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**Churn Rate Prediction**

Customer churn rate is the percentage of customers who stop using a company's service or product over a given period of time. It is an important metric to measure customer satisfaction, loyalty, and retention.https://www.heavy.ai/blog/strategies-for-reducing-churn-rate-in-the-telecom-industry

According to one source, the average churn rate in the telecom industry is approximately 1.9% per month across the four major carriers, but could rise as high as 67% annually for prepaid serviceshttps://www.heavy.ai/blog/strategies-for-reducing-churn-rate-in-the-telecom-industry. Reducing churn rate is a key challenge for telecom companies, as acquiring new customers is much more costly than retaining existing oneshttps://www.heavy.ai/blog/strategies-for-reducing-churn-rate-in-the-telecom-industry.

The features you listed are some of the variables that can be used to analyze customer behavior and predict churn risk in the telecom industry. Here is a brief explanation of each feature and how it might relate to churn:

• user\_id: unique customer identifier. This is used to track individual customers and their activities over time.

• REGION: customer location. This can indicate the availability and quality of network coverage, as well as the competition and pricing in different regions. Customers who live in areas with poor service or high prices might be more likely to switch providers.

• TENURE: duration being a customer of Expresso. This can reflect customer loyalty and satisfaction, as well as the impact of contract terms and incentives. Customers who have been with Expresso for a long time might be less likely to churn, unless they are dissatisfied or lured by better offers from competitors.

• MONTANT: the amount of money the user has paid to the company. This can indicate the customer's value and spending behavior, as well as their sensitivity to price changes. Customers who pay more might expect more from the service or product, and might be more likely to churn if they perceive a decline in quality or value.

• FREQUENCE\_RECH: number of times the customer recharges their phone account. This can indicate the customer's usage frequency and demand for the service or product, as well as their engagement and retention. Customers who recharge more often might be more satisfied and loyal, or they might be more dependent on the service or product.

• REVENUE: monthly income generated from the customer. This can indicate the customer's value and profitability for the company, as well as their potential for upselling or cross-selling. Customers who generate more revenue might be more valuable and loyal, or they might be more attractive targets for competitors.

• ARPU\_SEGMENT: average revenue per user segment / income over 90 days/3. This can indicate the customer's value and spending behavior, as well as their segmentation and targeting. Customers who belong to higher ARPU segments might be more valuable and loyal, or they might have higher expectations and demands.

• FREQUENCE: number of times the customer has made an income. This can indicate the customer's usage frequency and demand for the service or product, as well as their engagement and retention. Customers who make more income might be more satisfied and loyal, or they might be more dependent on the service or product.

• DATA\_VOLUME: the amount of data used by the customer. This can indicate the customer's usage intensity and preference for the service or product, as well as their potential for upselling or cross-selling. Customers who use more data might be more satisfied and loyal, or they might have higher expectations and demands.

• ON\_NET: inter Expresso calls made by the user. This can indicate the customer's network effect and social influence, as well as their loyalty and retention. Customers who make more inter Expresso calls might be more satisfied and loyal, or they might have stronger ties with other Expresso customers.

• ORANGE: calls to Orange network. This can indicate the customer's network effect and social influence, as well as their switching cost and competition. Customers who make more calls to Orange network might be less satisfied and loyal, or they might have stronger ties with Orange customers.

• TIGO: calls to Tigo network. This can indicate the customer's network effect and social influence, as well as their switching cost and competition. Customers who make more calls to Tigo network might be less satisfied and loyal, or they might have stronger ties with Tigo customers.

• ZONE1: calls to ZONE1 network. This can indicate the customer's network effect and social influence, as well as their switching cost and competition. Customers who make more calls to ZONE1 network might be less satisfied and loyal, or they might have stronger ties with ZONE1 customers.

• ZONE2: calls to ZONE2 network. This can indicate the customer's network effect and social influence, as well as their switching cost and competition. Customers who make more calls to ZONE2 network might be less satisfied and loyal, or they might have stronger ties with ZONE2 customers.

• MRG: the merger status / A client who is going. This can indicate the customer's loyalty and retention, as well as the impact of mergers and acquisitions on the market. Customers who are going might be more likely to churn, unless they are satisfied or incentivized by the new provider.

• REGULARITY: number of month the customer is active for 90 days. This can indicate the customer's usage frequency and demand for the service or product, as well as their engagement and retention. Customers who are more active might be more satisfied and loyal, or they might be more dependent on the service or product.

• TOP\_PACK: the most active packs. This can indicate the customer's usage intensity and preference for the service or product, as well as their potential for upselling or cross-selling. Customers who use the most active packs might be more satisfied and loyal, or they might have higher expectations and demands.

• FREQ\_TOP\_PACK: number of times of activating the top service package. This can indicate the customer's usage frequency and demand for the service or product, as well as their engagement and retention. Customers who activate the top service package more often might be more satisfied and loyal, or they might be more dependent on the service or product.