**Public Transport Analysis Project**

**Phase 1**

**Project Definition and Design Thinking**

**Project Definition:**

**Objective:**

The primary objective of the "Public Transport Analysis" project is to assess and improve the efficiency, on-time performance, and passenger satisfaction of the public transportation system. This project aims to provide valuable insights that can support transportation improvement initiatives and enhance the overall public transportation experience.

**Project Phases:**

**1. Analysis Objectives:**

- Define Specific Objectives: One of the critical first steps in this project is to clearly define the specific objectives for analyzing public transportation data. This involves breaking down the overarching goal into actionable components:

- Assess On-Time Performance: Evaluate how closely the public transportation system adheres to scheduled timetables. Identify routes or times with frequent delays.

- Evaluate Passenger Satisfaction: Understand the level of satisfaction among passengers by collecting feedback through surveys, online reviews, or other means.

- Measure Service Efficiency: Analyze the efficiency of service delivery, considering factors like route optimization, resource allocation, and cost-effectiveness.

**2. Data Collection:**

- Identify Sources: To conduct a comprehensive analysis, it's essential to identify and gather data from multiple sources:

- Gather Data from Schedules: Extract data from public transportation schedules to assess planned versus actual performance.

- Utilize Real-Time Updates: Utilize real-time data sources, such as GPS tracking or service updates, to monitor the current status and performance of transportation routes.

- Collect Passenger Feedback: Implement mechanisms for collecting passenger feedback, whether through surveys, mobile apps, or online platforms.

- Methods: Establish robust data collection methods to ensure data accuracy, completeness, and security. Implement data pipelines and storage solutions to handle the influx of transportation data efficiently.

**3. Visualization Strategy:**

- Plan Visualization Approach: Visualization is a powerful tool for conveying insights. Plan how to visualize the findings effectively using IBM Cognos:

- Create Informative Dashboards: Develop user-friendly dashboards that provide real-time and historical insights into on-time performance, passenger satisfaction, and service efficiency.

- Design Informative Reports: Generate detailed reports that can be shared with stakeholders, highlighting key performance indicators and actionable recommendations.

- Select Visualization Techniques: Choose appropriate visualization techniques such as bar charts, line graphs, heatmaps, and maps to represent different aspects of the analysis.

**4. Code Integration:**

- Decide on Code Utilization: Determine where code will be integrated into the analysis process to enhance its capabilities:

- Data Cleaning and Preprocessing: Use code to clean and preprocess raw data, handling missing values, outliers, and inconsistencies.

- Data Transformation: Apply code to transform data into a format suitable for analysis, including feature engineering and aggregation.

- Statistical Analysis: Implement statistical analysis using code to uncover patterns, trends, and correlations in the transportation data.

- Integration with IBM Cognos: Ensure seamless integration between code and the IBM Cognos platform. This integration allows for a holistic analysis workflow, where data preparation, analysis, and visualization are interconnected.

This comprehensive expansion of the document provides a detailed overview of each project phase, emphasizing the importance of clear objectives, robust data collection methods, effective visualization strategies, and code integration for a successful "Public Transport Analysis" project. This approach aims to drive improvements in public transportation services, resulting in enhanced passenger experiences and more efficient transportation systems.

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