# Project Synopsis

| | |
|---|---|
| **Name** | Tejaswini M |
| **USN** | 231VMBR04992 |
| **Elective** | Data Science and Analytics |
| **Date of Submission** | 14th March, 2024 |

- **Title**
  - Leveraging social media insights for personalizing customer engagement- A Data-driven approach

- **Executive Summary**
  - In the current competitive era, understanding customer behaviour, taste and preferences is the key to enhance engagement and boost ticket sales in airline industry. Many travelers feel that advertisements displayed by airlines are not in accordance or favour of their needs. The focus of this project is to leverage the insights derived from social media and user behaviour data to frame a personalized marketing strategy for 'AeroReach Insights'.

  - By analysing various aspects like user's social media activity, demographic factors, travel preferences and interactions, we focus on developing predictive models that enable airlines to deliver personalized offers to customers, enhancing customer engagement and boosting sale of tickets.

- **Objectives and Scope**
  - Objectives
    - Development of a data driven model that segments the clients of airline industry based on their social media engagement and demographic factors.
    - To personalize digital marketing strategies by analysing the user activity patterns on social media.
    - To improvise customer engagement and boost the sale of tickets by offering customized promotions.
  - Scope
    - This project focuses on analysing 'AeroReach Insights' ' dataset, which has 17 attributes pertaining to user activity on social media and their preferences. We shall be employing 'exploratory data analysis' and 'machine learning techniques' to find patterns and insights.
    - These findings shall aid airlines in improvising customer interactions through targeted offers.

- **Methodology**
  - Data preprocessing

    Cleaning missing values and handling inconsistencies in attributes like Yearly_avg_view_on_travel_page. Normalizing numerical features for analysis.

  - Exploratory data analysis

- Identifying patterns and trends in travel behaviour of customers.
- Understanding customer preferences by analysing their social media activities.

➢ Predictive modelling and segmentation

- Using classification models(e.g., Decision Trees, Random Forest) to predict high value customers likely to purchase airline tickets.
- Applying clustering algorithms (e.g., K-means) to segment users based on their engagement levels and preferences.
- Developing a recommendation system for personalized marketing strategies.

- **Preliminary Findings & Expected Results**

➢ Findings from dataset

- Customers with higher social media engagement tend to spend more time on travel-related content.
- Working professionals and frequent travels exhibit variations in their preferred travel destinations.
- Users with higher travel history are more likely to engage with airline promotions.

➢ Expected outcomes

- Segmentation of clients depending on the insights derived from their travel behaviour on social media.
- A data-driven recommendation system to aid airlines target the right/potential customers, enhancing customer engagement and sale of tickets.
- A predictive model to recognize high-value customers and offer personalized promotions.