You are tasked with building a classification model to predict a binary outcome (e.g., success vs failure) using the **K-Nearest Neighbors (KNN)** algorithm. You may use any dataset of your choice to complete the following tasks.

1. **Data Preprocessing:**
   * Load and explore the dataset.
   * Handle missing values if needed.
   * Standardize or normalize the data.
   * Split the dataset into training and testing sets.

**Graph 1**: Create a **pair plot** or **correlation heatmap** to explore feature relationships.

1. **Optimal K Selection (Elbow Method):**
   * Train KNN models with varying values of K.
   * Use the **elbow method** to identify the optimal K by plotting error rates vs. K values.

**Graph 2**: Plot an **elbow curve** showing error rate vs. K.

1. **Model Evaluation:**
   * Train the KNN classifier using the optimal K.
   * Evaluate the model on the test set using accuracy, precision, recall, and F1-score.
   * Display the results in a confusion matrix.

**Graph 3**: Plot a **confusion matrix** heatmap.

1. **Decision Boundary Visualization:**
   * Plot the decision boundary for the KNN model (use dimensionality reduction if necessary).

**Graph 4**: Create a **2D decision boundary plot**.

1. **Distance Metrics Comparison:**
   * Test different distance metrics (Euclidean, Manhattan, etc.) and compare model performance.

**Graph 5**: Create a **bar chart** comparing accuracy for different distance metrics.