

MTN PROJECT DATA REPORT

1. Business Understanding

Business Overview

Currently MTN Cote d'Ivoire would like to upgrade its technology infrastructure for its mobile users in Ivory Coast. Using the given dataset, I will try to figure out how MTN Cote d'Ivoire can go about the upgrade of its infrastructure strategy within the given cities?

Objective

To figure out ways to upgrade the infrastructure of the telecommunication company for optimum end user satisfaction and also for companies growth

2. Data Understanding

We have four datasets and a description file for them. This allows us to update any changes like column names that don't match the description criteria.

We check for similar columns and also null values.

We also compile the datasets and check for duplicates before we continue with cleaning

3. Data preparation

The dataset is for three days sampled from the company log.

We start by doing a descriptive analysis of each to get an overview of what each dataset entails.

Note: An overview of our EDA so far shows us that

- the Value column is of Integer data type;
- All other columns are strings and
- Site ID is the only column with null values across the three datasets

We continue to merge the telecom data set into one.

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We also get an insight that there are columns that we actually don't need so we drop them e.g Country column

We move on to changing the date time format to the standard format.

Before we proceed to analysis we need to merge the cells geo dataset to our telecom combined dataset. For this will use the common column to join which is CELL_id for both data sets.

Note: There are two common columns , cellid and siteid, however, we will only use cell id join for this analysis since site id has null values. With the new merged dataset we proceed to analysis

4. Data analysis

Analysis is tailored to the business objective and we trying to answer a few questions

A. Which ones were the most used city for the three days?

The most used city should have the most calls hence will filter using cell id and the product column

Ffa6759bb2 cell id had the most product hence the most used

B. Which cities were the most used during business and home hours?

To answer this question, I will try to understand what it means most used city during business and home hours means the product value should be maximum then we filter by city. From the analysis We can see that Abengourou, Abobo, Aboisso were the top three cities busiest cities both in business and home hours

C. Most used city for the three days

From the previous analysis we can see that the most used city is Abengourou

D. Least used city for the three days

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To answer this question, I will try to understand what the least used city during business and home hours means the product value should be minimum then we filter by city. From the analysis We can see that Diananon being the least busy city

E. Most used telecom product

We see that the most popular product is sms followed by voice and the least is data

5. Recommendation

From our analysis we would recommend that the company should focus on the above listed cities. Prioritizing on the most used city for the upgrade will ensure the most active end users are satisfied and continue using the services which will be a return on profit to the company and also will give an insight of region expansion for the cities. Focusing on the products delivery Sms are by far the most used so upgrading the terms should be better. On selling the least used they would evaluate the rates given and also the product connectivity speed which could be one reason why data is not a popular product.