

A decorative graphic on the left side of the slide, consisting of a network of white lines and small circles on a dark blue background, resembling a circuit board or a neural network.

PHASE 3 PROJECT: SYRIATEL CUSTOMER CHURN

BACKGROUND

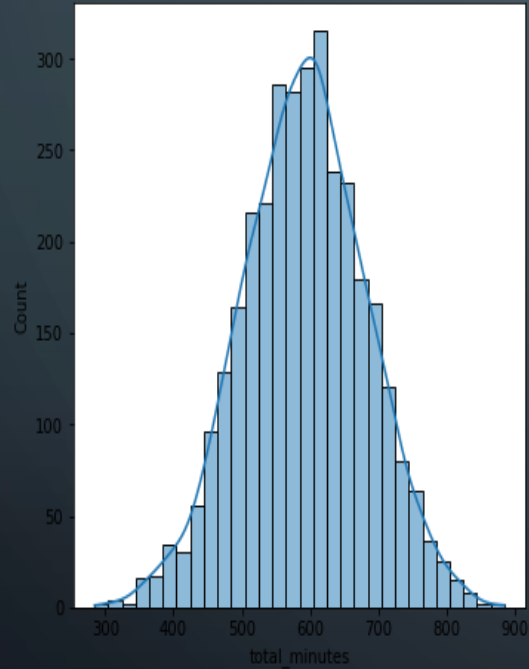
- Syriatel is one of the top telecommunications company in Syria, and has been running for over 20 years.
- They had been growing so well until they realized that some of their customers would stop using their services.
- They seek to investigate if it is possible to predict whether or not a customer would stop using their services.

DATA UNDERSTANDING AND PREPARATION

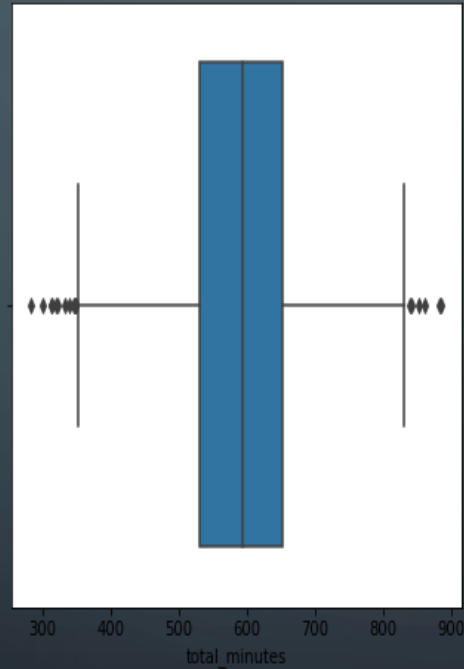
- To analyze data correctly, one has to understand and prepare the data.
- Some steps including checking for missing values, duplicates, outliers and handling them.
- The data was clean with no missing values and duplicates, with outliers which could be used to further the company's research.
- In the preparation phase, check for trends, relationships and correlations of the different variables (univariate and bivariate analysis).

SAMPLES OF EDA VISUALIZATIONS

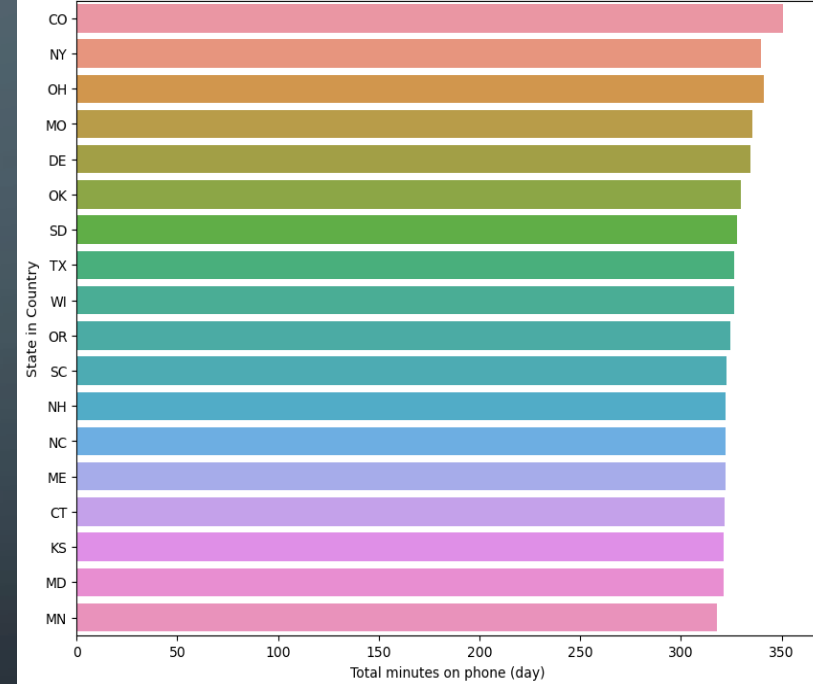
Histogram for total_minutes



Box Plot for total_minutes



State in Country vs Total minutes on phone (day)



MODELLING AND EVALUATION

- Four models were tested: logistic regression, decision trees, random forest and hyperparameter tuning.
- The baseline model was the logistic regression, which performed the worst with lower recall for class 1, while the hyperparameter tuning (random forest) performed the best, showing high potential in accurately identifying all instances of the positive class.

RECOMMENDATIONS

- 1. Fine-Tune hyperparameters - Fine-tuning may improve model performance.
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- 2. Always evaluate imbalanced classes.
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- 3. Multiple-tests - Use more than one test to estimate model performance.

The background is a dark blue gradient. In the corners, there are white line-art illustrations of circuit boards or neural networks, with lines and small circles representing components.

THANK YOU!

- Presentation by: Lucy Waruguru
- Github repo: <https://github.com/WacekeW/Phase-3-Project.git>