**1. Business Understanding**

**Business Overview**

Cote d'Ivoire is a country in west Africa, currently it wants to upgrade its technological infrastructure for mobile users in Ivory Coast.

**Business Objective**

My main objective of this report is to identify how Ivory coast should carry out the procedure of upgrading its technology infrastructure within given cities.

**Business Success Criteria**

To compile a list of states that will increase the return on investment of the campaign resulting in winning the election.

**Assessing the Situation**

**1. Resource Inventory**

a. Datasets:

i. cells\_geo\_description.xlsx  [(Links to an external site.)](https://drive.google.com/a/moringaschool.com/file/d/1-rIM5ihDu79RaH7rAs-d-7SQSAQhrY9N/view?usp=sharing)

ii.CDR\_description.xlsx  [(Links to an external site.)](https://drive.google.com/open?id=1cVoNXl25IO5-_yQk97ThdeqhE6yw8YTD)

iii.cells\_geo.csv [[Link] (Links to an external site.)](https://drive.google.com/a/moringaschool.com/file/d/1ABZux280OjL3yWcOn8BDA_f5QsyO0QPU/view?usp=sharing)

iv.CDR 20120507 [[http://bit.ly/TelecomDataset1] (Links to an external site.)](http://bit.ly/Telcom_dataset1)

v.CDR 20120508 [[http://bit.ly/TelecomDataset2] (Links to an external site.](http://bit.ly/Telcom_dataset2)

vi.CDR 20120509 [[http://bit.ly/TelecomDataset3]](http://bit.ly/Telcom_dataset3)

b. Software( Github, Google Collaboratory)

**2. Assumptions**

a. The data provided is correct and up to date

**3. Constraints**

a. There are no constraints

**Data Mining Goals**

Our data mining goals for this project are as follows:

-Find the most used product .

**Data Mining Success Criteria** Our success criteria will be measured by the following criteria;

Finding out the most used city for the three days?

Finding out cities were the most used during business and home hours?

**2. Data Understanding**

**Data Understanding Overview**

For this project, we are using the availed dataset by the company. These datasets are

★ Telcom\_dataset1 - This dataset gives the number of electors per state.

★ Telcom\_dataset2 - This dataset show the population of each state.

★ Telcom\_dataset3 - This dataset gives the number of electors per state.

**Data Description**

We have two datasets available for this project. A detailed description of the datasets is provided as follows:

❖Telecom dataset**-** This dataset contains the company details that allow me to track their data usage and service. It consists of 9 columns;**PRODUCT,VALUE,CELL\_ON\_SITE,DW\_A\_NUMBER\_INT,DW\_B\_NUMBER\_INT,COUNTRY\_A,COUNTRY\_B,CELL\_ID and SITE\_ID*.*** These columns show the

**Verifying Data Quality**

None of the two datasets had any missing values. There were also no known data errors in the datasets. There were misspelling and other corrections i made on the dataset

**3. Data Preparation**

These are the steps followed in preparing the data

**1. Loading Data**

Loaded the datasets from the CSV and then into a python notebook.

**2. Cleaning Data**

While doing data exploration, I noticed that in the Telecom dataset the first column was misspelled and I corrected it.I also corrected the geo dataset. As a result, this would make the merging of the datasets easier.

**3. Merging of the Datasets**

After cleaning the data, it was time to merge the datasets.

**4. Deriving New Attributes**

The most used product in the dataset dataframe 1

**4. Analysis**

I found out that the most used product is sms, The people of Ivory coast mostly rely on sms services when using their mobile devices.

### **5.Recommendation.**

After conducting the analysis, I recommend that mobile technology should prioritise the sms services. This is because it is the most used form of telecommunication in the country. This will increase their profit and investment in the mobile technology business.