BIG DATA

1. Data:

The dataset contains a tabular representation of fuel prices, duties, and VAT for Unleaded Petrol (ULSP) and Ultra-Low Sulfur Diesel (ULSD) over specific dates. Each row in the dataset captures the state of fuel prices at a particular point in time. The 'Date' column provides a temporal dimension, while other columns represent different aspects of fuel pricing, such as the base price of ULSP and ULSD, the associated duties, and Value-Added Tax (VAT).

2. Information:

After analyzing the dataset, we extracted some meaningful information that sheds light on the dynamics of fuel pricing over time. Some analyses that can be performed include:

Price Trends: After Plotting the line charts and time-series graphs of ULSP and ULSD. We noticed prices over time can reveal their trends. We can identify periods of price increases, decreases, or stability.

Correlation Analysis: Computing correlation coefficients between ULSP and ULSD prices can indicate the relationship between the two fuel types. For example, a positive correlation suggests that their prices tend to move together, while a negative correlation indicates an inverse relationship.

Seasonal Patterns: Analyzing seasonal patterns can help us identify whether fuel prices tend to fluctuate cyclically due to seasonal changes or other recurring factors.

Impact of Duties and VAT: Investigating the impact of duties and VAT on the final fuel prices, we got insights into the taxation structure and how it affects the prices.

3. Knowledge:

Based on the information derived from the dataset, we can gain valuable knowledge and insights into the fuel market's behavior and other relevant aspects:

Understanding Price Fluctuations: Knowledge of historical price trends can help anticipate future price changes, allowing fuel consumers and businesses to plan their budgets and operations accordingly.

Market Dynamics: By identifying correlations between ULSP and ULSD prices, we can understand how external factors affect fuel prices similarly or differently. For example, global oil prices, geopolitical events, or economic conditions may influence both fuel types.

Taxation and Pricing Strategy: Knowledge of how duties and VAT impact fuel prices can be crucial for policymakers to evaluate taxation policies and for fuel suppliers to optimize their pricing strategies.

Consumer Behaviour: Analyzing price trends and seasonality can offer insights into consumer behaviour, helping businesses tailor their marketing or promotions to better suit consumers' preferences during specific periods.

Conclusion:

In this analysis, we used a Raw dataset to visualize the trend of Unleaded Petrol (ULSP) and Ultra-Low Sulfur Diesel (ULSD) prices over time. The line chart provided us with valuable information on the historical changes in fuel prices. From this information, we derived knowledge that there is a general similarity in the price trends of these two fuels. This understanding can be useful for fuel consumers, suppliers, and policymakers to make informed decisions and respond to changes in fuel prices effectively.

Also, In the journey from data to information to knowledge, we have transformed raw fuel price data into valuable insights. By analyzing trends, correlations, and seasonal patterns, we gain a deeper understanding of fuel price dynamics and the factors influencing them. This knowledge empowers stakeholders in the fuel industry, consumers, policymakers, and businesses to make informed decisions, adapt to market changes, and optimize their strategies.

Through this process, we see that data becomes meaningful when it is organized, analyzed, and contextualized to provide relevant information. The aggregation of information leads to knowledge, which is the foundation for actionable insights and informed decision-making. In the context of fuel pricing, this knowledge helps navigate the complexities of the market and its interrelated components, contributing to more efficient and effective fuel-related operations and policies.