**Abstract**

* **Background:** E-commerce platforms generate vast amounts of transactional data, which can provide valuable insights into sales performance and consumer behaviour.
* **Objective:** This project, **"E-commerce Order Analysis,"** aims to analyse a dataset containing historical order details to **identify top-selling products, revenue trends, and seasonal sales** **patterns.**
* **Dataset Description:**

The dataset consists of three key components:

* **Orders**: Contains detailed transaction records, including customer information, sales revenue, shipping details, product categories, and profitability metrics.
* **Returns:** Identifies orders that were returned, providing insights into customer dissatisfaction and product performance.
* **People:** Maps sales representatives to their respective regions, aiding in regional sales performance analysis.
* **Methods:** This analysis will leverage Python and its libraries (Pandas, NumPy, Matplotlib, Seaborn) for data processing, statistical analysis and time series forecasting . Visualization tools such as Power BI and Tableau will aid in presenting insights effectively. Statistical models and Time series techniques will be applied to uncover trends and correlations within the dataset.
* **Results:** The findings will assist businesses in optimizing inventory management, pricing strategies, and marketing efforts by providing a comprehensive understanding of sales trends and customer purchasing behaviour.
* **Conclusion:** This research provides actionable insights to enhance decision-making processes and improve overall business efficiency in the competitive e-commerce landscape through the integration of data analytics, database management, and advanced visualization tools.