

Financial Expense Optimization

Problem statement:

A mid-size enterprise tracks expenses across departments such as HR, IT, Finance, and Operations. Despite stable revenue, operational costs are rising, causing profit margins to shrink.

Objective of the Project:

The primary objectives of this project are:

- To analyze department-wise and category-wise expenses
- To monitor monthly spending trends
- To compare actual expenses against budgeted values
- To identify departments exceeding budget limits
- To recommend cost-control measures using data-driven insights

Dataset Description:

The dataset used in this project is a **Financial Management Dataset** containing more than **100 expense records**.

Key Attributes:

- **Expense_ID** - Unique identifier for each expense record
- **Date** - Expense transaction date
- **Month** - Month and year for trend analysis
- **Department** - HR, IT, Finance, Operations, Sales
- **Expense_Type** - Salary, Travel, Software, Rent, Utilities, etc.
- **Actual_Expense** - Actual amount spent
- **Budget_Expense** - Planned budgeted amount
- **Payment_Mode** - Cash, Card, or Bank
- **Approval_Status** - Approved or Pending

Query Settings

Layout

Data Preview

Columns

Parameters

Advanced Editor

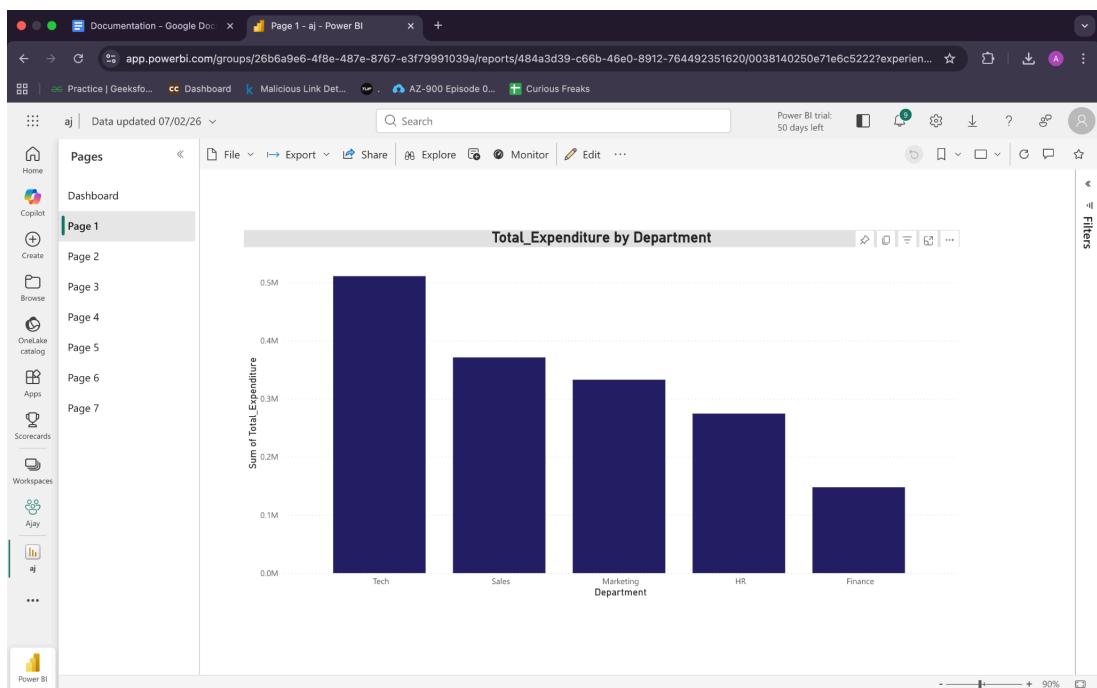
Dependencies

Queries [1]

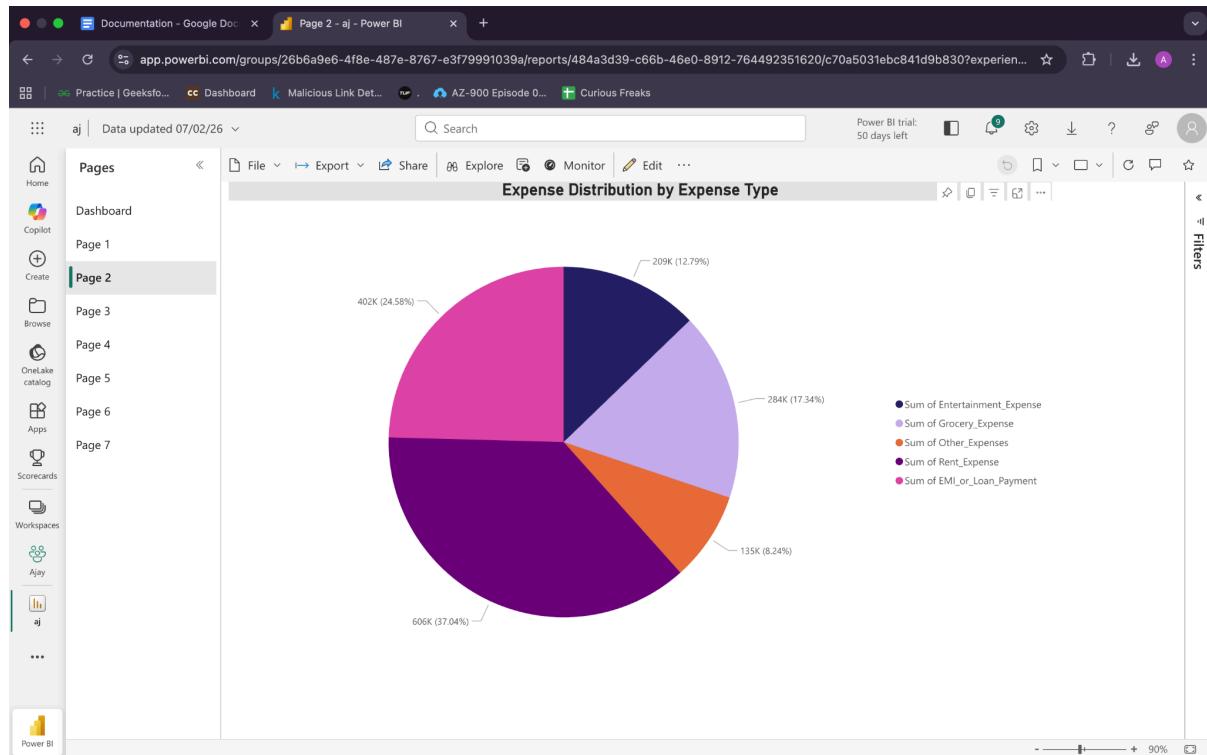
dataset

	Employee_ID	Name	Department	Monthly_Salary	Income_Tax
1	Employee_1	Marketing		113810	65
2	Employee_2	Marketing		85302	45
3	Employee_3	Sales		84987	61
4	Employee_4	Sales		50379	30
5	Employee_5	Tech		35695	42
6	Employee_6	Sales		39116	23
7	Employee_7	Tech		51319	44
8	Employee_8	Sales		51417	45
9	Employee_9	Tech		82581	62
10	Employee_10	Tech		62325	77
11	Employee_11	HR		96784	96
12	Employee_12	Marketing		80432	76
13	Employee_13	Tech		64973	82
14	Employee_14	Tech		96542	136
15	Employee_15	Sales		100697	146
16	Employee_16	Tech		61385	34
17	Employee_17	Tech		46828	56
18	Employee_18	Sales		70857	61
19	Employee_19	HR		32757	36
20	Employee_20	Finance		73309	41
21	Employee_21	HR		83354	51
22	Employee_22	Bank		97044	37

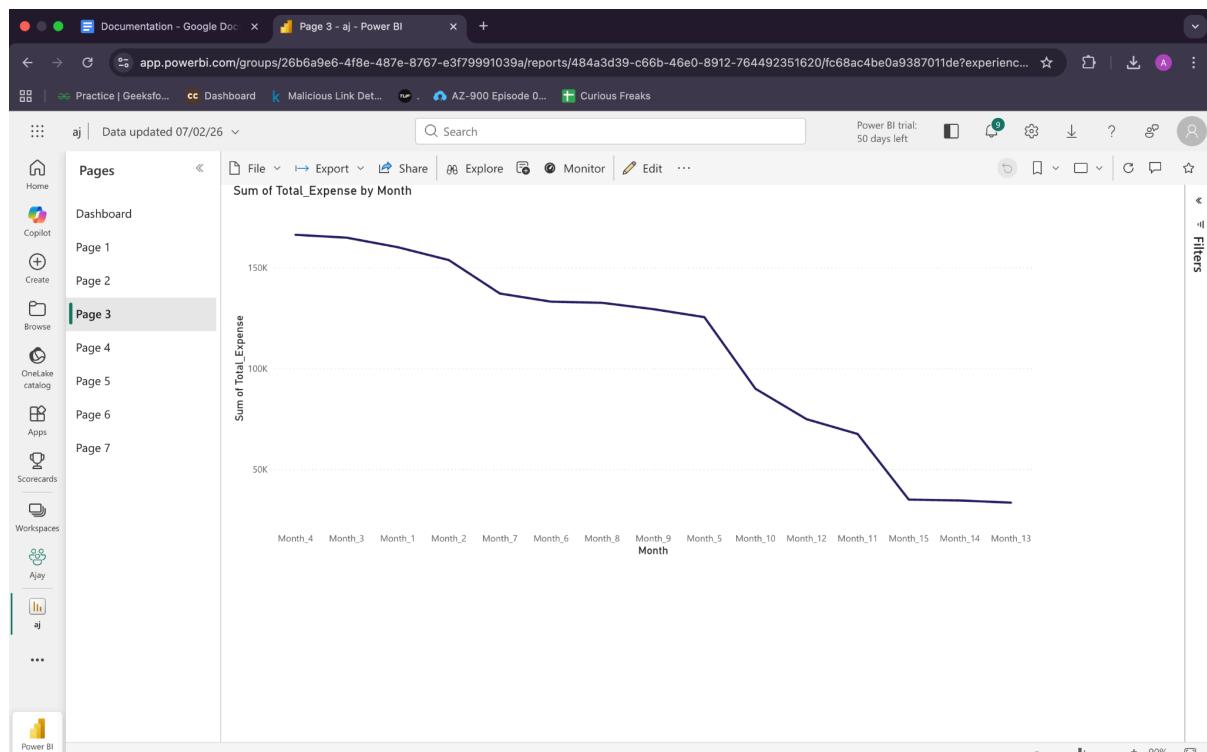
Which departments incur the highest total expenses?



Analyze expense distribution across expense types



How do monthly expenses trend over time?



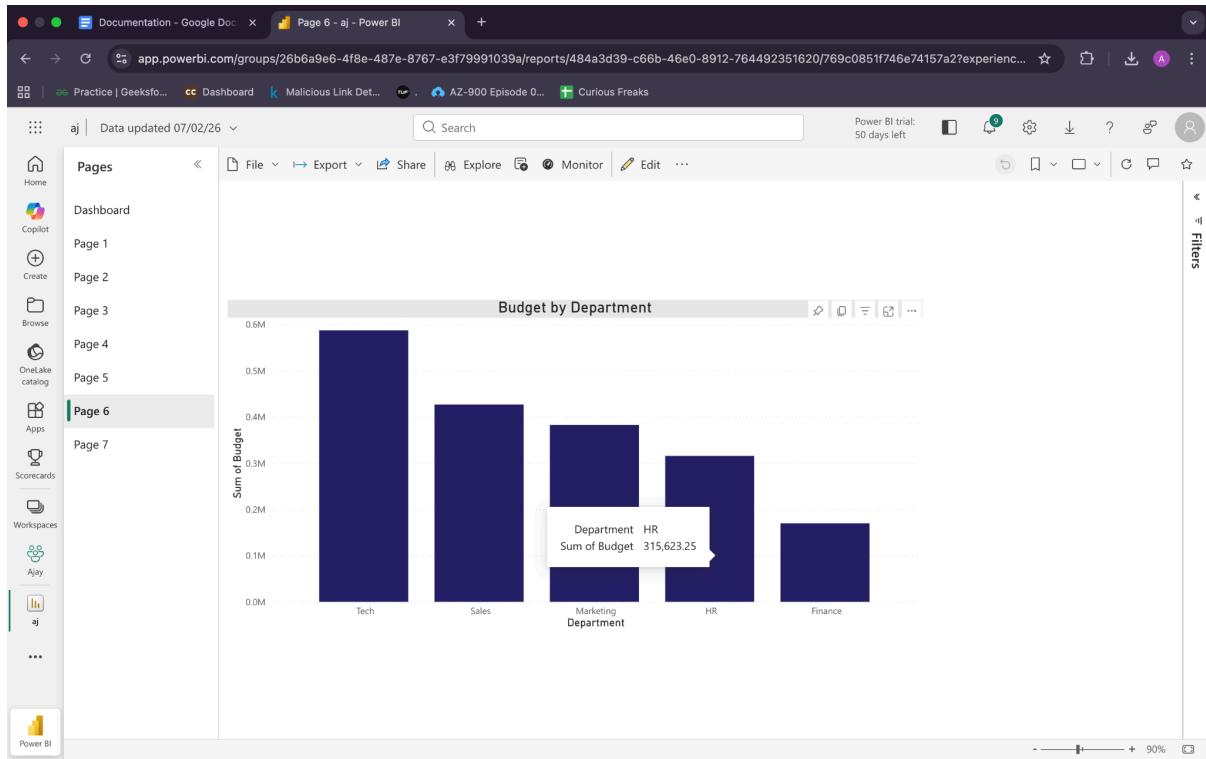
Create DAX measures for Total Expenses and Monthly Average Expense.

The screenshot shows the Power BI interface with the URL <https://app.powerbi.com/groups/26b6a9e6-4f8e-487e-8767-e3f79991039a/reports/484a3d39-c66b-46e0-8912-764492351620/b5323bf85976e71b748a?experience=classic>. The left sidebar is titled 'Pages' and lists 'Page 1', 'Page 2', 'Page 3', 'Page 4', 'Page 5', 'Page 6', and 'Page 7'. The current page is 'Page 4'. The main area displays two cards: '2M Sum of Total_Expenditure' and '32.73K Monthly_Avg_Expense'. The top navigation bar includes 'File', 'Export', 'Share', 'Explore', 'Monitor', 'Edit', and a search bar. A message at the top right says 'Power BI trial: 50 days left'.

Compare actual expenses against budget using visuals.

The screenshot shows the Power BI interface with the same URL as the previous screenshot. The left sidebar is titled 'Pages' and lists 'Page 1' through 'Page 7', with 'Page 5' selected. The main area displays a bar chart titled 'Average of Total_Expenditure and Average of Budget'. The chart has two bars: a dark blue bar representing 'Average of Total_Expenditure' and a light purple bar representing 'Average of Budget'. The y-axis ranges from 0K to 40K. The top navigation bar and trial message are identical to the previous screenshot.

Identify departments exceeding budget limits.



What cost-control actions can be recommended?

The organization should enforce department-wise budget limits with continuous expense monitoring to control overspending. High-cost expense categories need regular review to eliminate waste and optimize vendor contracts. Monthly expense trend analysis and budget-versus-actual comparisons can help detect cost overruns early. Dashboard-driven insights will support informed decision-making and promote financial discipline.

Dashboard:

