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“REVENUE LEAKAGE ANALYSIS AND RECOVERY STRATEGY: TABLEAU”

PROJECT REPORT

BY

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INTRODUCTION

Revenue leakage occurs when businesses unintentionally lose revenue due to pricing errors, billing inaccuracies, discount deviations, tax miscalculations, refunds, and operational inefficiencies. These leakages often remain unnoticed but significantly impact profitability and financial stability over time. As businesses handle complex pricing structures, diverse product categories, and wide regional operations, the risk of leakage increases.

Modern analytics tools like Tableau help organizations track financial flows, detect anomalies, and identify where leakages occur. Interactive dashboards enable clear visualization of leakage by type, region, month, and product category. This project, “Revenue Leakage Analysis and Recovery Strategy,” uses Tableau to analyze leakage patterns, quantify financial loss, and propose recovery-focused improvements to strengthen revenue protection and operational accuracy. By identifying the root causes of revenue loss and visualizing them through Tableau, the project helps organizations strengthen financial discipline and improve overall revenue assurance.

ABSTRACT

The project titled “Revenue Leakage Analysis and Recovery Strategy” focuses on identifying and analyzing sources of unintentional revenue loss using Tableau’s interactive visualization capabilities. The dataset includes actual revenue, leakage amounts, recovery details, refund patterns, and category- and region-wise breakdowns. By using KPIs, bar charts, pie charts, and trend lines, the dashboard highlights major leakage contributors such as pricing errors, tax inconsistencies, discount deviations, and process delays.

The analysis reveals recurring monthly leakage patterns, significant regional disparities, and moderate recovery performance, indicating the need for stronger financial controls. Visual insights help stakeholders identify high-risk areas, understand the financial impact, and prioritize corrective actions. Overall, the project demonstrates how data-driven monitoring through Tableau can enhance financial accuracy, strengthen recovery strategies, and reduce preventable revenue loss. This approach ensures continuous financial visibility and enables organizations to proactively address leakage issues before they escalate.

OBJECTIVES

- To analyze overall financial performance by assessing total revenue, total leakage, and net revenue.
- To evaluate leakage by type—pricing errors, discount issues, tax miscalculations, process delays, and refunds.
 - To assess leakage distribution across regions, product categories, and months.
 - To study monthly leakage and refund trends to identify recurring financial inconsistencies.
- To measure the effectiveness of revenue recovery mechanisms using key KPIs.
- To utilize Tableau for interactive, real-time visualization and exploration of financial data.
 - To propose targeted strategies for reducing leakage and improving recovery processes.

DATA ANALYSIS

PROCEDURE

1. Data Collection

Revenue-related data was collected from billing systems, sales records, transaction logs, refund registers, and financial reports. The dataset included variables such as actual revenue, leakage amount, recovered amounts, leakage categories, product segments, regions, and monthly trends

2. Data Cleaning and Preprocessing

The data underwent thorough cleaning to remove incorrect, duplicated, or incomplete financial entries. Missing values related to tax adjustments, refund amounts, and pricing deviations were validated against source records. Fields were standardized to ensure accurate visualization and comparison.

3. Data Organization

The dataset was structured into:

- Dimensions: Region, Product Category, Leakage Type, Month
- Measures: Actual Revenue, Leakage Amount, Recovered Revenue, Refund Value

This structure ensured consistency, accuracy, and ease of visualization.

4. Exploratory Data Analysis (EDA)

EDA was performed to understand leakage distribution and revenue recovery. Summary statistics, segment comparisons, and category-level breakdowns were analyzed to identify patterns, outliers, and high-risk areas.

5. Data Visualization

Tableau dashboards were created using KPI cards, bar charts, pie charts, line charts, and category visuals to represent leakage patterns and recovery trends. Filters and interactive tools were added to enhance data exploration.

6. Interpretation of Results

Visualization insights revealed pricing deviations as the leading leakage factor. Regional comparisons exposed inconsistencies in financial accuracy. Monthly trends showed repeated leakage cycles, and recovery analysis indicated moderate effectiveness with significant unrecovered revenue.

7. Conclusion from Analysis

The findings confirm that revenue leakage is widespread, influenced by pricing, tax, discount, and operational inefficiencies. Strengthening internal controls and improving monitoring systems is essential to reduce financial loss.

ABOUT DATASET

The dataset includes a comprehensive collection of financial variables required to assess revenue leakage and recovery.

Key Fields

- Actual Revenue
- Total Leakage Amount
- Revenue Leakage Percentage
- Recovered Revenue
- Unrecovered Revenue
- Leakage Type (Pricing Error, Tax Error, Discount Error, Refund, Process Delay)
- Region-wise Leakage
- Category-wise Leakage
- Monthly Refund and Leakage Trends

Data Purpose

To evaluate revenue accuracy

- To detect high-leakage categories
- To measure recovery performance
- To support strategic improvements in financial processes

METHODOLOGY

Tool Used: Tableau

Tableau was used for all stages of visualization, including data import, cleaning, modeling, dashboard creation, and insight extraction. metrics.

Visualizations Used

- **KPI Cards:** Total Revenue, Total Leakage, Revenue Leakage %, Recovered Amount, Recovery %, Net Revenue
- **Bar Charts:** Leakage by Type, Leakage by Region
- **Line Charts:** Monthly Leakage Trend, Refund Trend
- **Pie Chart:** Recovered vs Unrecovered Leakage
- **Category Visuals:** Leakage by Product Segment

Interactive Components

- Filters for Regions, Categories, Leakage Types, and Months
- Tooltips for detailed metric display
- Drill-down functionality for deeper analysis

DATA VISUALIZATION

Revenue Leakage Analysis & Recovery Dashboard

Actual Revenue	Recovered Amount	Net Revenue	Revenue Leakage %	Refund Amount	Recovery Rate %	Total Revenue Leakage
₹ 1,042,297	₹ 7,887	₹ 1,018,751	2.7%	2,750	27.5%	₹ 28,683

Revenue Leakage By Product Category



Revenue Leakage Trend



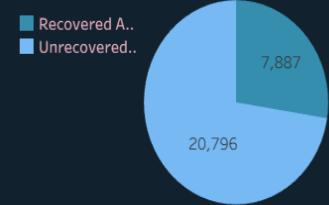
Revenue Leakage By Type



Revenue Leakage By Region



Recovery Effectiveness



Refund Trend Over Time



DATA INTERPRETATION

Dependent Variables

- Total Revenue Leakage
- Net Revenue
- Recovered Revenue
- Recovery Percentage
- Refund Amount

Independent Variables

- Region
- Product Category
- Leakage Type
- Month of Occurrence
- Pricing and Tax Policies

Key Insights

- Pricing errors contribute the highest share of leakage.
- South region records the largest financial loss, indicating control weaknesses.

- Monthly leakage patterns show multiple peaks, suggesting recurring operational issues.
- Recovery percentage is moderate, showing significant unrecovered revenue gaps.
- Category-level inconsistencies highlight lack of uniform financial controls.

KEY PERFORMANCE INDICATORS (KPIs)

KEY PERFORMANCE INDICATORS (KPIs)

- Total Revenue
- Net Revenue
- Total Revenue Leakage
- Revenue Leakage Percentage
- Recovered Revenue
- Recovery Percentage
- Refund Amount
- Leakage by Type
- Leakage by Region
- Product Category Leakage Distribution

SLICERS

- Leakage Type
- Region
- Product Category
- Month
- Revenue Range
- Recovery Status

PROJECT INSIGHTS – REVENUE LEAKAGE ANALYSIS REPORT

- Pricing errors and tax issues are major contributors to overall revenue leakage.
 - Regional leakage variations indicate operational inconsistencies across business zones.
- Refund patterns reveal recurring financial disputes or service deficiencies.
- Recovery levels are significantly lower than leakage, signaling weak tracking mechanisms.
- Several categories show disproportionate leakage relative to revenue contribution.
- Repeated monthly leakage spikes highlight systemic issues in pricing and billing workflows.
 - Process delays add measurable financial loss and require workflow optimization.
- Leakage-to-recovery ratios indicate the need for stricter financial intervention.

CONCLUSION

The analysis confirms that revenue leakage significantly affects organizational profitability. It is primarily driven by pricing inaccuracies, discount errors, tax deviations, service refunds, and process inefficiencies. Although the organization generates strong revenue, leakages reduce net revenue and highlight control weaknesses. Tableau dashboards provide clear visibility into leakage patterns, enabling stakeholders to detect issues early and improve recovery.

Strengthening pricing controls, automating financial checks, improving refund management, and enhancing regional accountability are essential steps toward minimizing leakage and improving financial resilience.

SUGGESTIONS

1. . Implement stricter pricing and discount validation systems.
2. Automate tax calculation and billing checks to reduce manual errors.
3. Introduce structured refund approval workflows.
4. Improve recovery follow-up mechanisms and tracking.
5. Conduct region-wise audits to address performance disparities.
6. Use Tableau dashboards regularly to monitor leakage and KPIs.
7. Establish monthly financial review meetings for continuous improvement.