

ASSIGNMENT GUIDELINES

- Make the changes in the PPT as you solve the parts
- This file contains the template for the **EDA part** of the project.
- Check the instructions added in the note section of every slide for clarity.
- Don't move around any image or text box
- If you require more/lesser elements, be careful when you copy/delete the existing ones.

ASSIGNMENT

Name: Abhishek Pathak

Problem Statement

Bank of Corporate conducted a telemarketing campaign for one of its financial products, 'Term deposits', to build a long-term relationship with the existing customers. Your goal is to identify the target customers for the term deposits from the pool of the bank's existing customers. You should also capture the key driving factors (or driver variables) behind the successful conversion of a customer, i.e., the customer opening a term deposit account with the bank.

Assignment Objective

To identify the target customers and the driving factors behind a successful customer conversion for future marketing campaigns.

Data Cleaning

1. Data conversions

Age – convert from negative to positive using ABS function

Job – convert admin. to admin using Find & Replace all

Loan Default, Housing Loan, Personal Loan, & Subscription replace “Yes” with 1 and “NO” with 0 using IF function

2. Remove duplicate rows using remove duplicates in Data Tab

3. Remove blank cells in Loan default, Poutcome, & subscription using filter

4. Remove outlier in from “Previous” column using filter

5. Convert the Date from text to Date Format

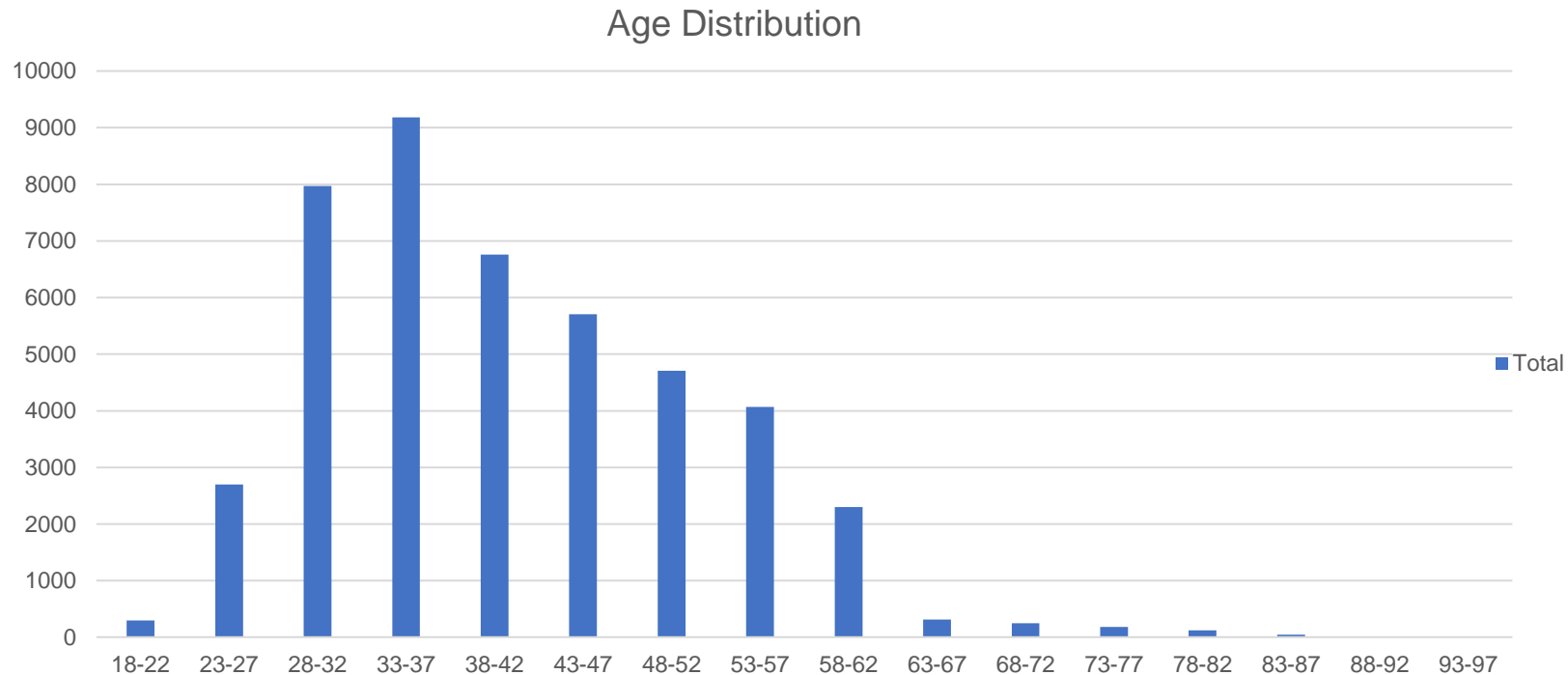
6. Derived Metrics

Create new columns for Day and Month from Date column using Text function

Create Call duration column for seconds by convert it from Hours, minutes & seconds

PART I : Univariate Analysis

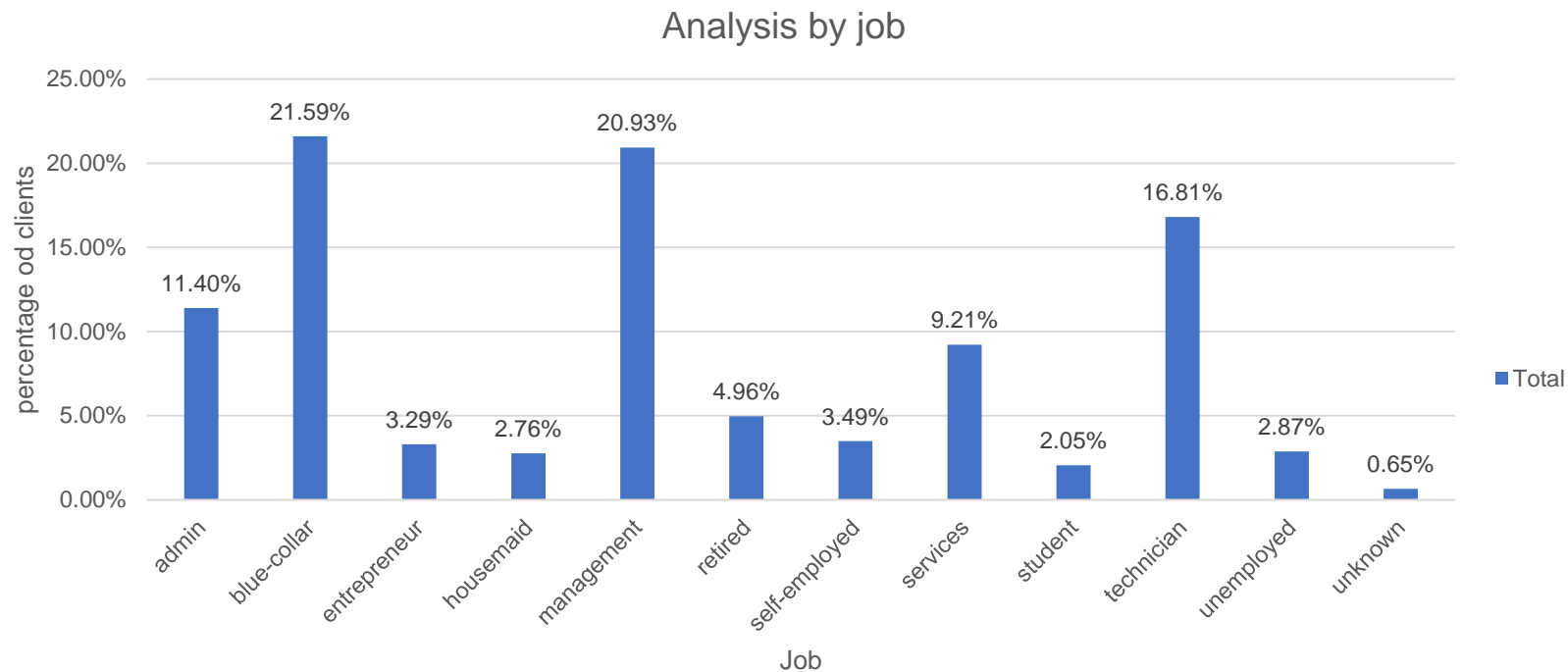
Variable under consideration: Age



Observations: From the chart, we can observe that majority of bank customers lies within the age of 23-60 years of age which can be considered as working population

PART I : Univariate Analysis

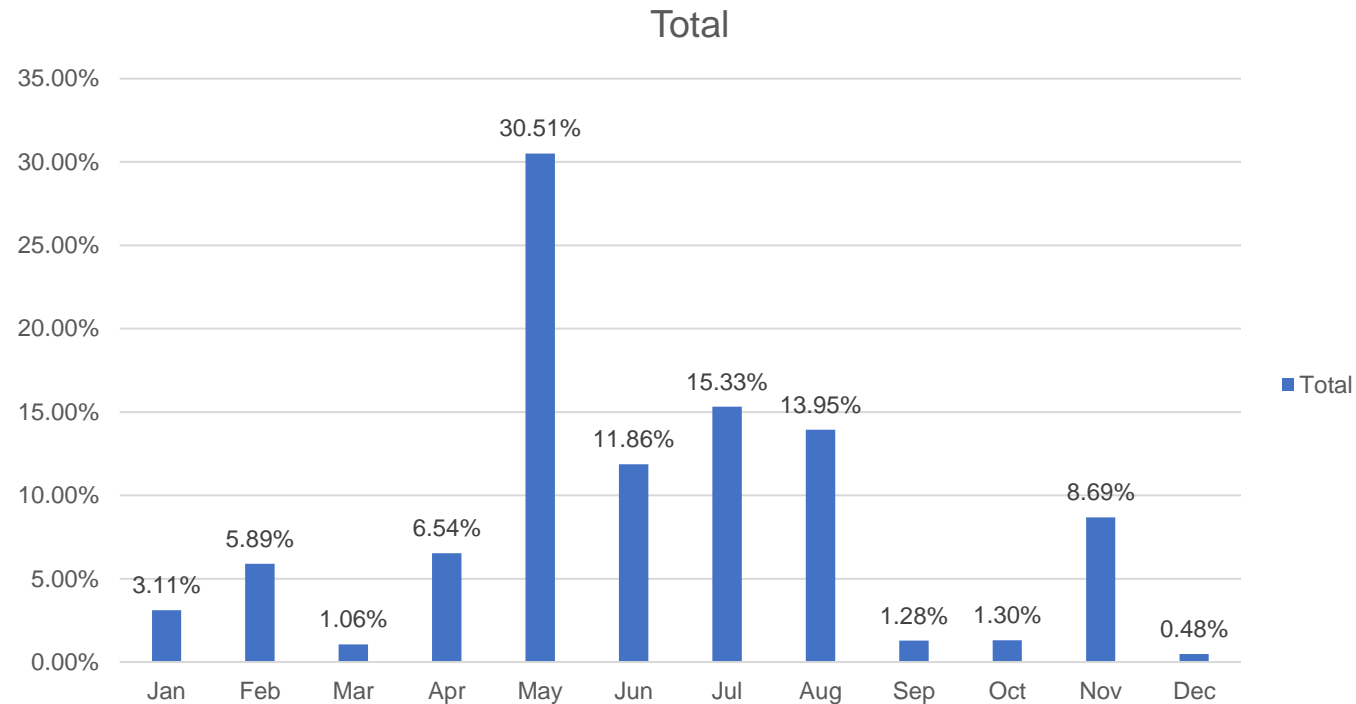
Variable under consideration: Job



Observation : From the Chart, you can observe that the majority percentage of the clients belong to blue-collar and management (i.e. 21.59% & 20.93% respectively).

PART I : Univariate Analysis

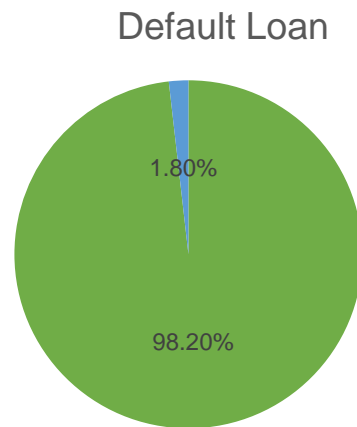
Variable under consideration: Month



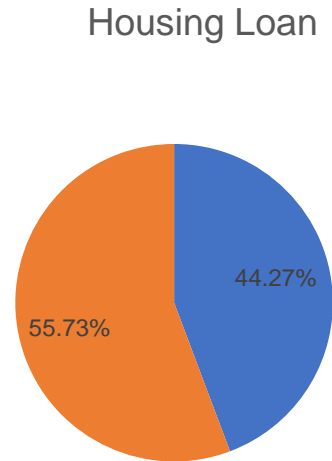
Observation : The majority share of the calls of around 30.51% of total calls are made during the month of May

PART I : Univariate Analysis

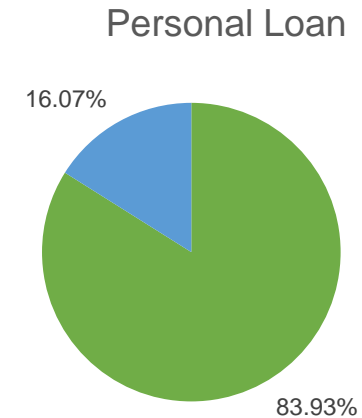
Variables under consideration: Loan



0
1



0
1



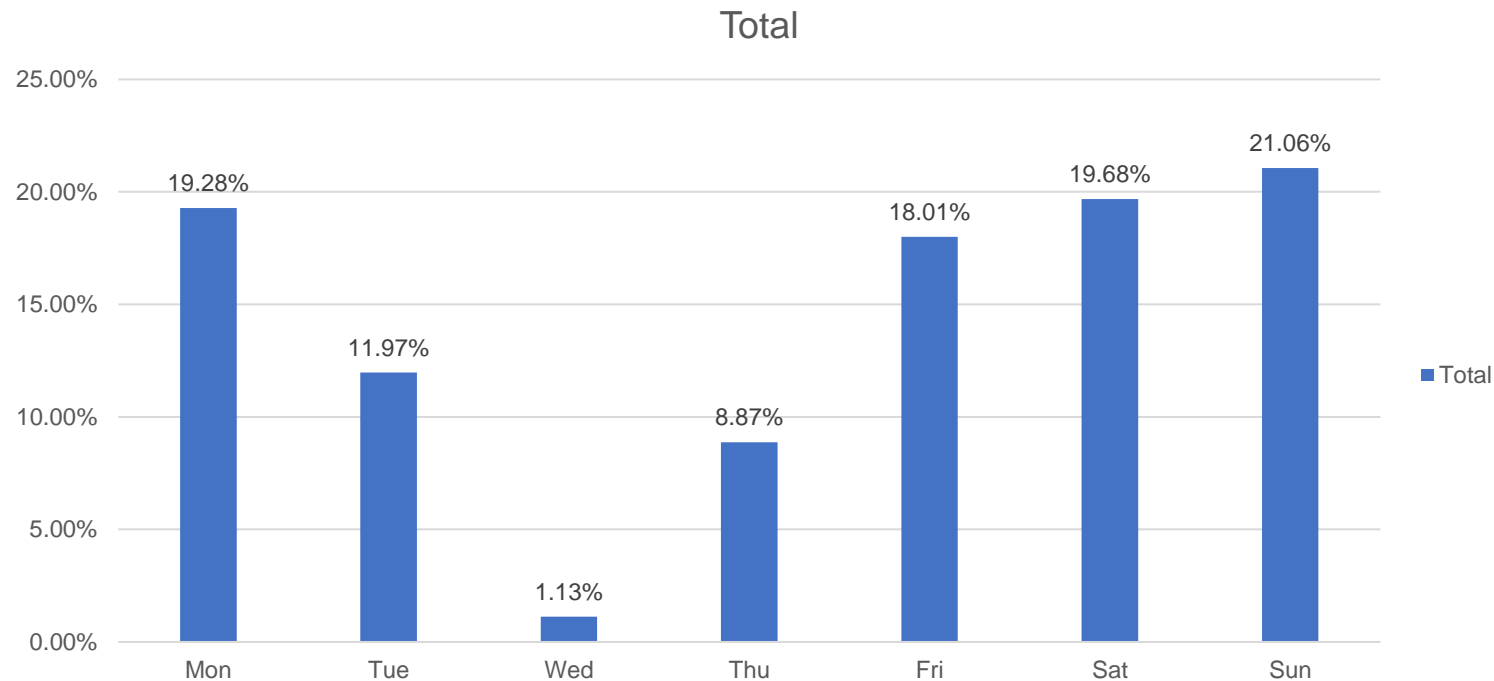
0
1

Observations :

- 1)The customers who defaulted the loan are very less which is 1.80% of total customers
- 2)Majority of the people have taken the housing loan when compared to the personal loan, maybe due to the tax evasions and also for investment purposes

PART I : Univariate Analysis

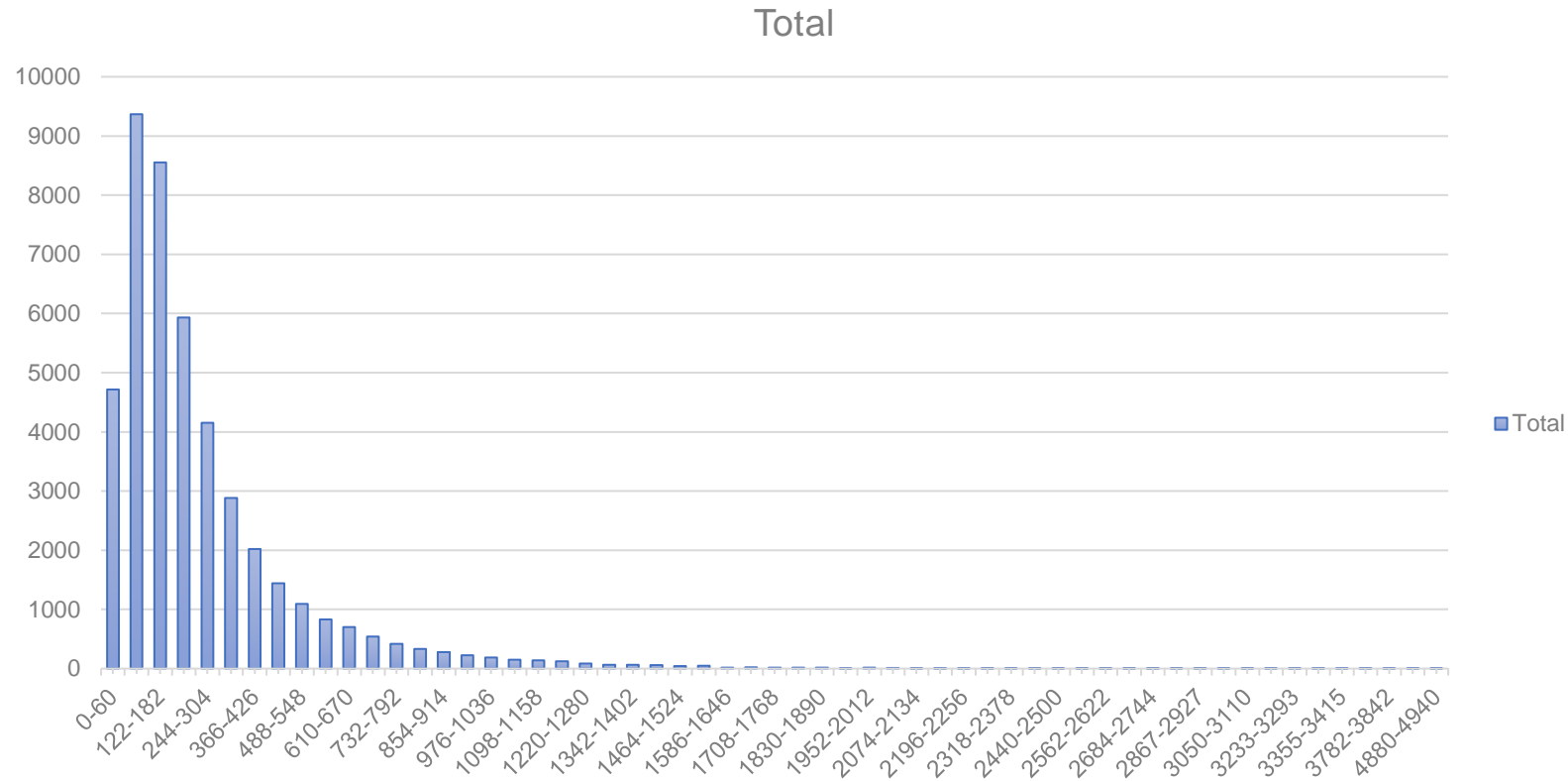
Variables under consideration : Days



Observations : From this chart, it can be depicted that the bank reaches out to the customers preferably during the weekends over the weekdays. The reason could be that majority of the customers are working population

PART I : Univariate Analysis

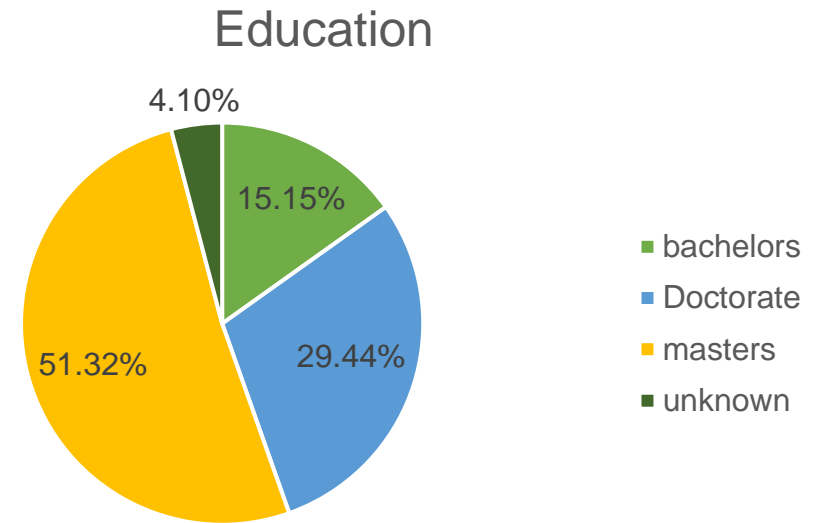
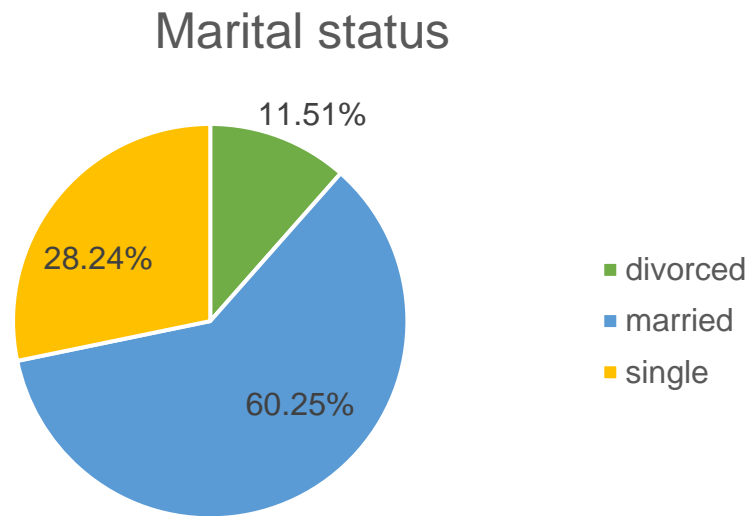
Variables under consideration: Call Duration



Observations : From the above chart, we can observe that call duration with most of the customers lies within 1-3 minutes & we can also observe that median of call duration is approximately 180 sec.

PART I : Segmented Univariate Analysis

Variables under consideration: Marital status & Education

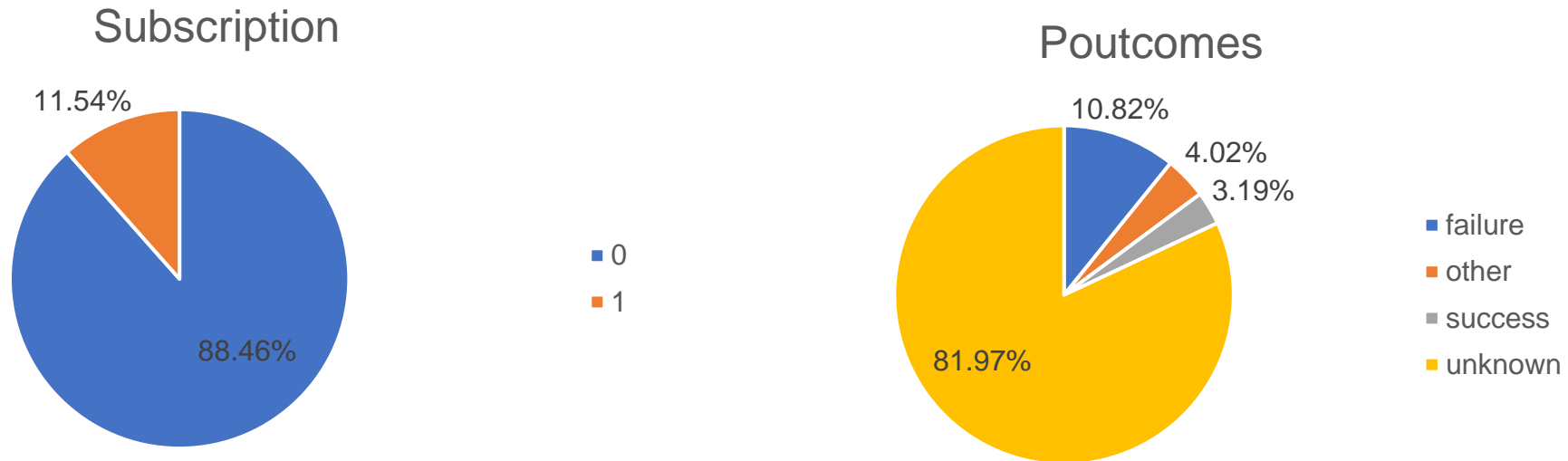


Observations :

- 1) More than 90% of clients holds a bachelors degree % around 51% of clients holds a masters degree.
- 2) Majority of customers are either married or single

PART I : Segmented Univariate Analysis

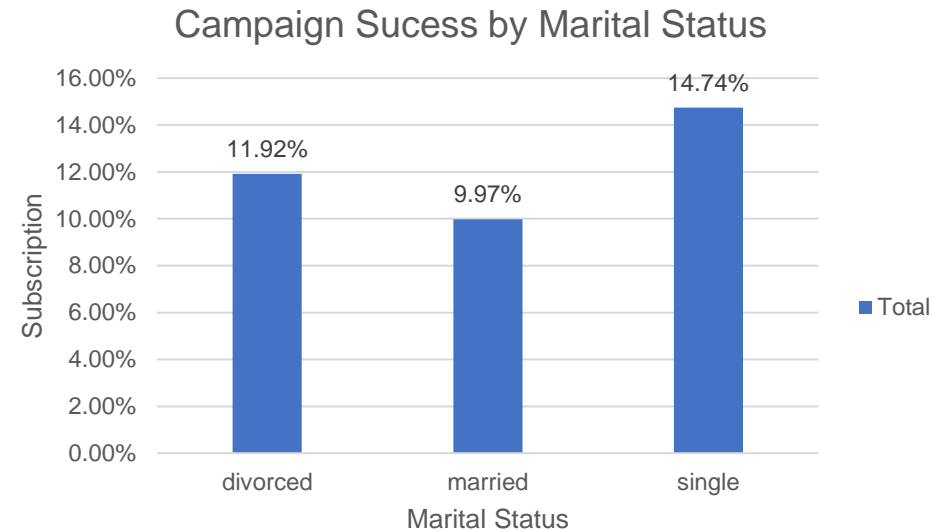
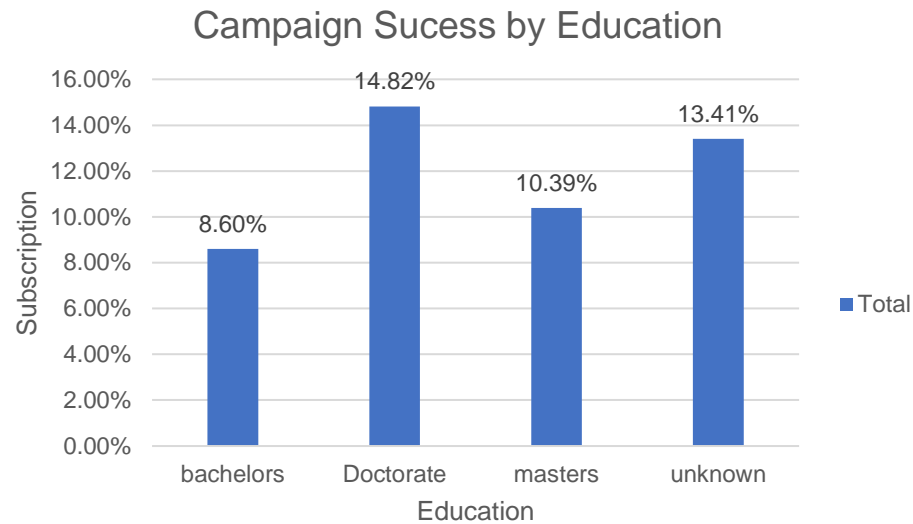
Variable under consideration: Subscription & Poutcome



Observations : 1. Out of the total calls made, 11.54% of them are successful i.e. the client opens the term deposit.
2. Outcome of only 3.19% clients is successful, while around 81.97% clients outcomes is unknown so they are now reached by the bank

Part II : Bivariate Analysis

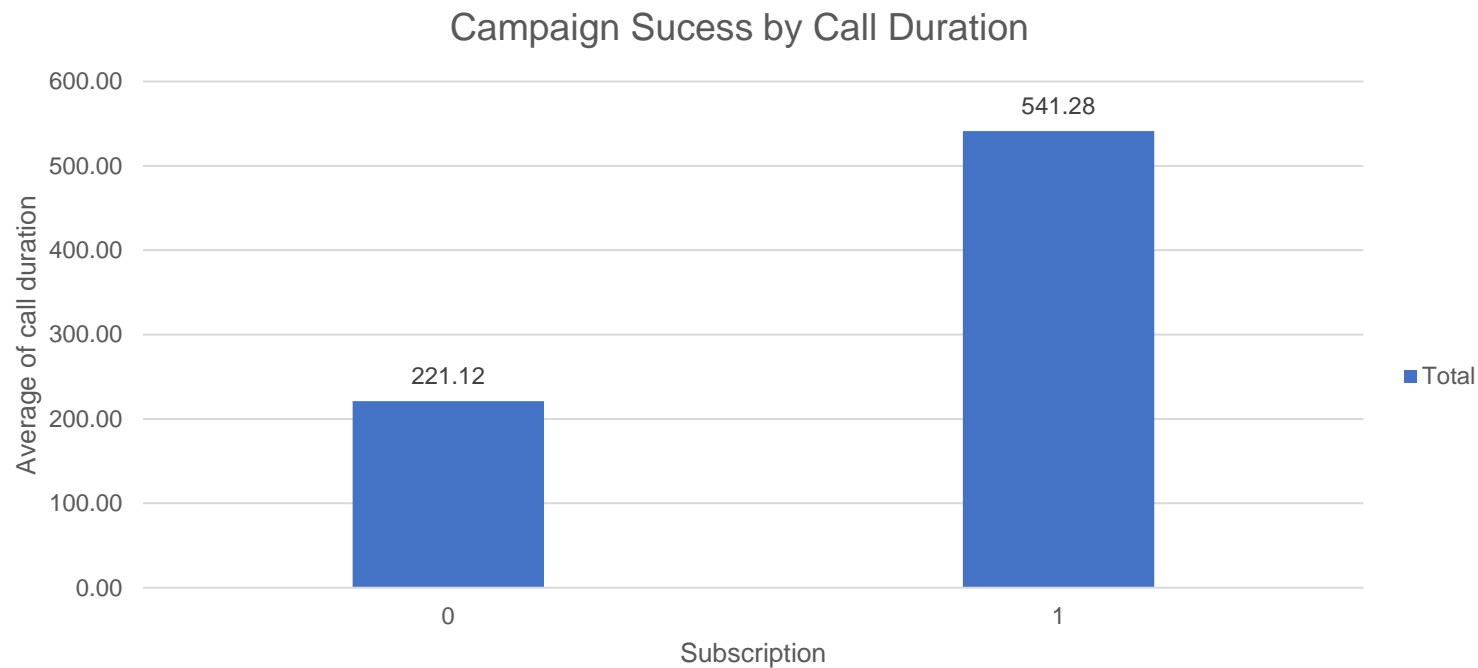
Variables under consideration : By Marital Status & Education



Observations : 1) subscription conversion rate of Doctorate is better than bachelors & masters degree holders.
2) Subscription conversion rate of unmarried & divorced is better than the married customers .

PartrII : Bivariate Analysis

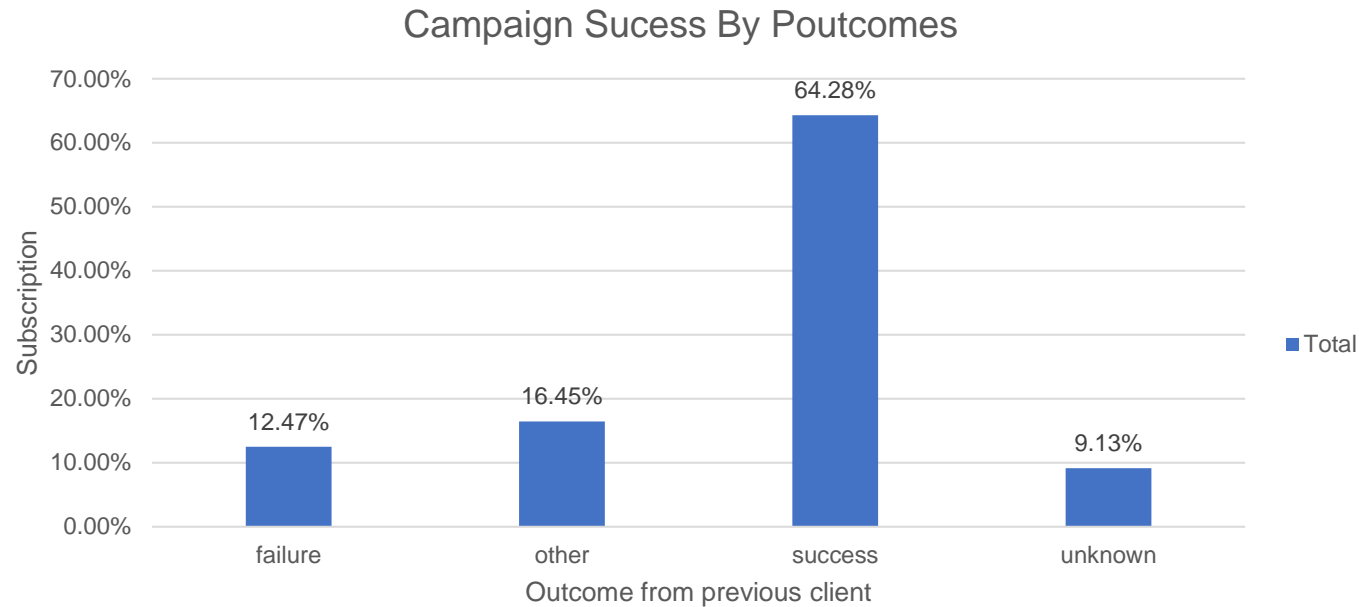
Variables under consideration : subscription vs call duration



Observations : From the chart , it can be clearly seen that the average call duration of a subscribed customer is significantly more than the unsubscribed customer

Part II : Bivariate Analysis

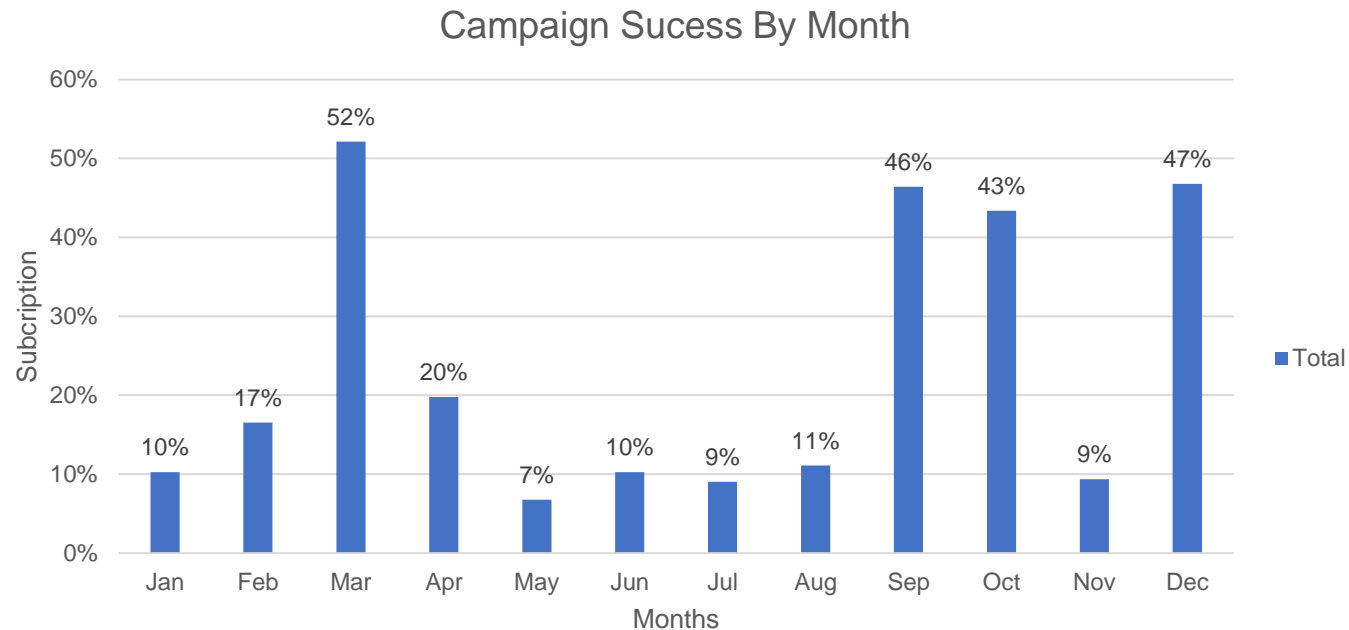
Variables under consideration : Poutcome Vs Subscription



Observations .: The subscription rate for the previous customers is significantly higher than the others.
Customers who have already subscribed for other products in the bank has shown interest in subscribing for the term plan

Part II : Bivariate Analysis

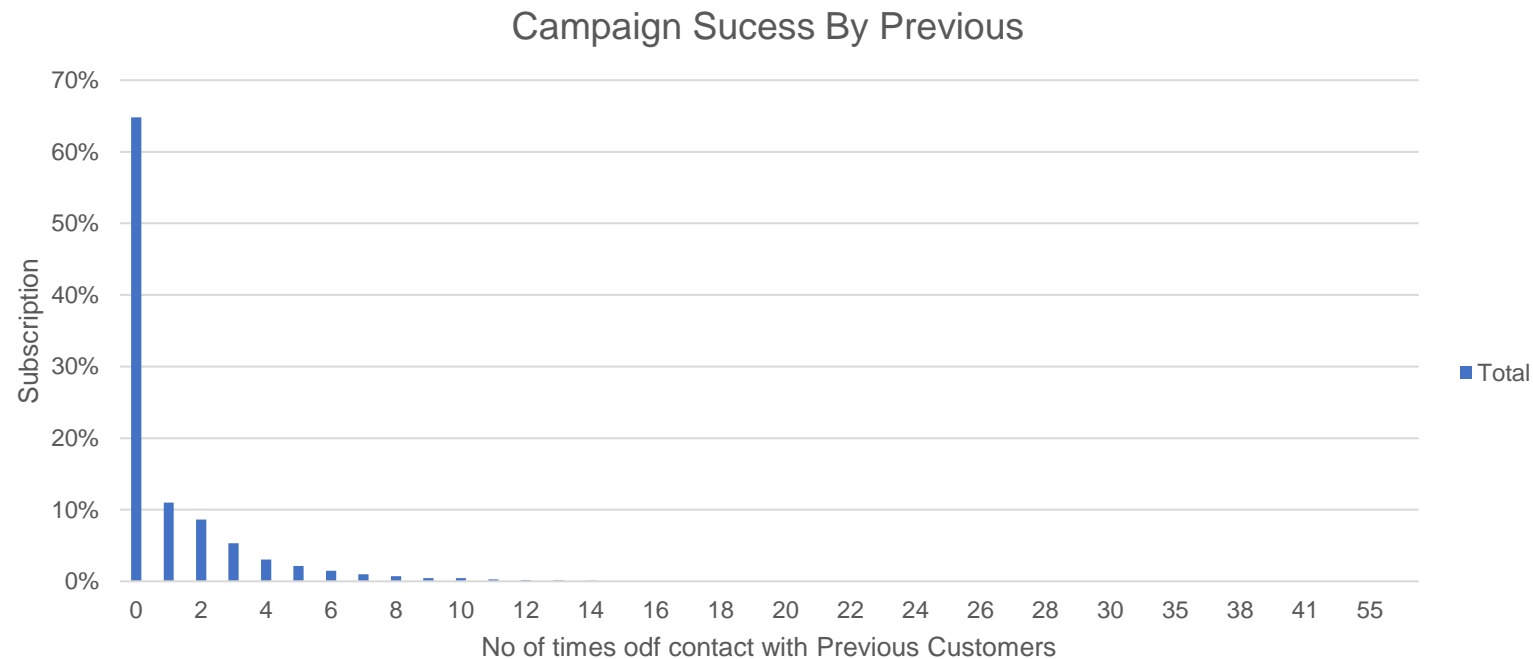
Variables under consideration : Month vs Subscription



Observations : The conversion rate during the month of march is higher than any other month, one of the major reason could be that the end of financial year and people are looking to invest long term, Hence customers should be reached out more during this month .

Part II : Bivariate Analysis

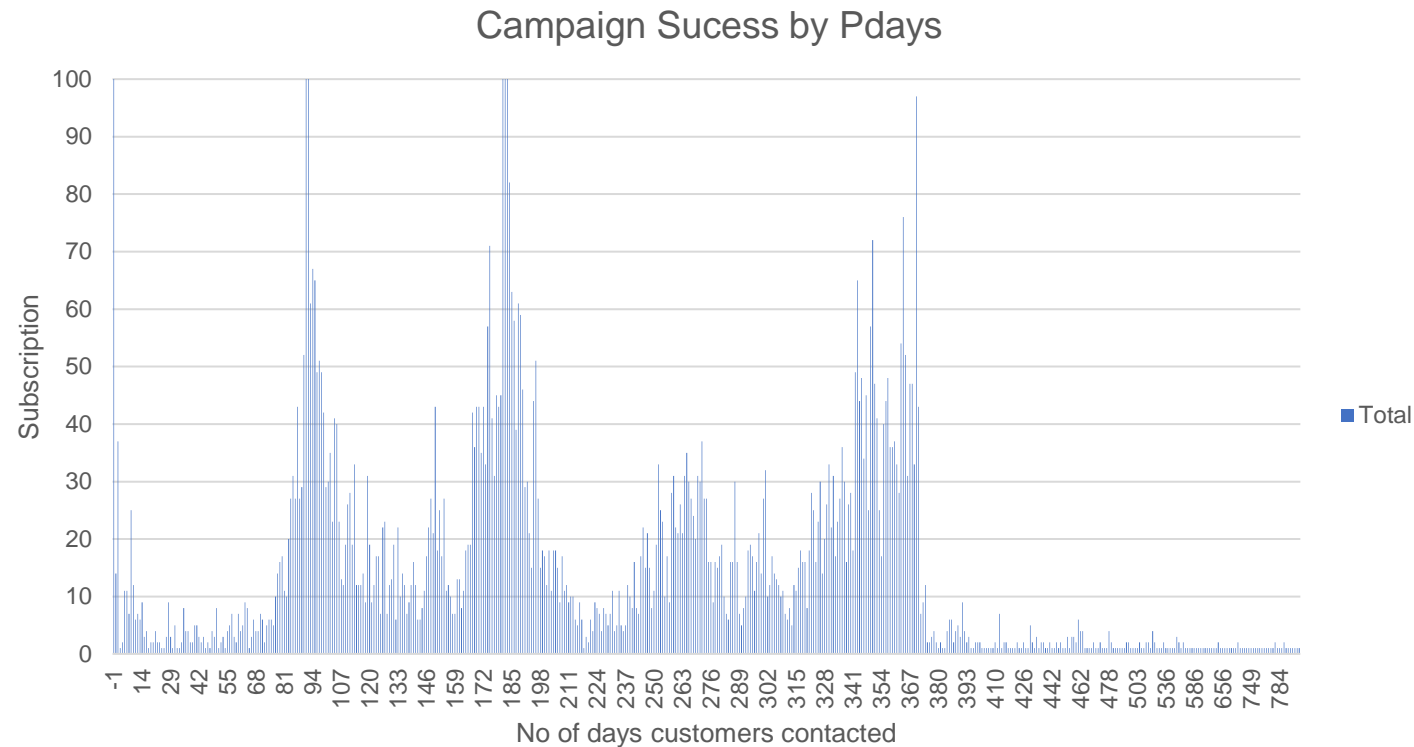
Variables under consideration : Previous vs subscription



Observations : The graph shows that subscription rate is higher from the new clients than the previous clients. As the number of previous clients increases the subscription rate decreases.

Part II : Bivariate Analysis

Variables under consideration : By Pdays



Observations : Customers responded positively when reached out after an interval of quarterly or semi annually

Part III : Major Insights

Recommendations

- 1) Target the unmarried customers
- 2) Target the doctorate customers
- 3) Reach out the customers in the month of March
- 4) Target the customers who has already subscribed to other products
- 5) Focus more on new customers
- 6) Reach out the customers after an interval not frequently

Corresponding Major Insights

- 1) As the conversion rate for the single customers is significantly better than the others.
- 2) Doctorate customers has higher chance of being converted than bachelors or master.
- 3) Conversion rate for the month of march is significantly higher than any other month.
- 4) Conversion rate for the customers who has already subscribed is more than the other customers.
- 5) Conversion rate for the new customers is relatively more than the previous clients. Previous clients should only be reached out with limited calls.
- 6) Customers responded positively when reached out after an interval of quarterly, semi-annually or annually.