



## Introduction

Carbon Dioxide, a chemical element called also CO<sub>2</sub>, is one of the most released GAS into earth's atmosphere. Due to many natural or industrial reasons such as the burning of carbon-containing fuels, the decay of wood and other plant matter; the carbon takes place more and more in the atmosphere. Like it was discovered, the carbon dioxide is invisible and odorless which makes it hard for humans to detect. The CO<sub>2</sub> isn't harmful for humanity as long as its quantity in the air is controlled. And can be removed by plants that extract carbon from CO<sub>2</sub> or by oceans which dissolve it.

Because of its opacity to infra red radiation in the atmosphere, and due to its high emission, the CO<sub>2</sub> is a layer that acts like a net which slows the loss of heat from Earth into space. Of course other gases are also responsible for climate change, but CO<sub>2</sub> stays responsible for three quarters of global warming.

Because of the factories' emissions, the burning of large amounts of coal, petroleum and else, increased the amount of CO<sub>2</sub> greatly. We must underline that CO<sub>2</sub> isn't the only gas acting in the global warming but also Methane (CH<sub>4</sub>), Nitrous Oxide (NO<sub>2</sub>) and more. All this has been increased recently by the various human activities and are contributing in part to the greenhouse effects on the planet.

The emission of CO<sub>2</sub> has an important impact in the ecosystem and the contributors are around the world, every continent is a part of it but the stats differ from one to another.

Since the natural greenhouse effect maintains Earth's average surface temperature above freezing, CO<sub>2</sub> emissions predate the existence of humans by billions of years. They are also necessary for life to exist on Earth. When compared to now, atmospheric CO<sub>2</sub> has occasionally been substantially greater in the deep geological past; for instance, over 15 times as much CO<sub>2</sub> was present in the atmosphere 500 million years ago. On the other hand, CO<sub>2</sub> had remained stable for nearly 20 million years prior to humans starting to burn huge volumes of fossil fuel in the late eighteenth century. The atmospheric CO<sub>2</sub> level is today much greater than it has ever been in the last 800,000 years and certainly in the last 20 million due to anthropogenic (human-caused) emissions. By geological standards, this transition occurred instantly after only 200 years.



EDA

Discussion

Findings

Conclusion



# Exploratory Data Analysis



## Data Selection:

Demonstrate your understanding by answering the following questions:

- Which data exist in the world?
- Which data is needed?
- How the data can be acquired?

ILO 4.2 (Sufficient)

In the world, a vast amount of data exists, encompassing various forms, including but not limited to: Personal data, business data, scientific data, public data, socioeconomic data.

The data that is needed depends on the context and the objectives of the entity or individual requiring it. Some common types of data that are often necessary include: Market data, healthcare data, educational data, environmental data.

Data can be acquired through various methods, depending on the type of data needed: Surveys and questionnaires, data mining and web scraping, sensors and IoT devices, public records and archives, partnerships and collaborations.

Data >>

Search

- > annual-co2-emissions...
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## Data Cleaning & Transformation:

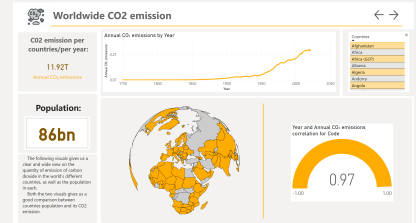
Demonstrate you can apply your understanding by answering the following questions:

- Which data needs to be cleaned and why?
- How did you clean your data?
- Which data transformation steps do you need to take?

In this dataset, the data that needs to be cleaned might include: Missing values, outliers, inconsistent formatting, duplicate entries.

Data cleaning involves several steps: Handling missing data, dealing with outliers, standardizing formats, removing duplicates.

After cleaning the data, various transformation steps might be necessary: Normalization or standardization, encoding categorical variables, feature engineering, dimensionality reduction.



## Data Analysis:

Evaluate your data by answering the following questions:

- What does the data distribution tell you for each variable of interest?
- What do the summary statistics tell for each variable of interest?
- Which data visualisation method is most appropriate?

ILO 4.1 (Basic & sufficient)

1. For Sales Amount:

- A line chart can be effective in showcasing the trend in sales over time, providing insights into seasonal patterns or overall growth trends.
- A scatter plot might be useful to visualize the relationship between sales amounts and other relevant variables, such as advertising expenditure or promotional activities, helping to identify potential correlations or patterns.

1. For Product Category:

- A treemap can be utilized to display the hierarchical data structure, providing a visual representation of the proportion of sales for each product category within the overall sales distribution.
- A heat map can help illustrate the relative performance of different product categories across various dimensions, such as sales volume, profitability, or customer satisfaction.



## Overview

I put it in my dashboard various visualization talking about the topic I choose, which is CO<sub>2</sub> emission in the world. As you can see there was dashboards explaining the CO<sub>2</sub> emission world widely as well as many Visualizations that shows us the world CO<sub>2</sub> emission And we can compare it with the population of the world's countries as well as the correlation between the every of those graphs. I also used some visualization that were about the cost of CO<sub>2</sub> emission and the intensity of it and a correlation for the graphs.

You can find in my dashboard a comparison between three economically strong countries such as China, France and USA regarding CO<sub>2</sub> emission intensity per year. This comparison is built up on industries in those countries, how much they emit CO<sub>2</sub> in the per year, which give us a few on how CO<sub>2</sub> can be emitted in the world also.

After this, you can see the prediction that I give about the theater mission. For sure this prediction is based on if the world didn't make any It changes how will it be in the further use the this prediction can go up to 2050.

Else is the solution. After this all, the final thing is the solution where I give multiple strategies that were employed to lower CO<sub>2</sub> emission. For more information you can click on the eye. To get more detailed explanations you can also click on D2UH strategies that were already employed and that I gave more data about it, renewable energies as well as afforestation and deforestation.



## Considerations in interpreting the data:

The problem regarding data collection is that the data is hard to find sometimes, not all the time, but we can find at least the minimum of it. And also after finding the data it's hard to clean it to get it clean because not every data is cleared. To read clear to use. So it's hard to have a clear data already, which means that it will take time for a cleaning and a managing of the data.

Intensity and the Industry, innovation and infrastructure, nine. four point one et toise pretty easy to find tata titine need not that easy because data Ready for you, so it is to be cleaned and checked. I'm so hot to do some changes on my power BI to have good looking dashboard.

## Recommendations for future analyses & data-driven decisions:

Meet the following criteria:

- Form an unbiased judgement on the considerations and interpretation
- Propose meaningful future analyses (e.g. correlational or linear regression) for your problem statement/domain; next steps
- Consider the CRISP-DM, frame your proposed steps in the context of the framework; how would a loop through the CRISP-DM be filled in given your next steps?

ILO: 4.2 (sufficient, good, excellent), ILO 4.1 (sufficient, excellent)



## Conclusion



In conclusion, outside the theatre emission is a really interesting topic, a must in the world, because we cannot live in a world without theater emission. It skips the earth where it is a sln conclusion, outside the theatre emission is a really interesting topic, a must in the world, because we cannot live in a world without theater emission. It skips the earth where it is a surface of living for humans, for everything that breathed on. The earth. In this dashboard you can find any information you need about the theater emission in the world. How does it grow? Because yes, it's grows during the years. How can it be avoided? Or can it be lowered at least And also you can have some predictions For the next years and know what if Edward didn't make changes on the CO2 emission now, what will it be in the future?urface of living for humans, for everything that breathed on. The earth. In this dashboard you can find any information you need about the theater emission in the world. How does it grow? Because yes, it's grows during the years. How can it be avoided? Or can it be lowered at least And also you can have some predictions For the next years and know what if Edward didn't make changes on the CO2 emission now, what will it be in the future?

So basically this dashboard talks from the beginning to the end about. Do you worldwide theater emission as well as the intensity and cost of it, it also talks about The CIA mission regarding the industries in some countries. It gives us prediction about the future willing of the earth regarding the CO2 emission and solution that has been already employed as well as solutions that are in Process and its ends with some information about all of those strategies that were employed also.