# The Role of Predictive Analytics in Customer Churn Prevention Across Global Markets

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**Abstract:** *Customer churn—when a customer stop buying a company's products or using its services—has a bad influence on the revenues. Some industries have churn rates of around 20-40% each year. The paper presents a strong model of estimating the customer turnover based on the Kaggle Telecom turnover Dataset. The proposed technique consists of extensive data preprocessing that gets rid of irrelevant features, fills in missing values, detects outliers, and corrects class imbalance with the help of the SMOTE-ENN method. Pearson correlation analysis and visualizations are very helpful in understanding the relationships between features and in reducing dimensions while retaining important information. On the other hand, Principal Component Analysis (PCA) eliminates some of the data's dimensions but retains the significant information. The accuracy (ACC), precision (PRE), recall (REC), F1-score (F1), ROC curve, and confusion matrix are some of the performance metrics used to train and evaluate an XGBoost classifier. The accuracy score is 98.42. The experimental findings show that the suggested model outperforms the existing machine learning approaches and has extremely good prediction performance. The study's findings validate the model's use in the creation of proactive customer retention strategies within the telecom industry by demonstrating its capacity to properly anticipate customer attrition.*

**Keywords**: *Customer Churn, Class Imbalance Correction, Feature Relationships, Pearson Correlation Analysis, Churn Prediction.*