# Design checklist

1. **Executive Summary.** You will need to write a 50-100-word executive summary that introduces your topic and why you chose it.

I have chosen a dataset containing information about absenteeism at work in a company located in Brazil. I found this subject quite interesting because it may show that absenteeism and disease may depend on the job and social conditions of the salary. Furthermore, absenteeism is a fundamental problem inside companies and founding the reason why employees miss work, then implement some solutions to prevent these absences may result in a significant increase on company productivity

1. **Why.** You will need to clearly identify the objectives/business case/goal of your project. Remember this will keep you focused. You will also need to identify any specific outcomes the project must accomplish, if any.

Our objective here is to find some trends or causes resulting in absenteeism. We will look at a sample of 36 employees and analyze their 5 124 missing work hours. Our company wants to reduce absenteeism at work and understand what type of employees are more likely to be absent and the potential working axis to reduce these absences.

1. **Who.** You will need to identify who your final presentation is intended for: stakeholders, audience, subject-matter experts, a combo, or other? You will create a persona document for each "Who" you have identified and the goals of each user (see more information below on creating a persona).

This presentation is for the human resource manager that wants to implement a more efficient human resource policy inside the company. Also, our financial chief officer will be present, he wants to decrease the costs of temporary work that is in place in our company to palliate absence of our employees.

1. **What.** You will need to identify your dataset (see more information on selecting data below) and describe why you chose the data set you chose.

I’ve chosen a dataset provided by the University of California. This is an opensource dataset created between July 2007 and July 2010 in a courier company in Brazil. The dataset has clean dates: months and years are present. No outliers have been identified and is relevant for our business case. Finally, as the data is already freely accessible and anonymized, we do not have any problem to post it on tableau Public

Our main issue is the freshness of the data set as it is an old one: 2007 – 2010. 10 years old, but as it is an example project, we suppose that our meeting with our managers is in 2011.

1. **How.** Once you have identified the other elements, provide an initial opinion as to how you think you present your findings. This will obviously evolve as you move through the milestones.

We are in a situation where, we will face two top managers of our company, they do not want to dig into data. They want to have an explanatory analysis of the situation. Usually, top managers do not have a lot of time and want to concrete information to take decisions about next steps in a project. For this reason, and to comply with the persona of these two managers our presentation will be in the following format:

* A short presentation of less than 10 minutes.
* **Maximum 5 slides**.
* **Static visualization** as they do not want to explore the data
* No details needed by the managers, only top-level facts
* Modern managers that like pretty visuals 🡺 **graphics** are primordial
* Data driven decisions for CFO
* Small room: office of the Human resource manager with a **big screen** allow us to display advanced graph

1. **Challenges.** Your proposal should conclude with any foreseeable challenges you are expecting to face and areas you hope to gain more experience. Include specific questions for your peers in this area.

The dataset does not have any information on cost of absenteeism, I will have to add calculated fields to the dataset to propose some potential costs for the CFO. Also, I must explain the hypothesis taken for these calculated fields. I also need to merge some columns as the date is split between months and years, each in one column. For me, the main challenge will be to discover more possibilities offered by the calculated fields option included in Tableau

# Personas:

## Sarah, 32 years old, Female

Role: Human resource manager.

“ A good company is a company where employees want to stay and consider their colleagues as family “



Goals:

* Improve the company Human resource policy.
* Reduce absenteeism in order to improve work conditions. Absenteeism causes an increase in the workload of other employees that complain to management and company employees’ turnover rate is important.

Challenges:

* She is currently building a new human resource policy.
* Limited face time with her to convince her about the importance of your findings.
* Really bad with numbers but expert in human relations

Context:

* Even if this meeting is for a human resource, it also interests the CFO;
* Nevertheless, the meeting will take place inside Sarah office, she may be disturbed by her phone or employees during the meeting: short time presentation

## Relevant notes

Even if Sarah does not want to dig into data, she is quite curious and may want further information. Be ready to have questions that may cause you to filter your data.

## Richard, 37 years old, Male

Role: Chief financial officer.

“ A good company is a company that have large amount of profit! We need to improve our cost policy to increase our margin and attract more stakeholders “



Goals:

* Improve the margin of the company
* Reduce cost of absenteeism
* Increase efficiency of employees at work by reducing employees’ turnover and temporary workers that work slower

Challenges:

* Our company has several challengers that are really aggressive on tariffs, we need to be more efficient.
* Our CFO is under pressure, shareholders want more profits

Context:

* He knows that the meeting is human resource oriented but is aware that human resources impact rentability.
* He can be a really good sponsor in front of the board to support the new human resource policy wanted by Sarah

## Relevant notes

Data driven decisions, financial oriented wants stability inside the company to reduce uncertainty.

# Data import and preparation :

Link to download the original version of the dataset: [Here](https://archive.ics.uci.edu/ml/datasets/Absenteeism+at+work)

This dataset was originally designed for a clustering exercise, for this reason, I faced several issues when importing it

1. All the columns were in number format, but for some of these columns, it is not the best option for an analysis:

* reason for absence
* day of the week
* season
* disciplinary failure
* education level
* social drinker
* social smoker

In order to correct it, I checked the attribute information section, and transformed with excel lookup function these attributes in text attributes

1. some of the data inside reason for absence were not inside the attribute information section : by looking in the column hours of absence, I saw that all these rows correspond to 0 hours of absence, for this reason, I've completed the column reason for absence with a "no absence" label for these rows.
2. Month of absence and year of absence column were two separated columns in a number format : by using Tableau, i've transformed these columns into Categorical format, then create a calculated field extracting the month and the year of these columns and finally create a hierarchical field with my new years and months calculated fields.
3. Some rows inside months columns were not correct (0 is not a month), these incorrect rows correspond to no absence rows. for this reason, i've replaced the 0 value by a month corresponding to the season column information.
4. Finally, 2 columns are without any information: Hit target and Workload Average/day. Hit target seems to correspond to the target percentage of worker presence as it is close to 100 without exceeding it.

Workload average/day is complicated to understand but the data seems to be coherent between the rows, not too much difference between the minimum value and the maximum one (45%). for this reason, even if we do not know the unit of measure, we will be able to make comparison between workers