**BUSINESS TRANSACTION ANALYSIS**

**- By Sakshi Sahu**

Data Analyst

1. **EXECUTIVE SUMMARY**
   1. **Purpose of Analysis:** The purpose of this dataset is to capture and analyze detailed business transactions across multiple dimensions such as region, department, product line, customer segment, and payment method to provide a complete view of business performance from both financial and operational perspectives.
   2. **Objective of Analysis:** The main objective is to evaluate overall revenue and profitability trends, identify high-performing and underperforming areas, and measure the impact of discounts on revenue and profit.
2. **DATA SUMMARY**
   1. **Time period:** Jan. 2022 - Dec. 2023
   2. **No. of Records:** 2000 Records
   3. **No. of Columns:** 12 Columns
   4. **Key features:**

* Transaction ID
* Transaction Date
* Revenue
* Expenses
* Profit
* Category
* Region
* Department
* Product Line
* Customer Segment
* Payment Method
* Discount

1. **METHODOLOGY OF ANALYSIS** 
   1. **Extract**

* As the data is already in excel there is no need for extracting the data.
* **Data understanding:** The dataset contain only one table with 2000 recods and 12 columns in which - 1 identifier, 1 date column, 4 continuous(numeric) columns and 6 categorical(text) columns.
* **Data exploration:** No missing values, wrong values and duplicated records found in any column of either table.
* Revenue, expenses and profit field values were checked and no outlier were found, all values are within reasonable business ranges.
  1. **Transform**
* **Data cleaning:** Change the values in the Discount column from percentages to absolute numbers.
* Outlier in theRevenue, Expenses and Profit column were retained, as the value of these can vary widely.
* **Data transformation:** Performed feature engineering by creating new calculated columns from existing ones, such as Discount Amount, Net Revenue, and Net Profit.

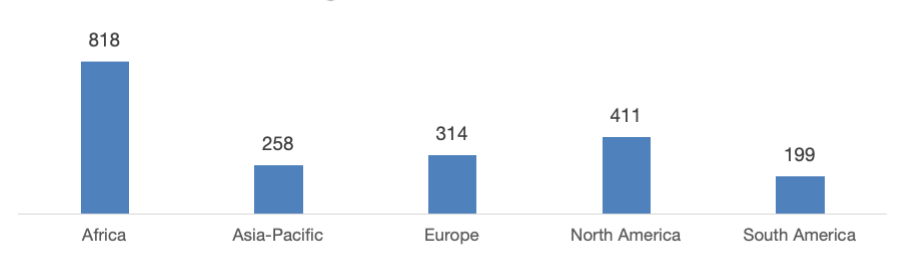
Discount amount = Revenue x Discount

Net revenue = Discount amount - Revenue

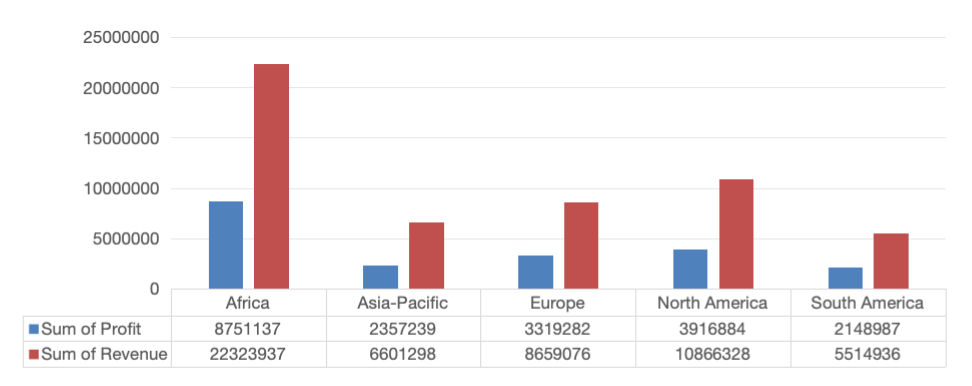
Net profit = Net revenue - Expense

* 1. **Load**
* Finally the dataset is now **clean, structured, and analysis-ready**, containing enriched fields like Revenue, Expenses and Profit.

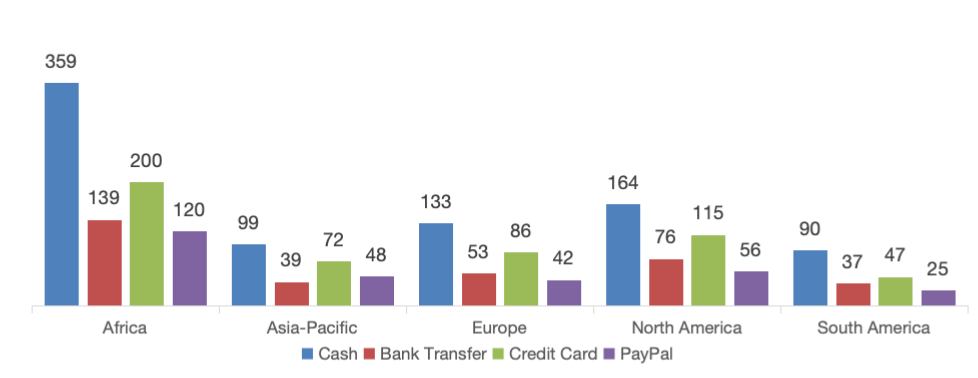
1. **VISUALIZATION & INSIGHTS**
   1. **Region wise transactions.**

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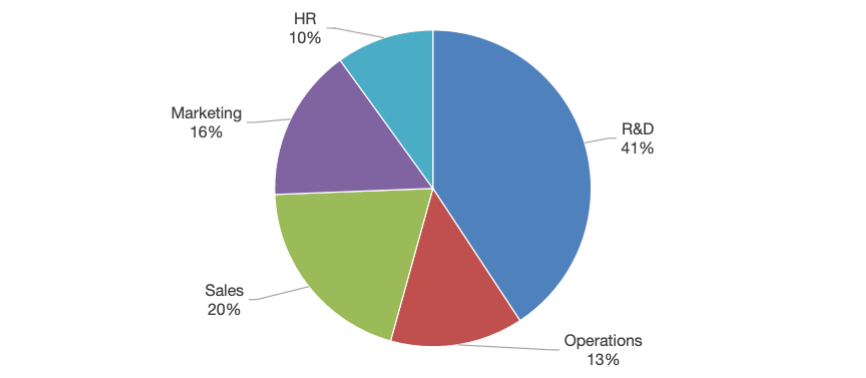
* **Observation:**
  1. **Region wise profit and revenue.**

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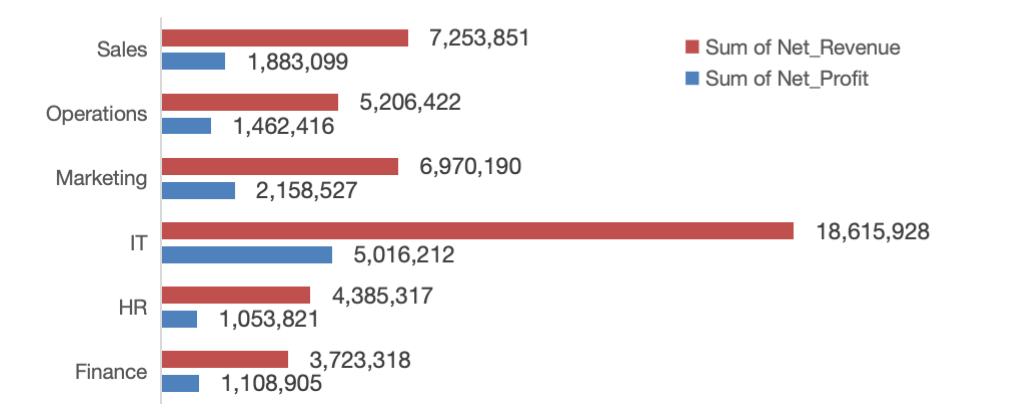
* **Observation:**
  1. **Regional differences in payments method.**

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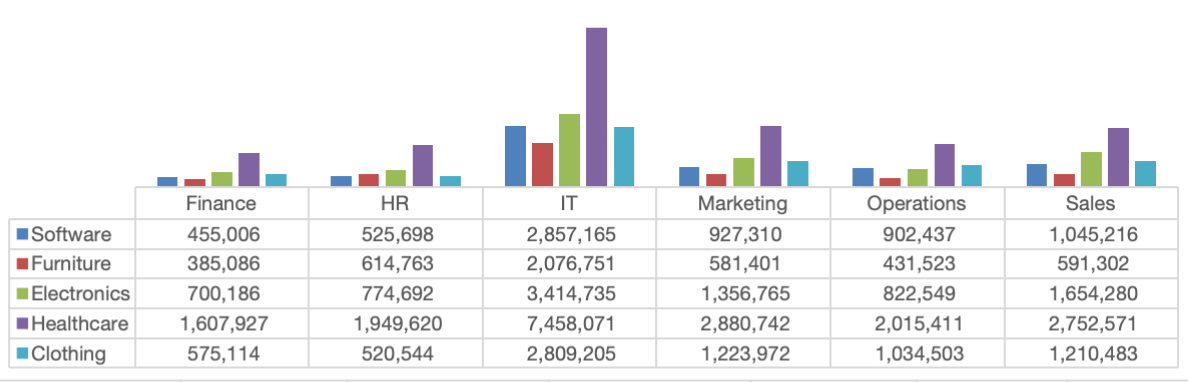
* **Observation:**
  1. **Category wise discount usage.**

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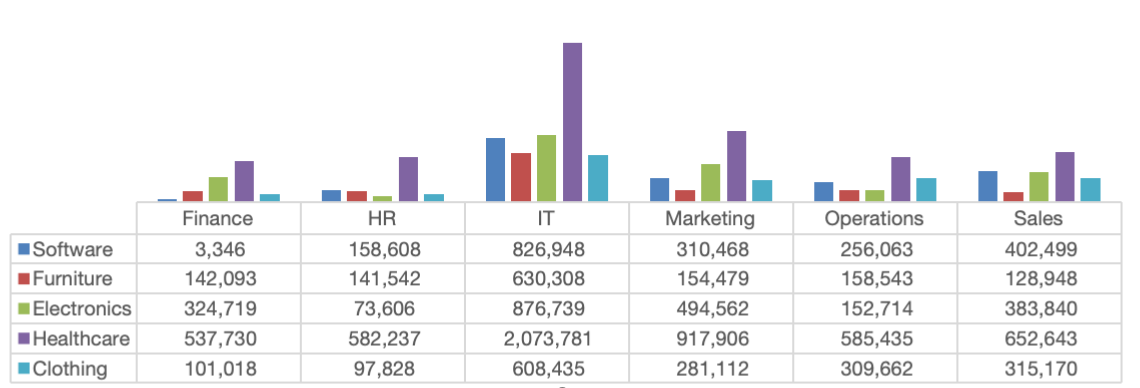
* **Observation:**
  1. **Department wise revenue and profit.**

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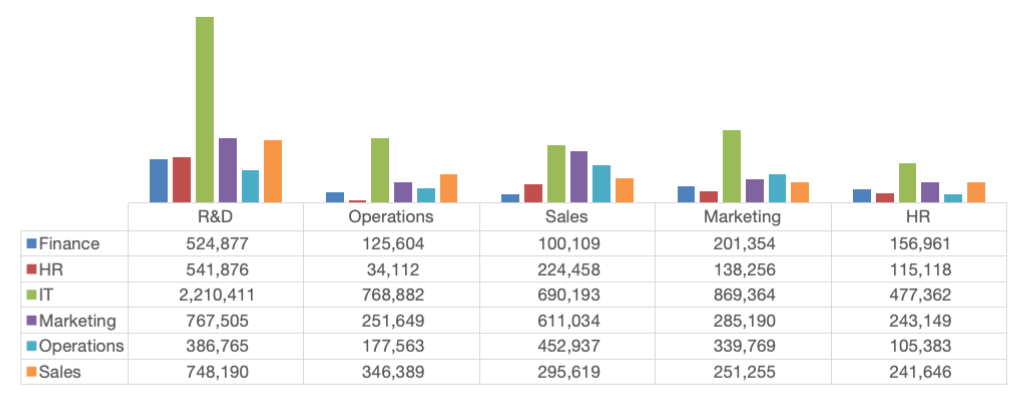
* **Observation:**
  1. **Department and product line wise revenue.**

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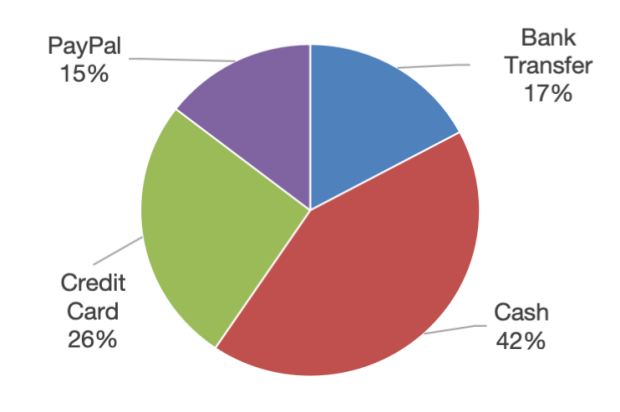
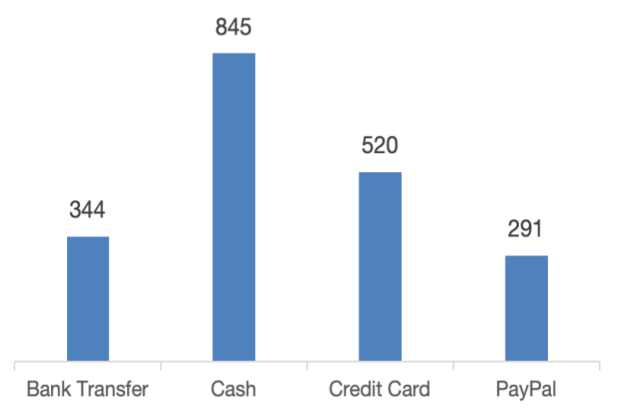
* **Observation:**
  1. **Department and product line wise profit.**

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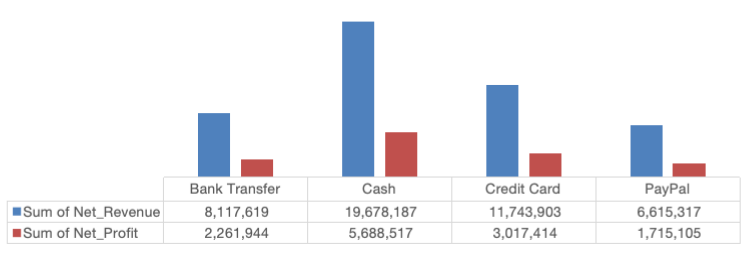
* **Observation:**
  1. **Department and category wise profit.**

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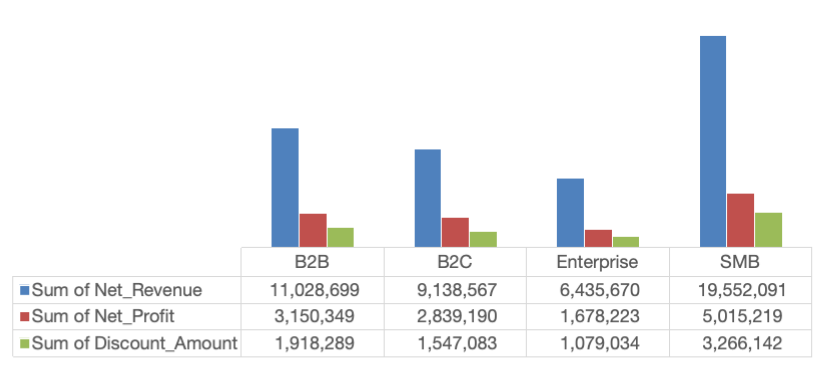
* **Observation:**
  1. **Transactions by payment method.**

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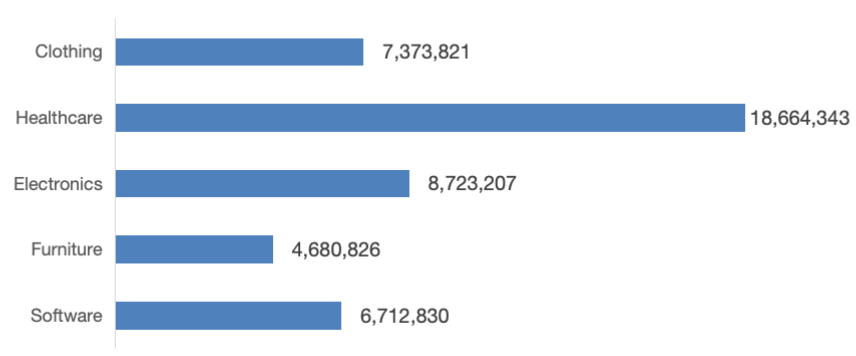
* **Observation:**
  1. **Transactions wise revenue and profit.**

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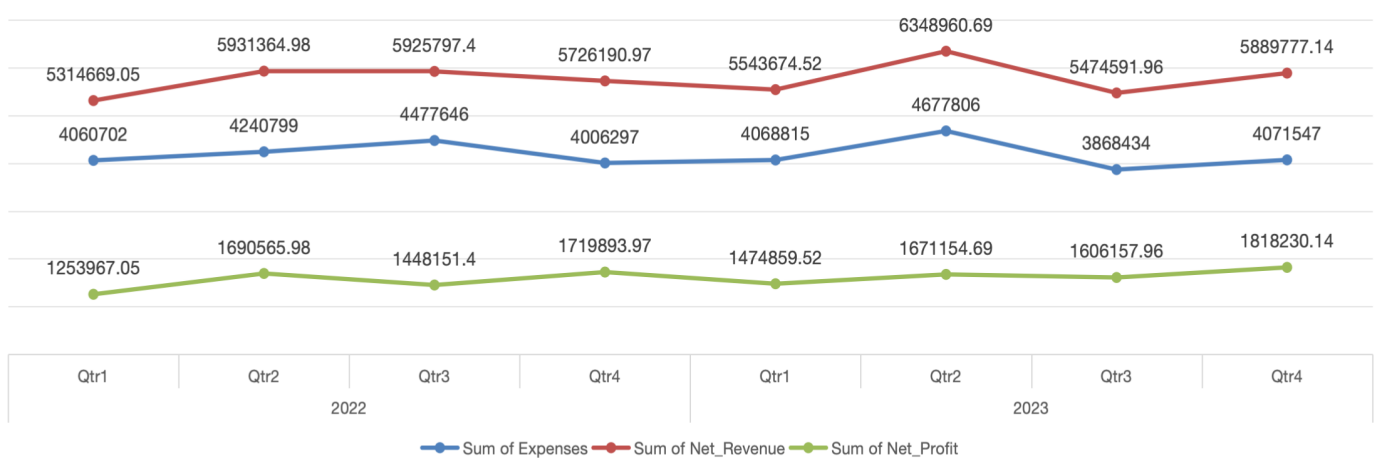
* **Observation:**
  1. **Customer segment wise transaction details.**

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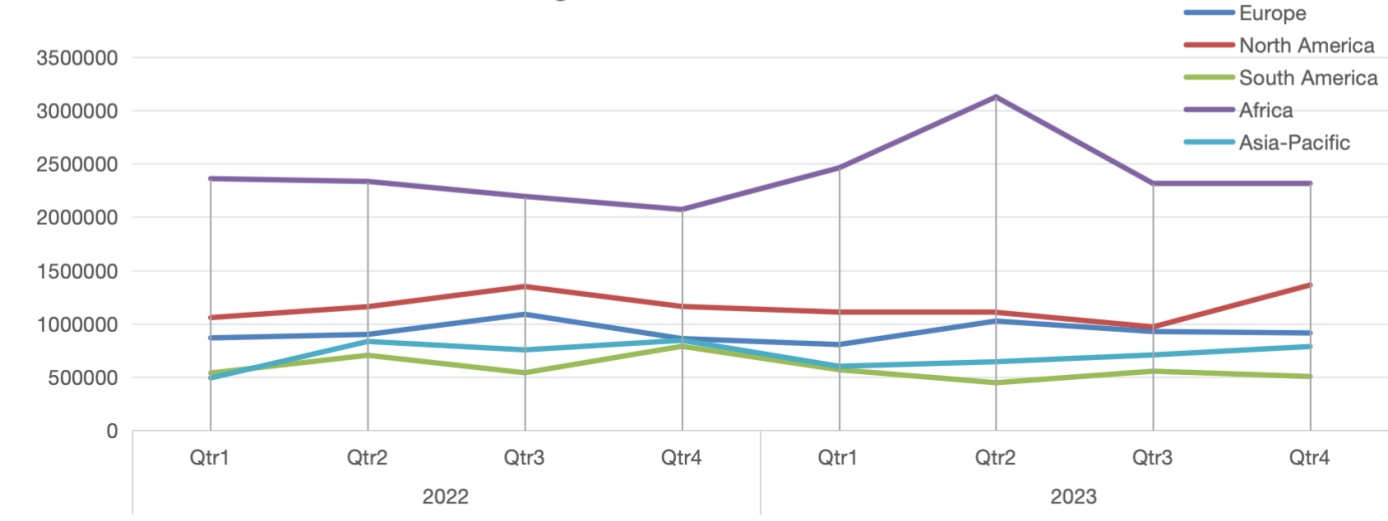
* **Observation:**
  1. **Product line wise revenue.**

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* **Observation:**
  1. **Revenue, expenses and profit over the time.**

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* **Observation:**
  1. **Region wise sales trend.**

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* **Observation:**
* **Observation:**

1. **KEY FINDINGS**
2. **CONCLUSION & RECOMMENDATIONS**