Report for Synergy logistics

Project 2 - EMTECH Scholarship Ernesto Jesus Castillo Varguez

INTRODUCTION

In this final project we were asked to write a program that generates a report for the managers of our hypothetical company "Synergy Logistics". We were given the information in a csv file. The elements of this file were organized in this columns:

register_id	direction	origin	destination	year	date	product	transport_mode	company_name	total_value
1	Exports	Japan	China	2015	31/01/15	Cars	Sea	Honda	33000000
2	Exports	Japan	China	2015	01/02/15	Cars	Sea	Honda	16000000

We were asked to determine a strategy for the 2021 plan. To accomplish this we were given three options, import and export routes, transportation means and total value of imports and exports.

The program is written as a python script that is runned directly on the terminal, pandas library was used to make the development easier.

SOLUTION

To solve the problem management presented us, we used the results given by our program.

Option 1
This is the most sophisticated analysis, instead of sorting by total value or sales, we used an index that takes both into account as an average. To do it we did feature scaling normalization and then averaged both.

Option 2
This was quite easy, we took into account import and exports by the different transportation means and calculated their total values.

Option 3
This was calculated for each country that generated the movement. For the exports were the origins, for the imports the exports. Then we calculated its total value, sorted it and measured the cumulative percentage per country.

The results can be found in the appendix.

Results

Analyzing the report, we can state the following:
- The 10 most important routes tend to be consistent with their total value and total sales, except for some special cases, like the UAE.
- There are not so many differences between the transportation means, just sea transport is significantly bigger.
- If we take the direction of the transportation mean into account, it is not clear which one is the least important. The only clear thing is that imports in general generate less (except for the sea transportation).
- China is the biggest client for the company.
- 10 countries out of 23 represent 80% of the total value.
- Russia is in the top 10 of the most valuable clients but any route including them is in the top 10 routes either imports or exports.

Strategy

As a strategy we would focus on the 10 countries that give 80% of revenue, and maintain any other route that does not include a country from that list that is in the top 10 import and export routes (i.e. The United Arab Emirates, Italy, etc). Reducing or eliminating the presence of a transportation mean could hurt instead of benefit the company.

APPENDIX
The code and the final report can be found in:
https://github.com/ejcv/emtech/blob/master/Project-2