

PACA TOURISM RECOVERY PLAN: A DIAGNOSIS REPORT

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2020 - 2021



- **Scenario :**

You are a student in Master 1 Economic Expertise at the Université Côte d'Azur, and you are currently doing an internship at the Nice Chamber of Commerce and Industry, under the responsibility of Ms. GIARDINA, Director of Tourism at the CCI.

According to the current health situation, the PACA region wishes to revive the economy and particularly the tourism in the PACA region.

For this, you are asked to carry out a tourism diagnosis of the PACA for the last three years (2017 - 2019), which will be directly transmitted to the commission in charge of the recovery plan and to your internship supervisor, Ms. GIARDINA.

This diagnosis will aim to give tourism trends in the PACA region over the last three years.

In addition to producing a program in python, you are asked to apply yourself on the writings and on the presentation of your report, since it will serve as a support for the committee in charge of the recovery plan.

All the data you need is available to you, but you can nevertheless find them on the INSEE national statistics site.

The instructions were written as clearly and explicitly as possible.

Good luck to you !

- **Instructions :**

- 1- For each of the proposed Excel tables, you will work by quarters. (4 quarters over a year.)

Therefore, you will write a function that transforms the monthly values into quarterly values for the "nbhotels (thousands) .zip and "occupancy rate.zip " files which express the values in months.

You will name this script "quarterly functions".

To display the data of a .csv file on python, you can use the pandas library.

In the "sitesweb_aide" plain text, a link directs you to a tutorial.

However, if you need more information, especially regarding to the data manipulation, Google is your best friend.

If some parts of the excel file (wrong row / column names ...) annoy you for the future manipulation of data on python, you are invited to do some data cleaning using the functions of the Pandas library.

- 2- For each graph you will work in rate (%) and after each graph, you will provide a small descriptive and explanatory comment.

If the data is expressed in numbers and not in rates, you will program a function that performs the transformation.

For the diagnosis to be understandable by all, you must create a graph for each item, which represents the evolution in time series of each item in the "data" folder:

Evolution of the accommodation and catering rate, evolution of the hotel occupancy rate and evolution of the number of hotels (data to be presented in number and not in rates), over the last three years and by quarter. (2017, 2018, 2019; Q1, Q2, Q3, Q4).

Finally, on the same graph, you will have to show the evolution of the occupancy rate of hotels and accommodation and catering services.

You will calculate the correlation coefficient between these two elements and provide an explanatory comment on this coefficient.

- 3- The CCI PACA commission wonders what will be the evolution of the occupancy rate of hotels and accommodation and catering services over the next three years.

You need to determine what's the trend ahead.

To do this, perform a statistical Dickey-Fuller test and comment the result (stationary or not?)

- 4- Program a small script which displays a window with different tabs which will display all the graphs made previously as well as the comments associated with them.

- **Helper :**

Here some libraries you may need :

- tkinter
- pandas
- numpy
- math
- matplotlib
- pyplot
- plotline
- bokeh
- holoviews
- panel
- scipy

You will find the notepad "sitesweb_aide" which, as its name suggests, references websites that can help you with certain tasks.

The "data" folder contains all the data you will need in .zip format.

In addition, it includes the "links_data.txt" note block which references the direct links from INSEE which will allow you to find this data online.

The "heberg & resto.zip" file is expressed in months, and the "nbhotels (thousands) .zip" and occuphotel.zip rate files are expressed in quarters.

Do not forget to give a title to your charts and to name the y-axis and the x-axis.