

BANK DATA ANALYSIS

Submitted by:

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CONTENT



Introduction

About the Dataset

Objective: predict if the client will purchase a term deposit (variable y).

Sources: The data is related with direct marketing campaigns.

Attribute information:

Input variables:

bank client data:

1. **Age** (numeric)
2. **Job** : type of job (categorical: "admin.", "unknown", "unemployed", "management", "housemaid", "entrepreneur", "student", "blue-collar", "self-employed", "retired", "technician", "services")
3. **Marital** : marital status (categorical: "married", "divorced", "single"; note: "divorced" means divorced or widowed)
4. **Education** (categorical: "Other", "secondary", "primary", "tertiary")
5. **Default**: has credit in default? (binary: "yes", "no")
6. **Balance**: average yearly balance, in euros (numeric)
7. **Housing**: has housing loan? (binary: "yes", "no")
8. **Loan**: has personal loan? (binary: "yes", "no")

related with the last contact of the current campaign:

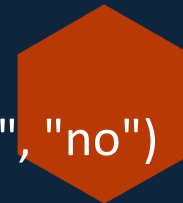
9. **Contact:** contact communication type (categorical: "unknown", "telephone", "cellular")
- A. **Day:** last contact day of the month (numeric)
 - B. **Month:** last contact month of year (categorical: "Jan", "Feb", "Mar", ..., "Nov", "Dec")
 - C. **Duration:** last contact duration, in seconds (numeric)

other attributes:

- A. **Campaign:** number of contacts performed during this campaign and for this client (numeric, includes last contact)
- B. **P days:** number of days that passed by after the client was last contacted from a previous campaign (numeric, -1 means client was not previously contacted)
- C. **Previous:** number of contacts performed before this campaign and for this client (numeric)
- D. **Outcome:** outcome of the previous marketing campaign (categorical: "Unknown", "Other", "Failure", "Success")

Output variable (desired target):

- A. **y** - has the client purchased a term deposit? (binary: "yes", "no")



EXPLORING THE DATASET

Bank Data had 11162 columns and 19 rows, Named as :

- S.no
- Age
- Age Group
- Job
- Marital
- Education
- Default
- Balance
- Housing
- Contact
- Loan
- Day
- Month
- Duration
- Campaign
- P day's
- Previous
- Outcomes
- Deposit



Technology

Since the problem statement of the case study was easily to be done using excel pivot tables, functions, and charts, I only used Microsoft Excel throughout the project.



A decorative graphic on the left side of the slide featuring several hexagons. There is a large solid orange hexagon in the center, a smaller solid orange hexagon at the bottom, a light blue hexagon at the top, and a white outline hexagon on the left. They are arranged in a cluster.

Data Visualization and Analysis

With a sound knowledge of the distribution of key variables, further analysis of each customer characteristic can be carried out to investigate its influence on the subscription rate.

Point of analysis

1. Observe the overall client data of this dataset.
2. Analyse client subscription decisions through the age, balance, and job feature.
3. Analyse the campaign contact period for client. and so on.

Dashboard

Distribution of leads based on few metrics.

Dashboard

Campaign

Job

Marital

Education

Age

About

Month

jan

feb

Housing

no

yes

Deposit

no

yes

Loan

no

yes

Default

no

yes

Contact

cellu...

other



ANALYSIS

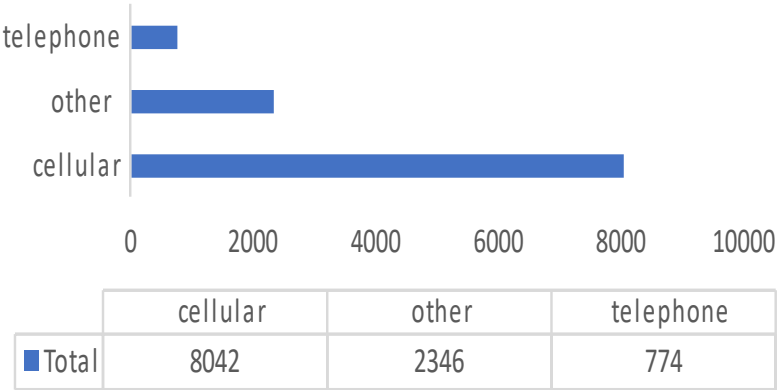


Balance
17061547

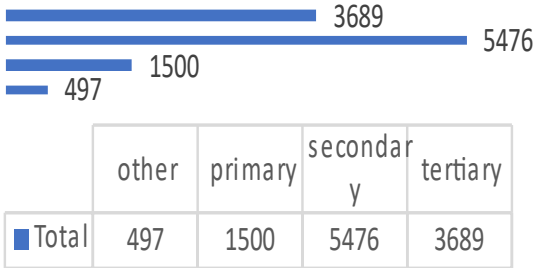


Duration
11162

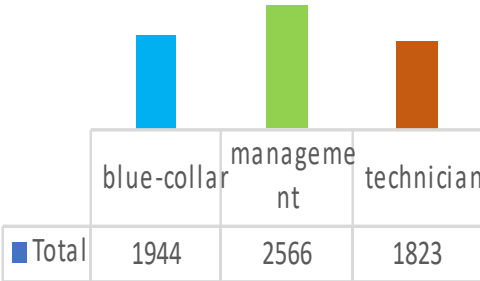
People Contacted



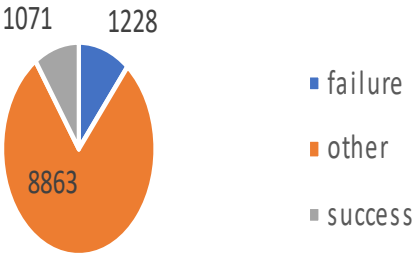
Education



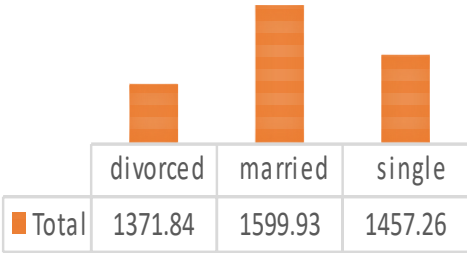
Top 3 Job field



Outcome



Marital Vs Avg Balance



Campaign

Most of the Campaign run in adult age group. We can also see in may campaign run the most and in September campaign run the least.

- Dashboard
- Campaign
- Job
- Marital
- Education
- Age
- About

Default

no

yes

Housing

no

yes

Deposit

no

yes

Loan

no

yes

Month

jan

feb

Contact

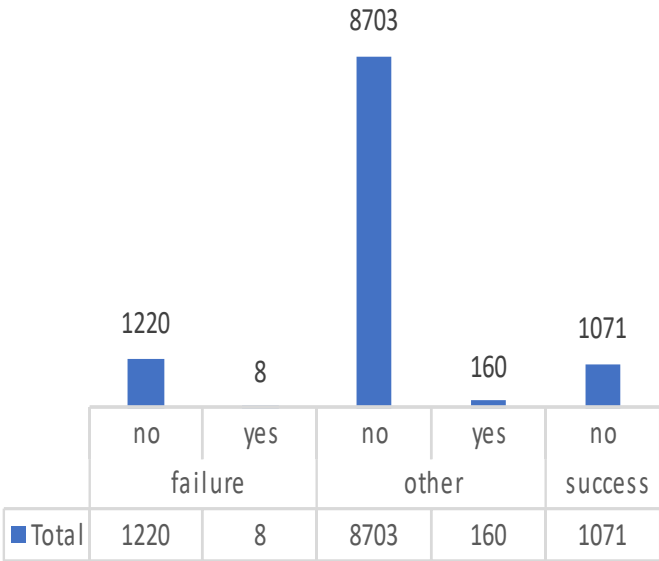
cellular

other

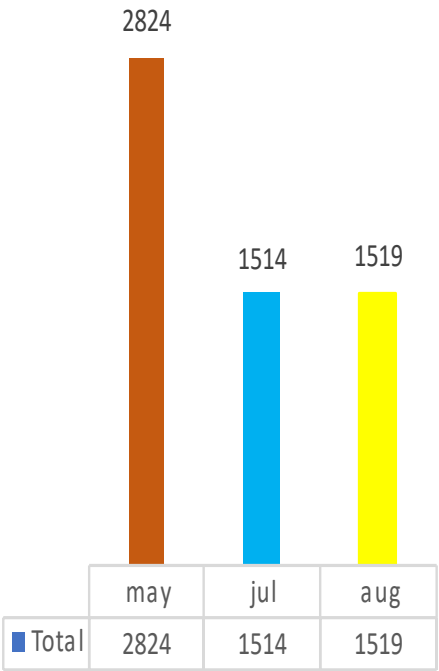


ANALYSIS

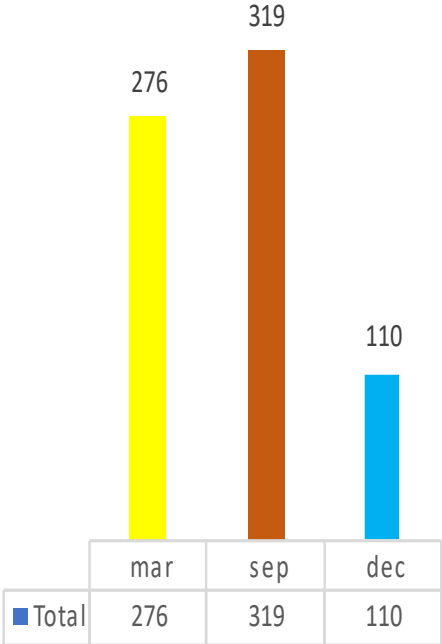
Outcomes Vs Default



Top 3 Months Campaign runs the most



Top 3 Months Campaign runs the Least



Job

Distribution of the leads as per their job profile and most of leads from management profile.

Dashboard

Campaign

Job

Marital

Education

Age

About

Default

noyes

Housing

noyes

Deposit

noyes

Loan

noyes

Month

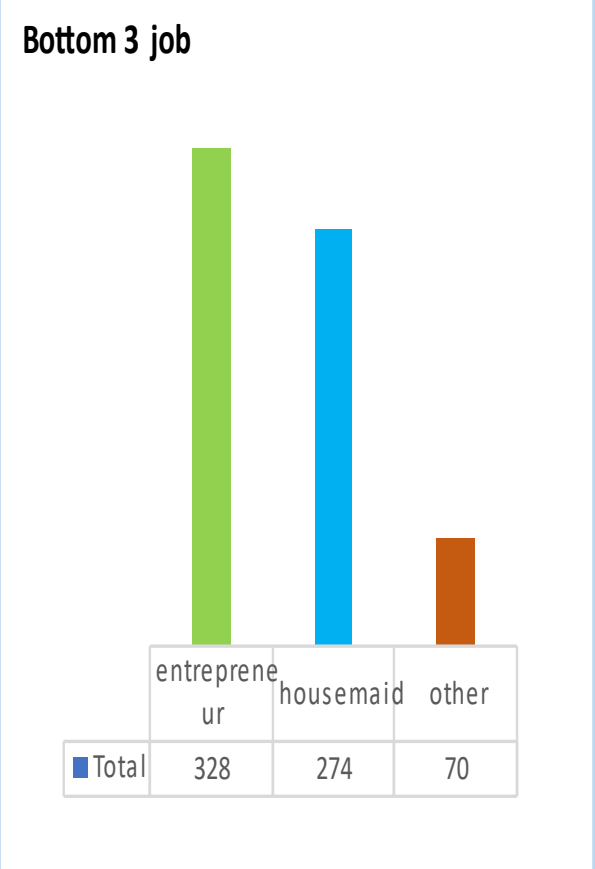
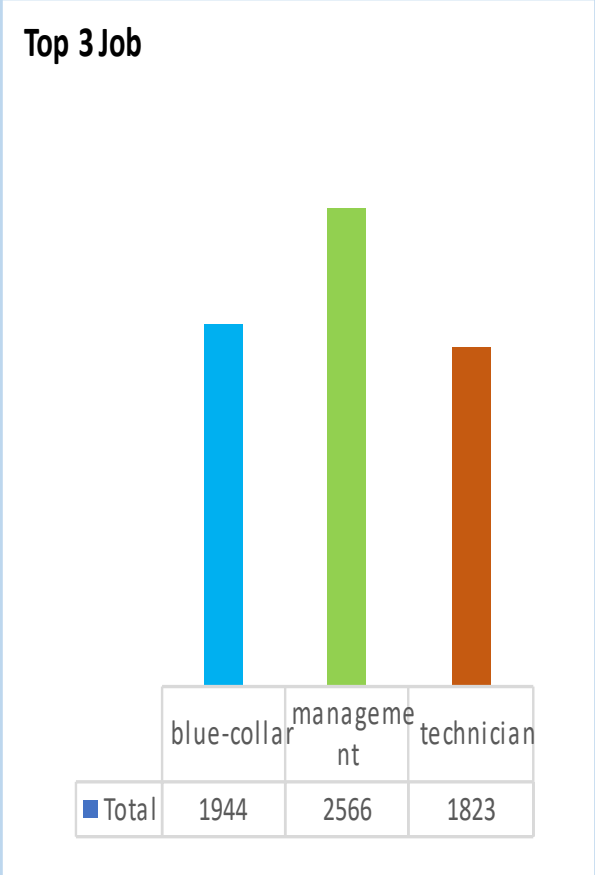
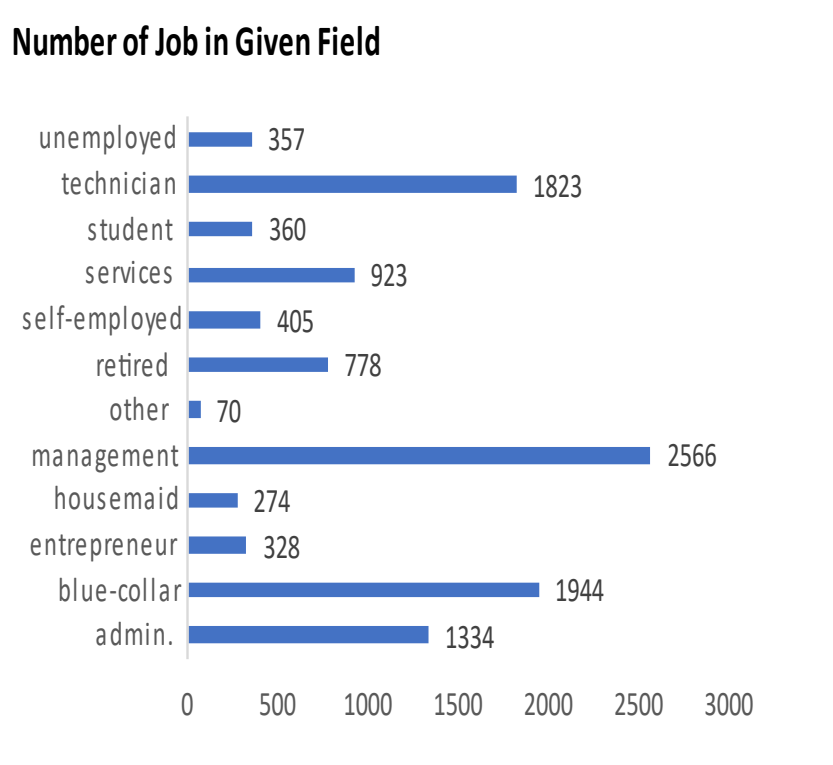
janfeb

Contact

cellularother



ANALISIS



Marital

Most of them are married; married client are educated as single and divorced.

Dashboard

Campaign

Job

Marital

Education

Age

About

S

Default

no

yes

Housing

no

yes

Deposit

no

yes

Loan

no

yes

Month

jan

feb

Contact

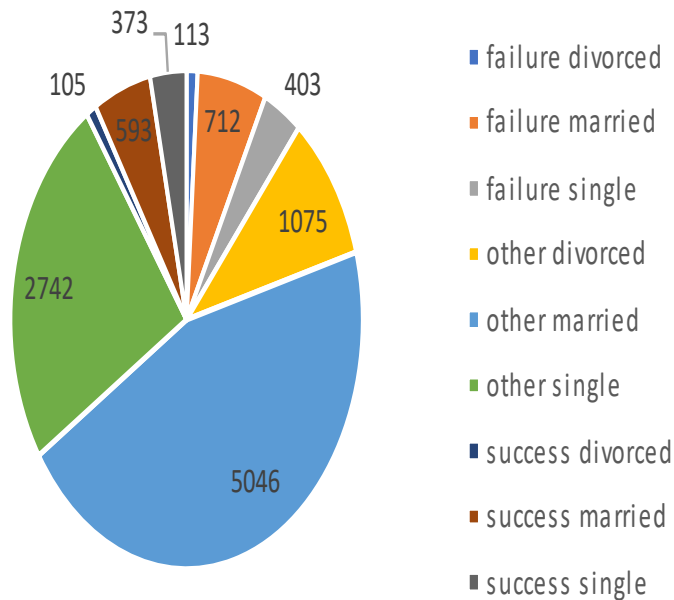
cellular

other

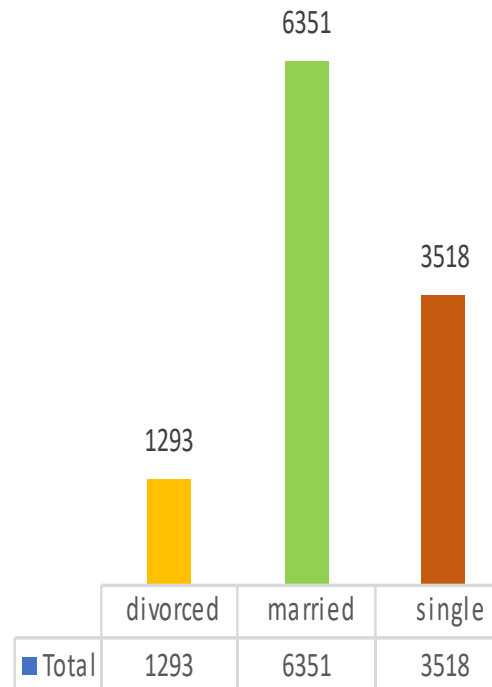


ANALYSIS

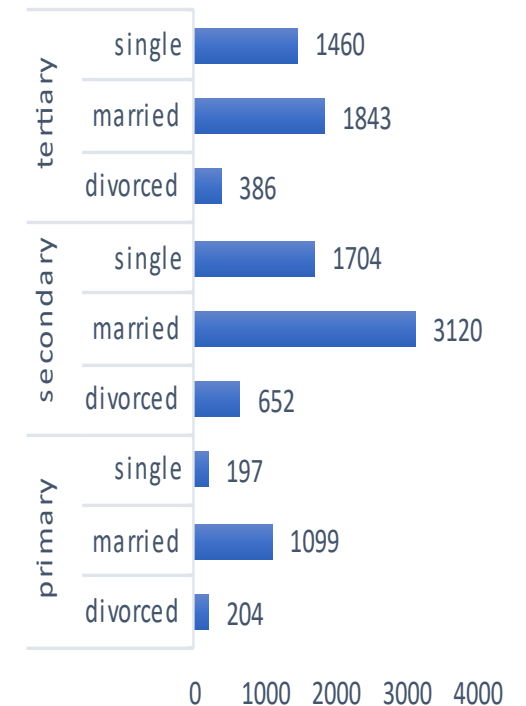
Marital Vs Outcomes



Marital Status



Marital Status Vs Education



Education

Most of the customer from secondary education level in which most of them having house loan.

- Dashboard
- Campaign
- Job
- Marital
- Education
- Age
- About

Default

no

yes

Housing

no

yes

Deposit

no

yes

Loan

no

yes

Month

jan

feb

Contact

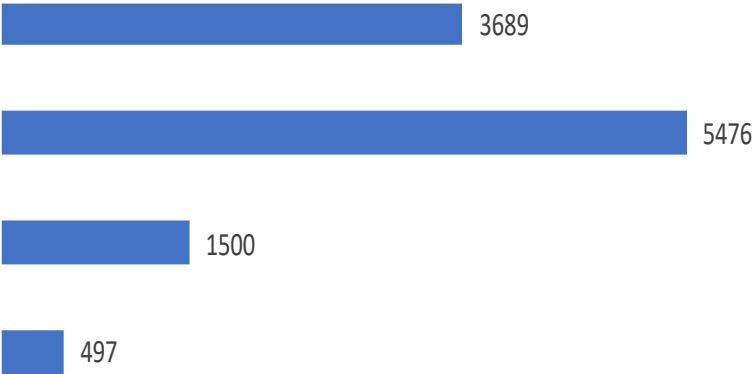
cellular

other



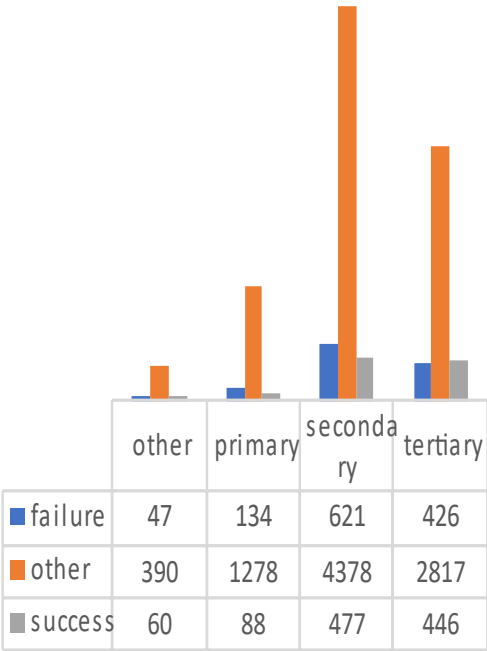
ANALYSIS

Education Level

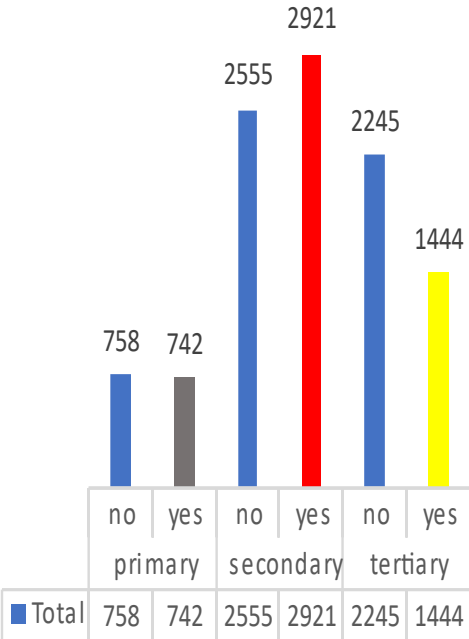


	other	primary	secondary	tertiary
Total	497	1500	5476	3689

Education Vs Outcomes



Education Vs Housing



Age

Most of the customer are adult and their highest qualification are tertiary.

- Dashboard
- Campaign
- Job
- Marital
- Education
- Age
- About

Default

no

yes

Housing

no

yes

Deposit

no

yes

Loan

no

yes

Month

jan

feb

Contact

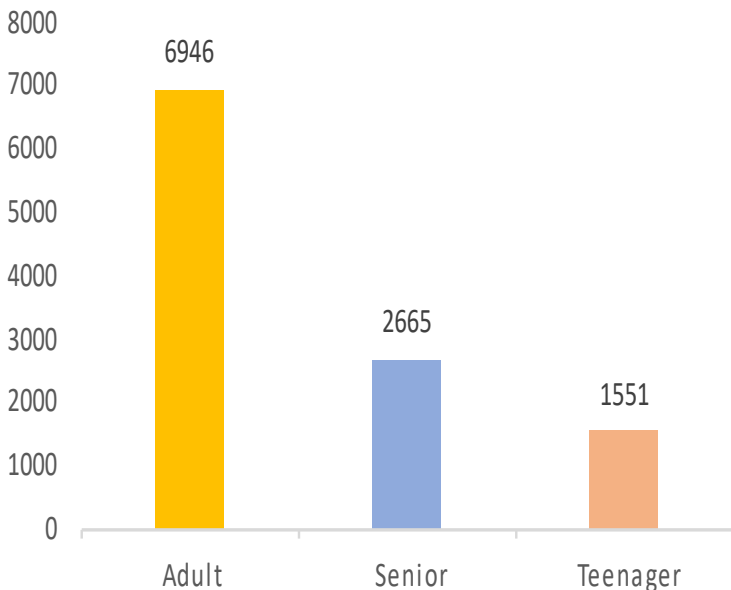
cellular

other

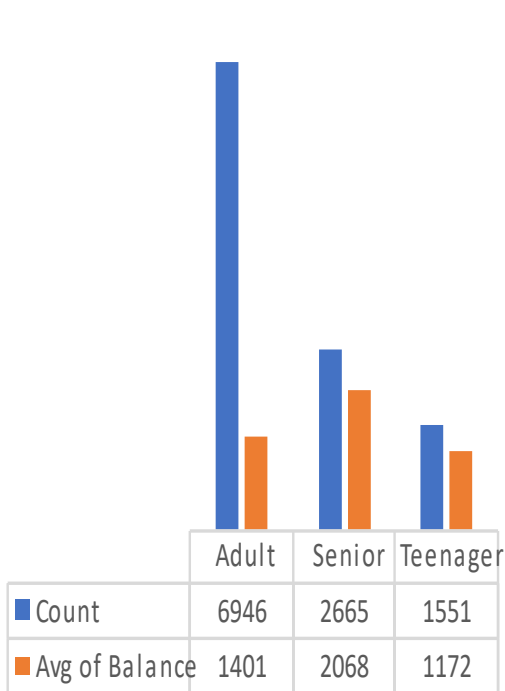


ANALYSIS

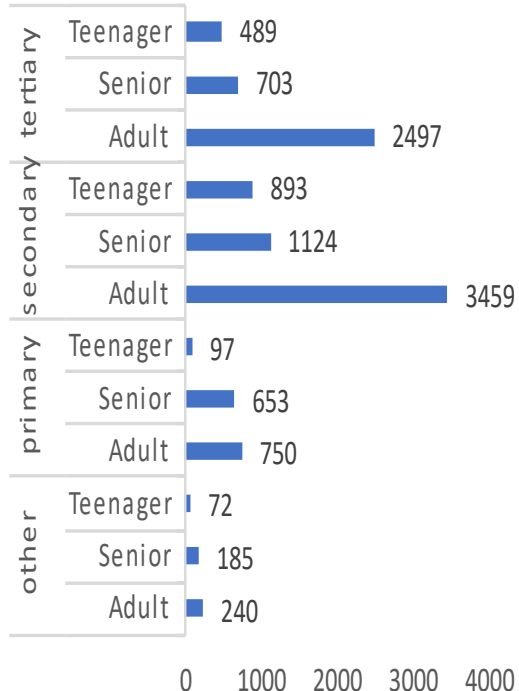
Age Group Distribution



Age Vs Avg Balance



Age Vs Education



About

Dashboard

Campaign

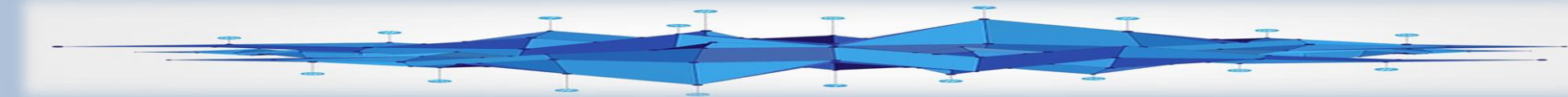
Job

Marital

Education

Age

About



About

Project Developer :

This Project is Created by **Shweta Kumari Singh** (Student of Computer Science.)

Version :

This Project is Created in Excel 2010 Version, but you can use 2012 and any further version.



Our observations:

- **Job:** The audiences of these campaigns target mostly management, blue-collar, and technicians.
- **Marital status:** Most of them are married; married clients are twice as single people.
- **Education:** Most clients have Secondary education level while illiterate people are very less.
- **Default/credit:** Most people have no default stay on their credit file.
- **Housing:** Most people have no housing loan.
- **Loan:** Most people have no personal loan.
- **Contact:** Common means of communication are cellular.
- **Month:** May is the busy month and December is the least busy month.
- **Debt Profession:** Management has a lot of debt.





Thank you

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