Data Analysis using Tableau - Working Capital Optimization

Business Overview:

Data Analysis is the process of examining, cleaning, transforming, and modeling data to discover useful information, draw conclusions, and support decision-making. Data analysis enables organizations to make informed, data-driven decisions by uncovering trends, optimizing operations, and enhancing customer experiences. By analyzing data, businesses can identify opportunities for efficiency, manage risks proactively, and personalize their offerings to better meet customer needs. This leads to improved decision-making, cost savings, and a competitive edge in the market, ultimately driving innovation and supporting long-term strategic goals.

Importance of Data Analysis:

- **Informed Decision-Making**: Data analysis provides evidence-based insights, enabling businesses to make decisions grounded in factual data rather than intuition.
- **Trend Identification:** Helps in identifying emerging trends in the market, customer behavior, and operational performance, allowing businesses to stay ahead of the curve.
- **Cost Efficiency:** Optimizes resource allocation, reduces waste, and enhances efficiency by identifying areas for improvement.
- **Customer Insights:** Provides deep insights into customer preferences, behaviors, and needs, enabling personalized marketing and improved customer satisfaction.
- **Risk Management:** Identifies potential risks and vulnerabilities, helping businesses to mitigate or avoid them.
- **Competitive Advantage:** Businesses that leverage data analysis effectively can gain a significant edge over competitors by being more responsive and innovative.

Working capital optimization focuses on efficiently managing a company's short-term assets and liabilities to ensure sufficient liquidity for operations while minimizing costs. By balancing inventory levels, speeding up accounts receivable, and managing accounts payable effectively, businesses can free up cash flow, reduce borrowing costs, and improve financial stability, enabling them to invest in growth and maintain smooth operations.

Prerequisite Project: Kindly ensure the completion of the Predictive Analytics Project for Working Capital Optimization before proceeding with this project. In Part 1, we utilized accounts receivable and payable data to forecast the timing of customer and supplier payments accurately. This enabled us to enhance cash flow management and ensure liquidity within a specified period. Part 2 will focus on a comprehensive analysis of receivables and payables data using Tableau.

Aim:

The project will focus on a comprehensive analysis of receivables and payables data using Tableau. We will visualize key metrics and trends to optimize working capital management, refine cash flow strategies, and improve financial performance. By leveraging Tableau's functionalities, we'll explore its features and connectors, and develop detailed dashboards for accounts receivable and payable. These dashboards will provide actionable insights, enabling stakeholders to make informed decisions that enhance financial performance and working capital efficiency.

Data Description:

Customer Data:

- Customer ID: Unique identifier for each customer.
- Customer Name: Name of the customer.
- Customer Payment Terms: Terms and conditions for customer payments.
- Address: Physical address or location of the customer.
- Credit Limit: Maximum credit amount extended to the customer.

Receivables Data:

- Business Code: Code representing the type of business transaction.
- Customer Number: Unique identifier for each customer.
- Customer Name: Name of the customer.
- Payment_Date: Date of payment received.
- Business Year: Year of the business transaction.
- Posting_Date: Date of posting the transaction.
- Due_Date: Date by which the payment is due.
- Payterm: Payment terms for the invoice.
- Invoice Currency: Currency in which the invoice is issued.
- Total Open Amount: Total amount of the invoice.
- USD_CURRENCY: Currency conversion rate to USD.

- Total Open Amount_USD: Total amount in USD.
- Invoice ID: Unique identifier for each invoice.
- Is Open: Indicates whether the invoice is open or closed.
- DUNNLEVEL: Dunn level of the invoice. Dunn level refers to the level of past-due status or aging of an invoice, indicating the severity or length of time the invoice remains unpaid, basically how many times the customer was contacted for payment and the status remained unchanged.
- Credit_limit: Credit limit assigned to the customer.
- Baseline_Date: Baseline date for the transaction.
- Region: Geographic region associated with the transaction.

Suppliers Data:

- Supplier ID: Unique identifier for each supplier.
- Supplier Name: Name of the supplier.
- Payment Terms: Terms and conditions for supplier payments.
- Vendor Type: Type or category of the vendor/supplier.
- Supplier Category: Categorization of the supplier.

Payables Data:

- Invoice Number: Unique identifier for each invoice.
- Posting Date: Date of posting the invoice.
- Invoice Date: Date of the invoice.
- Payment Date: Date of payment made.
- Net Due Date (System Calculated Date): Calculated date for net payment due.
- Supplier ID: Unique identifier for each supplier.
- Invoice Amount: Total amount of the invoice.
- Fiscal Year: Financial year associated with the invoice.
- Overdue: Indicates if the payment is overdue.
- Invoice Status: Status of the invoice (e.g., paid, outstanding).
- Spend Category: Categorization of the expenditure.
- Total Outstanding Amount: Total amount outstanding for the invoice.
- Late Payment Fees: Fees charged for late payments.
- Payterm_n: Payment terms for the invoice.
- Vendor Type: Type or category of the vendor/supplier.

Tech Stack

➔ Tool: Tableau
➔ Database: Microsoft SQL Server
➔ Services: AWS RDS

Key Takeaways

- Understanding the Data Analysis in detail
- Understanding the need for Data Analysis
- Understanding the different steps involved in Data Analysis
- Understanding the different BI tools for Data Analysis
- Understanding Tableau in detail
- Downloading and Installing Tableau
- Understanding the UI of Tableau
- Loading data from Microsoft SQL Server to Tableau
- Changing data types of columns in Tableau
- Creating Calculated fields in Tableau
- Understanding different types of Visualizations in Tableau
- Difference between Dimension and Measure in Tableau
- Building a dashboard in Tableau
- Exporting a dashboard into PDF and PPT in Tableau