Customer Segmentation Project

Week 7

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1. Group Information

Group Name: M.A.S

Specialization: Data Science

Submitted to: Data Glacier canvas platform

Internship Batch: LISUM10: 30

Group Members	Three members			
Name	Email	Country	Collage/Company	
Moath Mohammed Bin Musallam	moathmusallam@gmail.com	Saudi Arabia	University of East Anglia	
Andrew Kojo Mensah-Onumah	kojoakmo@gmail.com	Ghana	Data Glacier	
Shaimaa Saleh Obad Al- khawlani	s.khawlany@gmail.com	Yemen	Data Glacier	

2. Problem description

Most banks around the world have variant large customer base with different income levels, ages, characteristics, values and lifestyles.

XYZ bank wants to increase the production and the satisfactions of all customers categories by roll out Christmas offers to their customers.

But Bank does not want to roll out same offer to all customers instead they want to roll out personalized offer to particular set of customers. If they manually start understanding the category of customer then this will be not efficient and also, they will not be able to uncover the hidden pattern in the data (pattern which group certain kind of customer in one category).

3. Business understanding

• Business Problem:

XYZ bank wants to roll out Christmas offers to their customers. But Bank does not want to roll out same offer to all customers instead they want to roll out personalized offer to particular set of customers. If they manually start understanding the category of customer then this will be not efficient and also they will not be able to uncover the hidden pattern in the data (pattern

which group certain kind of customer in one category). Bank approached ABC analytics company to solve their problem. Bank also shared information with ABC analytics that they don't want **more than 5 group** as this will be inefficient for their campaign. The ABC analytics team's proposal to use Customer Segmentation, which is the process of dividing customers into groups based on common characteristics so companies can market to each group effectively and appropriately.

• The Data:

The existing data, which was provided by the bank, is the bank's customers data. However, the data contains many columns that will help the analytics team analyze the data and build a customer segmentation approach for the bank.

Since the data does not contain a dependent variable or (Target), We believe that machine learning (clustering) techniques would be appropriate to use for this type of data.

Size: 1000000 records, 48 columns.

• Columns Description:

Column Name	Description		
fecha_dato	The table is partitioned for this column		
ncodpers	Customer code		
ind_empleado	Employee index: A active, B ex employed, F filial, N not employee,		
	P pasive		
pais_residencia	Customer's Country residence		
sexo	Customer's sex		
age	Age		
fecha_alta	The date in which the customer became as the first holder of a		
	contract in the bank		
ind_nuevo	New customer Index. 1 if the customer registered in the last 6		
	months.		
antiguedad	Customer seniority (in months)		
indrel	1 (First/Primary), 99 (Primary customer during the month but not at		
	the end of the month)		
ult_fec_cli_1t	Last date as primary customer (if he isn't at the end of the month)		

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		Securities		
ind_nomina_ult1 Payroll		Home Account		
	ind_nomina_ult1	Payroll		

ind_nom_pens_ult1	Pensions
ind_recibo_ult1	Direct Debit

4. Project life cycle along with the deadline

The project's general view, along with the deadline, is described in the table below. The deadline for week 7 is 19 July 2022. The following week is added up accordingly.

Task Name	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Data understanding and							
exploration							
Feature engineering							
EDA							
EDA presentation							
Segmentation techniques							
Model selection and							
building							
Code and report							
submission							

Data Understanding and Exploration

- 1. Check for missing values
- 2. Check for duplicates
- 3. Check for outliers
- 4. Check skewness of data
- 5. Inspect data types
- 6. Explore individual columns, etc

Feature Engineering

- 1. Impute missing values
- 2. Create new columns as needed, etc

EDA and **EDA** presentation

Segmentation Techniques

- 1. RFM
- 2. Cohort Analysis

3. K Means Segmentation, etc