

PROJECT TITLE:

PUBLIC TRANSPORTATION ANALYSIS USING IBM COGNUS

TEAM MEMBERS:

- Mani@Arun Venkatesh P(2021115060)
- Malarvizhi E (2021115059)
- Mahalakshmi B (2021115058)
- Loksundar (2021115057)
- Sivaananth (2021115310)

PHASE-I:

1.Project Definition:

Project Definition: The project involves analyzing public transportation data to assess service efficiency, on-time performance, and passenger feedback. The objective is to provide insights that support transportation improvement initiatives and enhance the overall public transportation experience. This project includes defining analysis objectives, collecting transportation data, designing relevant visualizations in IBM Cognos, and using code for data analysis.

2.Data Collection:

To proceed with the analysis, we need to acquire the necessary public transportation data. The dataset for this project can be accessed through the following link:

<https://www.kaggle.com/datasets/rednivrug/unisys/code>

This dataset encompasses a range of information related to public transportation, including schedules, real-time updates, and passenger feedback. Prior to analysis in IBM Cognos, we will download and perform necessary preprocessing. This may involve tasks such as data cleaning, transformation, and handling of missing values, format discrepancies, and potential outliers. This ensures that the dataset is primed for meaningful analysis and visualization.

3.Visualization Technique:

1. Chart Selection: Choose suitable chart types (e.g., bar charts, line charts) based on the nature of the data (e.g., time series, categorical) to effectively represent key performance metrics.
2. Comparative Visuals: Create visualizations that facilitate easy comparison between different aspects of public transportation, such as on-time performance across routes or modes.

3. Interactive Filters: Enable users to interactively filter data by relevant factors like date, route, or mode, allowing for customized views of the information.
4. Clear Labels and Legends: Ensure that visualizations include clear labels and legends to provide context and aid interpretation.
5. Dynamic Elements: Leverage IBM Cognos' capabilities to create dynamic visualizations that can adapt to different data sets and user inputs.

This simplified strategy aims to streamline the visualization process while still providing effective insights into public transportation data.

4. Insights Generation:

The primary aim of this public transportation analysis project is to extract valuable insights that can inform decision-making and improve the overall transportation experience. The insights may encompass:

- Identifying Routes with High or Low Efficiency:
 - Determine routes with exceptional or subpar service efficiency metrics to focus on optimization efforts.
- Analyzing Peak Hour Performance:
 - Recognize trends in on-time performance during peak travel hours to allocate resources effectively.
- Evaluating Passenger Feedback Trends:
 - Understand common feedback themes to address specific concerns and enhance passenger satisfaction.
- Impact of External Factors:
 - Investigate how external factors (e.g., weather, holidays) influence transportation efficiency and passenger experience.
- Spotlight on Unusual Patterns:
 - Highlight anomalies or irregularities in performance data, which may require special attention.

5. Next Steps:

In the next phase, we'll preprocess the data, ensuring accuracy. We'll then integrate it into IBM Cognos for seamless analysis and visualization. Our focus will be on creating insightful visualizations,

backed by rigorous statistical analysis. Regular collaboration among team members will be pivotal for project success and aligning with defined objectives.

6.Timeline:

A tentative timeline for the project is as follows:

- Data Collection and Preprocessing: 2 weeks
- IBM Cognos Setup and Visualization Design: 3 weeks
- Data Analysis and Insights Generation: 4 weeks
- Documentation and Reporting: 2 weeks
- Review and Finalization: 1 week