O-ZONE TELECOM

EMPLOYEE ATTRITION ANALYSIS

A Data-Driven Approach to Retaining Talent

Agenda

Problem

Methodology

Analysis Result

Solution & Proposals

O-ZONE TELECOM IS EXPANDING IN AFRICA BUT FACES:

HIGH EMPLOYEE ATTRITION

CHALLENGES IN EVALUATING EMPLOYEE WELL-BEING

Data Preprocessing

Handling missing values, encoding, and normalization

Exploratory Data Analysis (EDA)

Identifying trends

Principal Component Analysis (PCA)

Dimensionality reduction

K-Means Clustering

Identifying employee groups

Predictive Modeling

RandomForest

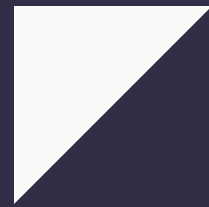## Feature Importance Analysis

METHODOLOGY
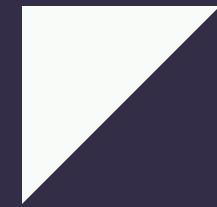
Key Findings from EDA

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Employees with low salaries are more likely to leave.

Long commute distances increase attrition risk.

Overtime workers show higher attrition

Younger employees have higher turnover rates

PCA

PCA helped reduce dimensionality

Explained variance shows the number of relevant components

Needed more than 10 components for full variance capture

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K-Means Clustering Insights

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Clustered employees into 4 groups

- Senior, high earners - Low attrition risk
- Sales & mid-level employees - Moderate attrition risk
- Junior researchers - High attrition risk
- Technical & manufacturing roles - Moderate attrition risk

Predictive Modeling Results

RANDOMFOREST MODEL ACCURACY

83.3%

MODEL PERFORMS WELL BUT STRUGGLES TO PREDICT ATTRITION CASES ACCURATELY

FEATURE IMPORTANCE ANALYSIS USED INSTEAD OF SHAP DUE TO CUDA ISSUES

Feature Importance Analysis

Top Factors Affecting Attrition

- Monthly Income
- Age
- Total Working Years
- Distance from Home
- Overtime

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Solution &Proposal

SALARY ADJUSTMENTS

Increase pay for high-risk roles.

FLEXIBLE WORK OPTIONS

Address long commute challenges

REDUCE OVERTIME

Prevent burnout and dissatisfaction

RETENTION INCENTIVES

Offer promotions & growth opportunities

EARLY INTERVENTION

Use predictive model for risk management