**Kay's Hardware Sales Insight Report**

**Objective**

**Kay's Hardware is a company that supplies computer hardware and peripherals to a wide range of clients, including Excel Stores, a retail chain with locations across India. The company’s head office is located in Delhi, and it manages operations through regional managers located in North, South, and Central India. With rapid market growth, the company faces challenges in tracking and analyzing sales performance effectively.**

**Business Challenge**

**In the current setup, Kay's regional managers provide sales updates verbally over the phone, which leads to inconsistent and incomplete data insights. As the business expands, this informal method is not sufficient for data-driven decision-making. The absence of centralized, visual reporting tools hinders timely access to actionable insights.**

**Solution Approach**

**To address the challenge, I leveraged SQL for data extraction and transformation and Power BI for visualization and dashboard creation. The goal was to automate data ingestion, cleaning, and reporting to streamline insight generation and enable data-driven decisions.**

**Data Pipeline Overview**

1. **Data Source: Sales data was imported into SQL from various sources.**
2. **Data Cleaning:**
   * **Removed records with countries not relevant to the Indian market (e.g., NY and Paris).**
   * **Filtered out invalid entries such as sales values of -1 and 0.**
3. **Currency Normalization:**
   * **A new column was created to convert USD to INR using conditional logic:**

**Table.AddColumn(#"Filtered Rows", "Normalize\_Sales\_amount", each if [currency] = "USD" then [sales\_amount]\*84.27 else [sales\_amount])**

1. **Power BI Modeling:**
   * **Created a relational data model in Power BI to enable cross-table insights.**
   * **Designed an interactive dashboard that consolidates key sales metrics, regional trends, customer data, and product insights.**

**Key Insights**

* **Total Revenue: ₹984.81M**
* **Total Sales Quantity: 2.43M**
* **Top Performing Region: Delhi NCR contributed over 50% of the revenue.**
* **Top Customer: Electricalsara Stores generated over ₹413M in revenue.**
* **Data Gaps Identified: A significant portion of revenue is linked to unnamed (Blank) products, indicating a data quality issue.**
* **Seasonal Trend: Sales declined notably in 2020, possibly due to external market factors.**

**Data Analysis Using SQL**

**-- 1. Show all customer records**

**SELECT \* FROM customers;**

**-- 2. Show total number of customers**

**SELECT count(\*) FROM customers;**

**-- 3. Show transactions for Chennai market**

**SELECT \* FROM transactions WHERE market\_code='Mark001';**

**-- 4. Distinct product codes sold in Chennai**

**SELECT DISTINCT product\_code FROM transactions WHERE market\_code='Mark001';**

**-- 5. Transactions in US Dollars**

**SELECT \* FROM transactions WHERE currency='USD';**

**-- 6. Transactions in 2020**

**SELECT transactions.\*, date.\***

**FROM transactions**

**JOIN date ON transactions.order\_date = date.date**

**WHERE date.year = 2020;**

**-- 7. Total revenue in 2020**

**SELECT SUM(transactions.sales\_amount)**

**FROM transactions**

**JOIN date ON transactions.order\_date = date.date**

**WHERE date.year = 2020 AND (currency = 'INR' OR currency = 'USD');**

**-- 8. Revenue in January 2020**

**SELECT SUM(transactions.sales\_amount)**

**FROM transactions**

**JOIN date ON transactions.order\_date = date.date**

**WHERE date.year = 2020 AND date.month\_name = 'January'**

**AND (currency = 'INR' OR currency = 'USD');**

**-- 9. Revenue in 2020 from Chennai**

**SELECT SUM(transactions.sales\_amount)**

**FROM transactions**

**JOIN date ON transactions.order\_date = date.date**

**WHERE date.year = 2020 AND transactions.market\_code = 'Mark001';**

**Data Analysis Using Power BI**

**Key Formula:**

**= Table.AddColumn(#"Filtered Rows", "norm\_amount", each if [currency] = "USD" or [currency] ="USD#(cr)" then [sales\_amount]\*75 else [sales\_amount], type any)**

**Dashboard Features:**

* **Total Sales and Revenue KPIs**
* **Revenue Trends by Month and Year**
* **Regional Sales Breakdown**
* **Top Customers and Products**
* **Interactive Filters (Region, Year, Currency)**

**Conclusion & Recommendations**

**By automating the sales reporting process, Kay’s Hardware has significantly improved the accuracy and timeliness of insights. Leveraging SQL for backend data operations and Power BI for visualization, I was able to build a scalable solution that supports data-driven decision-making.**

**Recommendations:**

* **Continue enriching the dataset (e.g., product categories, customer segments).**
* **Schedule regular ETL updates.**
* **Train regional managers on dashboard use for self-service analytics.**

A screenshot of a computer

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