

## Business Document Report (BDR) for Delhi Metro network analysis

### Introduction:

The Delhi Metro is a rapid transit system serving Delhi and its satellite cities in the NCR of India. As one of the largest metro networks in the world, it plays a crucial role in facilitating urban transportation, reducing traffic congestion, and promoting sustainable mobility in the region.

This BDR aims to outline the **potential analysis using Python** for enhancing the efficiency, reliability, and customer experience of the Delhi Metro.

### Objective:

1. **Geospatial Analysis:** To get insight of **geographical distribution of the stations** across Delhi
2. **Temporal Analysis:** To get insights of pace of **metro network expansion and development phases**. For this we are going to perform two analyses
  - To analyse the growth of metro line over the time
  - How many stations are opened each year

3. **Line Analysis**

- To analyse the metro line in terms of number of metro station in each line
- Average distance between station

4. **Stations Layout Analysis**

To analyse the station layouts (Elevated, Ground Level, Underground), Get the distribution of these layouts across the network and see if there are any patterns or trends, such as certain lines favouring a particular layout.

### Methodology

Data Collections	Kaggle.com (Open source)
Data Processing	Cleanse and preprocess the data to handle <ul style="list-style-type: none"><li>○ missing values</li><li>○ outliers</li><li>○ inconsistencies.</li></ul>
Data Analysis	Use of <b>python</b> to perform EDA to derive insights of data
Visualisation	Key findings and trend to using Python libraries like Matplotlib, Plotly, Sea-born
Report	Power BI Dash board for stockholders