1. **Business Understanding**

**Business Overview**

MTN Cote d'Ivoire is the leading telecom company which provides a wide range of products for the users at affordable prices. Their products are like sms and voice which they provide to the cities in Ivory Coast. The way MTN has stood out from other telecommunication companies is their belief that everyone deserves the benefits of a modern, connected life.

**Business Objective**

The main objective of this report is to guide MTN on how to upgrade its technology infrastructure for its mobile users in Ivory Coast.

**Business Success Criteria**

The business success criteria is to show the most used cities in Ivory Coast. By doing so MTN will be able to upgrade its technology

**Assessing the situation**

1. **Resource inventory**

**Datasets**

1. cells\_geo\_description.xlsx [[Link]](https://drive.google.com/a/moringaschool.com/file/d/1-rIM5ihDu79RaH7rAs-d-7SQSAQhrY9N/view?usp=sharing)
2. cells\_geo.csv [[Link]](https://drive.google.com/a/moringaschool.com/file/d/1ABZux280OjL3yWcOn8BDA_f5QsyO0QPU/view?usp=sharing)
3. CDR\_description.xlsx [[Link]](https://drive.google.com/open?id=1cVoNXl25IO5-_yQk97ThdeqhE6yw8YTD)
4. CDR 20120507 [[http://bit.ly/TelecomDataset1]](http://bit.ly/Telcom_dataset1)
5. CDR 20120508 [[http://bit.ly/TelecomDataset2]](http://bit.ly/Telcom_dataset2)
6. CDR 20120509 [[http://bit.ly/TelecomDataset3]](http://bit.ly/Telcom_dataset3)

**2.Assumptions**

The data provided is correct and up to date

**3.Constraits**

There are no constraints

**DATA MINING GOALS**

Our Data mining goals is as follows:

1. To find out which city was the most used in 3 days
2. To find out which cities were the most used during business and home hours?
3. To find out which was most used city for the three days?
4. To find out which specific time does communication happen.
5. To find out which product is the most used

**2. DATA UNDERSTANDING**

**DATA UNDERSTANDING OVERVIEW**

For this project, we will be using various datasets:

Cell geo data file - Shows us the villes, date and time as well as the products

The rest of the data files gives also the same info us the Cell geo data file.

**DATA DESCRIPTION**

1. Cell geo data file. This datafile gives us the status, villes, localisation and decoup zone. Though this datafile has not been highlighted properly once you view it.
2. Cell geo description. This datafile shows us the various column names like villes,status,area etc.It also shows us the format of the content which is in string format.
3. CDR 20120507. This datafile shows us the the various products that will be worked on and it also shows date and time which will be used to find what time most users use the products.

**3. DATA PREPARATION**

These are the steps used in data preparation:

1. **Loading the data**

I’ll load the data from the given cvs

1. **Cleaning the data**

Upon loading the tables, I noticed there were unnecessary columns in the file.I had to drop the unnecessary columns since I will not be using it for the analysis process.I also had to group the data files into columns and convert them to data frames in order to merge them.

1. **Merging**

After the cleaning process, I had to merge the data frames.

1. **ANALYSIS**

During my analysis i was able to get the cities that used the products the most

YOPOUGON 5256

ABOBO 3710

COCODY 2234

ADJAME 1621

KOUMASSI 1505

...

BIELOU-CARREFOUR 3

SERHIO 3

ANIANSUE 3

DANANON 2

KOTOULA 2

The city YOPOUGON had the highest number of users who use the product followed by ABOBO and COCODY.

I also found out which cities had the most users during business and home hours?

The above analysis can be found here

1. **RECOMMENDATION**

From my analysis I found out the cities of Abobo, Dabou, Yopougon & Abengourou have the highest number of users. I can conclude that the best time for an upgrade will be during the day.