*Case study prepared by Lina Sutkevičienė, Data Analytics student at turing College*

1. **Ask**

**Background:** So, few months ago, I had some serious health problems. After visiting the medical institution, I got the medicines I needed but I decided to make a step further and start to have a healthier lifestyle. And the first step I had to make is quit smoking.

**Problem** I need to solve: Quit smoking.

**Questions** that lead this study:

1. What would initiate me to quit smoking?

2. At that circumstances the need for a smoke is the most common?

3. What motivates me to quit smoking?

**** (1)

1. **Prepare**

I’ve prepared a dataset for this case study. So, the data source are my own observations which I put into Excel. Does my data ROCC? I suppose, yes. It has several limitations (such the limit of the time) but it is from a **reliable** source (myself), it is an **original** source, it is **comprehensive** and contains deep insights, the data is **current** to when the analysis is “being performed”.

My data consists of **Date, Time, Mood, Place, Coffee intake, Heart rate** and even a **price** for **one smoke break**.

1. **Process**

Cleaning and formatting: I checked my data on duplicates, formatted dates, time, and currency, made all the columns to be named in the same way. I applied **SUM** formula for price, **AVERAGE** function for heart rate, **CONCAT** function to merge two cells: date and time also added **Data Validation** function to avoid incorrect inputs.

Graphical user interface, application, table, Excel

Description automatically generated

1. **Analyze**

First, I created a pivot table for day and money spend on Iqos that day:

Graphical user interface, application, table, Excel

Description automatically generated

Then, another pivot table for the data and the average heart day depending on that day:

Graphical user interface, application, table, Excel

Description automatically generated

After these two summaries I can gather a few conclusions:

1. In three days (October 12th, 13th, and 14th) I spent 4Eur. It doesn’t sound like a lot, but in future perspectives I can count that in month I could spend over 40Eur. So, I pay 40Eur for my heart and lung diseases but could have spent those money for monthly sports club subscription or buy a new extra sweater, simply go for extra groceries, or buy that silly overrated toy for my daughter.
2. My average heart time in those three days was 110.7. According to to the American Heart Association (AHA), a normal resting heart rate is [between 60 and 100 bpm](https://www.heart.org/en/health-topics/high-blood-pressure/the-facts-about-high-blood-pressure/all-about-heart-rate-pulse) (2). Smokers tend to have a higher resting heart rate. [Quitting smoking](https://www.healthline.com/health/how-to-quit-smoking) can help bring it back down. This is often difficult, but a doctor can help build a cessation plan that works for you.

Then I created some charts by using spreadsheets graphical tool.

First one – sum of money I spend and the mood which was at that time.

Chart, treemap chart

Description automatically generated

It is interesting as I can draw a conclusion that the better my mood is, the more money I spend on Iqos, and is this happen? Because then I am in the good mood (as that October 14th night) I want to smoke more.

Also, I decided to create some pie charts showing how many times I drank coffee when smoking. For this analysis, I cleared the Data validation function in my spreadsheets and used **COUNTIF** formulas to count totals.

**Coffee intake:**

Chart, pie chart

Description automatically generated

From this pie chart I can see that I had a cup of coffee less than three times while smoking. But here I must bear in mind (and this is the case how the **Biased** analysis might be). As a creator of this database and a professional in data analytics field I see that a much bigger number of cigarettes were smoked in the evening of October 14th in the town where I was drinking other beverages. So, to avoid bias, I will create another pie chart where I will exclude that night:

Chart, pie chart

Description automatically generated

Of course, two days are not enough to draw strong conclusions, but I can see that usually I drink coffee with my cigarette which is also leads to higher heart rate which can cause various diseases.

**Places:**

And the last chart which I will create is about the place where I tend to smoke. It is very important for the analysis, as it can show where I smoke the most and can help me to decide which data-driven decisions I can make to solve my problem.

For this chart, I count the percentage of each place. For this, I used Countif formula to count haw many times I smoke in the studies, in town and at home. Then, in the empty cell I counted the percentage applied the simple formula =6/20 (where 6 is times I smoke in the studies, and 20 the total time I smoke).

Chart, pie chart

Description automatically generated

I see that there is a slightly bigger percent of myself smoking in the town so here I can draw a conclusion that it is very important to think about my health when going out.

1. **Share**

To share my findings and properly tell a story about myself quitting smoking to my beloved stakeholders (Turing College STL) I used PowerPoint presentation.

1. **Act**

After conducting this study, I have a few recommendations for myself how to solve my problem (which is Quit Smoking):

1. I recommend myself to think about the money I spend on cigarettes, for this the spreadsheets on monthly, yearly budgets can be helpful.
2. Considering, that it is clearly seem that smoking significantly increases my heart rate, visiting medical institutions and taking pills is not enough to have a healthy heart. I must think about my body, my health, my family.
3. Considering, that I usually want to smoke more going out in the town, I must keep myself tight and think about the actions I could make to avoid going for a smoke, e.g. drink some water, breath the fresh air, surf the social media or do some simple exercise.

For further analysis, I can make a study on signals of body to smoking, heart failure prediction.

**THANK YOU FOR YOUR ATTENTION**

**Index:**

1. [[Free Vector | Harm of smoking design concept (freepik.com)](https://www.freepik.com/free-vector/harm-smoking-design-concept_9850211.htm)]
2. [[Normal Heart Rate: Range, When It's Dangerous, and More (healthline.com)](https://www.healthline.com/health/dangerous-heart-rate#whats-a-normal-rate)]