**Choosing a location to build a Samsung supply chain in**

**Abidjan**

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**1. Introduction & Background**

The big firm Samsung plans to open some offices in Abidjan, Ivory Coast, in Africa. This project aim at winning the Ivorian phone market by building an effective supply chain in Abidjan which can reduce production cost, will supply the Ivorian phone Market and eventually the West African one with cheaper phones.

One of the factors impacting the sales revenue is the location. That is why they contacted the best data scientist group from Ivory Coast called “The Pentagon” to carry out a study and pinpoint the best location.

Abidjan is a city on the southern Atlantic coast of Ivory Coast, in West Africa. It is a capital of Ivory Coast and the major urban center with skyscrapers rising above the Ebrie Lagoon (Google).

The country is well known for being a commercial hub for West Africa, with a GDP growth of 8% on average. Ivory Coast, West Africa do not have a firm making phone from West Africa. Therefore, winning Ivory Coast through Abidjan is winning the West African Market, and eventually Africa.

The best location for the project Samsung involves leveraging the geographical data to solve that issue.

**2.Data & Methodology**

The required data was divided into three groups:

1. Data for the list of neighborhoods in Abidjan-to be retrieved from Wikipedia.
2. The latitudes and longitudes for the city and the neighborhoods.
3. The data regarding the city in Abidjan by Foursquare location data.

The features to take in consideration to find the best location are:

* the workforce availability and labor skills generally located in the attractive industrial zone
* the presence of Airport, the Railway Stations and Port which will be display by the folium map

This information will be used with the K-Clustering method to establish cluster, and eventually a map. After analyzing this information, we will come up with the best location

**3. Results**

Base on the Data collected, a datafrane and two final maps were created such as the Folium one that allow us to identify the Port and attractive industrial zone in Treichville, the Airport in Port-Bouet , the train station in Abobo.

A screenshot of a cell phone

Description automatically generated

A close up of a map

Description automatically generated

Figure 1: States in Abidjan.

In the figure above, you can see that the only state with the Airport is Port-Bouet and the state with an attractive industrial zone and Port is Treichville which is also near by the Airport. They a both have railway line. Moreover, Treichville has many roads and a good traffic flow which will ease the distribution of the products. The fact that the industrial zone is located at Treichville give as a clue about the workforce availability and the labor skills. That is why most of the companies in Abidjan are established there.

**4.Discussion**

The map from Folium give us an insight of the features required to propose the best location for the Samsung office. The map reveals that Treichville and Port-Bouet are the suitable locations for building the supply chain. The key factors that lead as to choose Treichville over Port-Bouet as the best location are the presence of Abidjan Port, the attractive industrial zone, the road, and traffic flow.

**5.Conclusion**

Dataset about Abidjan is not enough to carry out a research. We worked with what we had in hand. The inaccessibility and unavailability of data makes a job of data analysist difficult.

However, we were able to come up with the best location for Samsung office with only a map.