE(SELECTEDVALUE(Expenses[Budget]),Expenses[year] = 2024) - Expenses[expense2024]`

saving2025 = `CALCULATE(SELECTEDVALUE(Expenses[Budget]),Expenses[year] = 2025) - Expenses[expense2025]`

### 5.13 Target Savings:

- Extracted **target savings** from the dataset using DAX measure.

target2024 = `CALCULATE(SELECTEDVALUE(Expenses[Saving_Target]),Expenses[Year]=2024)`  
 target2025 = `CALCULATE(SELECTEDVALUE(Expenses[Saving_Target]),Expenses[Year]=2025)`

### 5.14 Gauge Chart for Target Achievement:

- Created **gauge visuals** to indicate whether the savings target was met or exceeded.

### 5.15 Report Layout & Theme:

- Arranged the **report structure** and applied a consistent **color theme** for readability and professional appearance.

## 6. Key Insights

### 6.1 Expense Trends

- 2024 total expenses: ₹64K
- 2025 total expenses: ₹25K
- Insight:** Reduced spending by ~61%, indicating strong optimization.

### 6.2 Saving Rate

- 2024: -34.70% → Overspending beyond budget
- 2025: +67.38% → Major improvement and controlled expenses

### 6.3 Spending by Category

- **2024:** Puja items (36%) & Food (26%) dominated; Jewellery, Cosmetics, Gifts, Decorations <15% each
- **2025:** Clothing (34%) & Gifts (31%) top; Puja items & Food drastically reduced

### 6.4 Year-to-Year Category Comparison

- Jewellery & Gifts slightly increased
- Puja items, Food, Cosmetics declined → Cost optimization

## 6.5 Savings vs Target

- 2024: Missed target (–₹22.16K)
- 2025: Exceeded target (₹16.96K vs ₹15K) → Excellent improvement

## 6.6 Variation in Income and expenses

- Income increased by 6.03% and expenses decrease by 60.59%

## 6.7 Net Saving

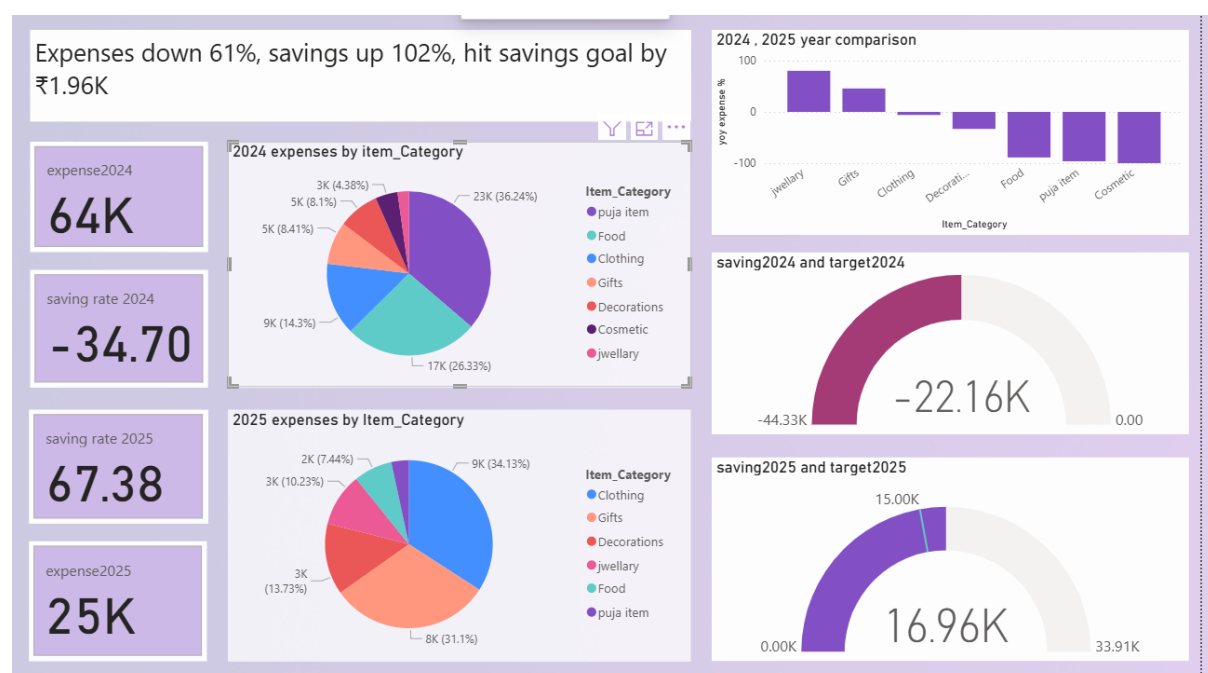
- Net savings for 2024 is ₹24.135k
- Net savings for 2025 is ₹16.957K

## 6.8 Budget Accuracy

- Budget accuracy 2024: 65.30%
- Budget Accuracy for 2025: 167.38%

## 7. Visualizations

- **Cards:** Total income, expenses, net savings, and saving rate
- **Pie Charts:** Category-wise expense distribution
- **Clustered Bar Charts:** Year-over-Year comparison
- **Bar Charts:** Net savings and category-wise YoY expenses
- **Gauge Chart:** Savings target achievement
- **Tables:** Detailed metrics



## 8. Conclusion

- Demonstrated personal finance analysis using **industry-standard KPIs**.
- Gained practical experience with **Power BI dashboards** and **DAX measures**.
- Successfully tracked, compared, and visualized financial performance for 2024 and 2025.
- Identified actionable insights for better expense management and savings planning in future years.