ASSIGNMENT

Name: Achal Tyagi

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. These campaigns need to be cost efficient such that the bank not only increases their overall revenues but also the total profit.
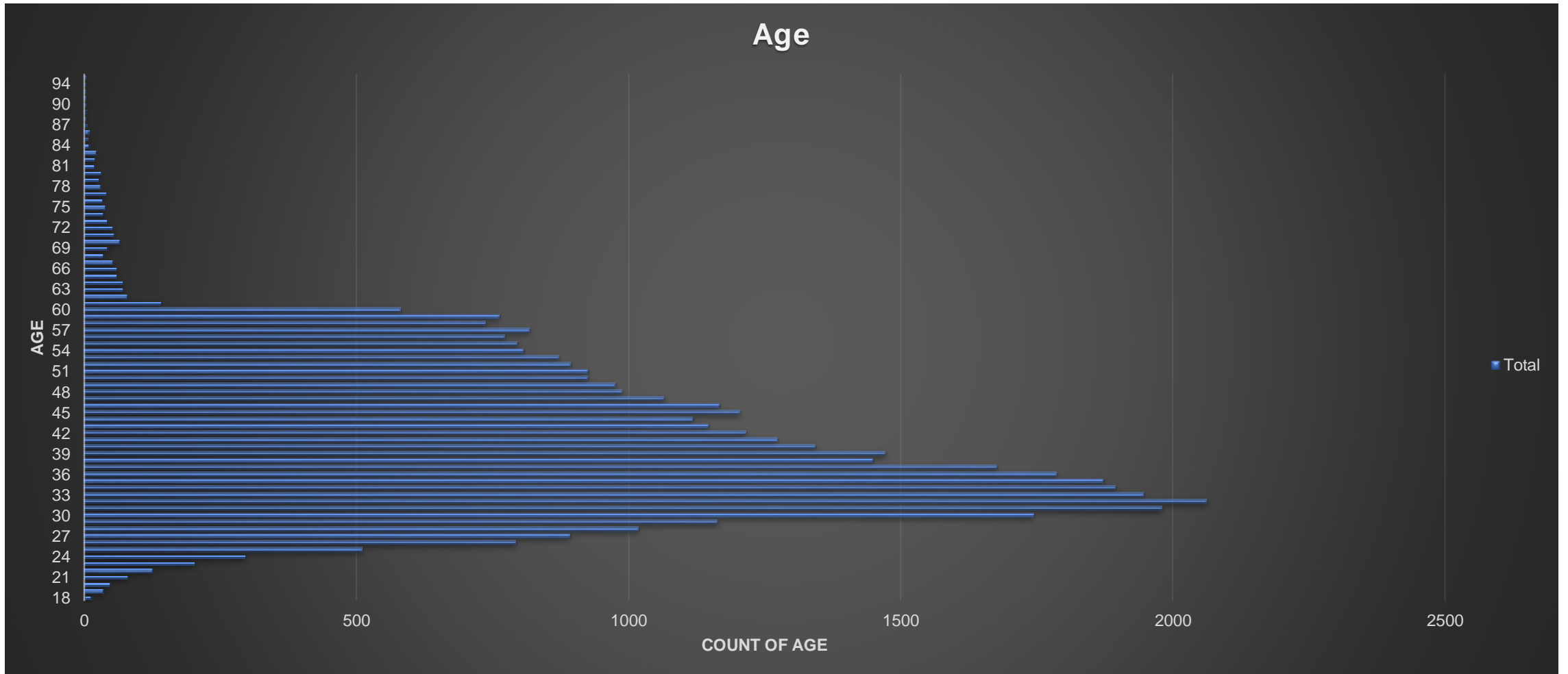
Assignment Objective

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

Data Cleaning

1. Remove duplicates from "Account no" column.
2. Age has some negative values so remove those negative signs from them.
3. In job column in some cells has "admin." while other as "admin" so make all "admin." as "admin".
4. Loan default, housing Loan , Personal loan and subscription has "yes and no" in it so convert those yes to 1 and no to 0.
5. In date text column put it in date format and exclude day and month from it to another new columns.
6. Convert call duration from HH:MM:SS to seconds.
7. "Loan Default" and "Subscription" has some blanks so remove them so that analyzing dataset can become easier.
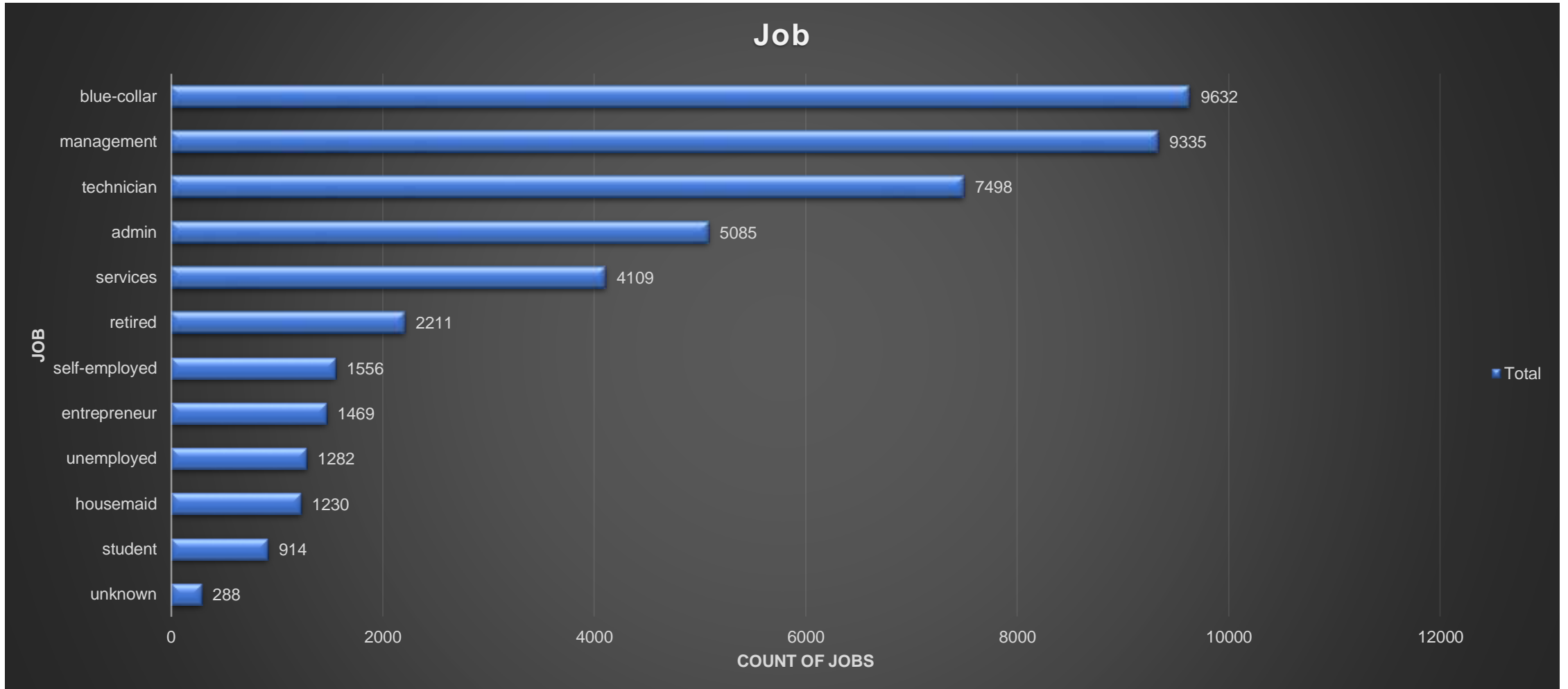8. Remove Outlier in "previous" column.

PART I : Univariate Analysis

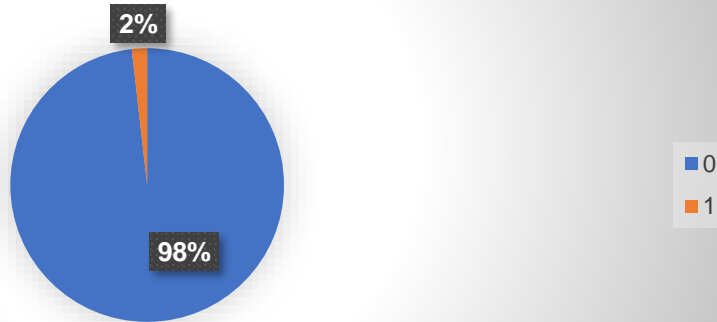**Variable under consideration: Age.**

PART I : Univariate Analysis
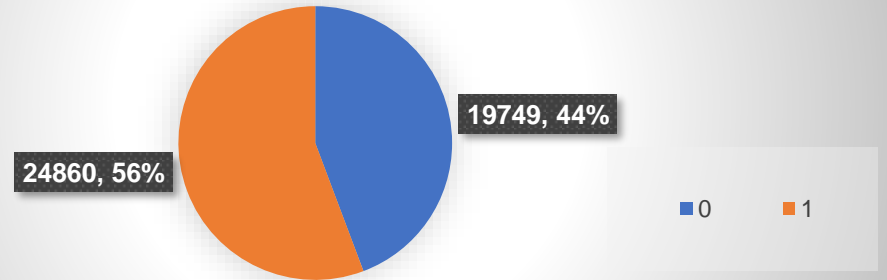
Variable under consideration: Job.

PART I : Univariate Analysis
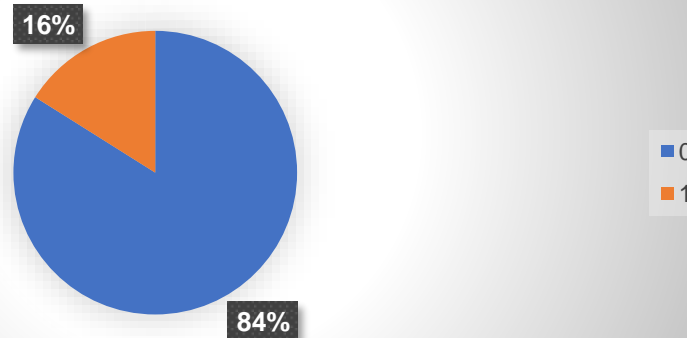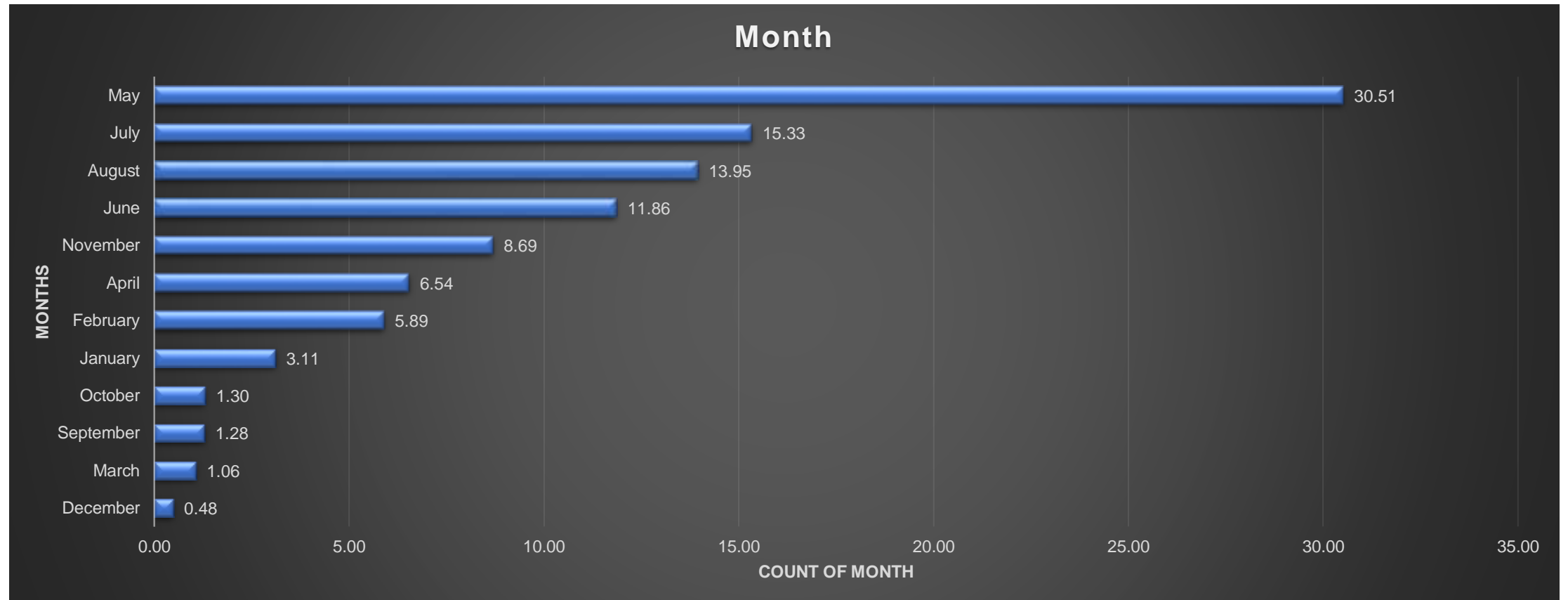
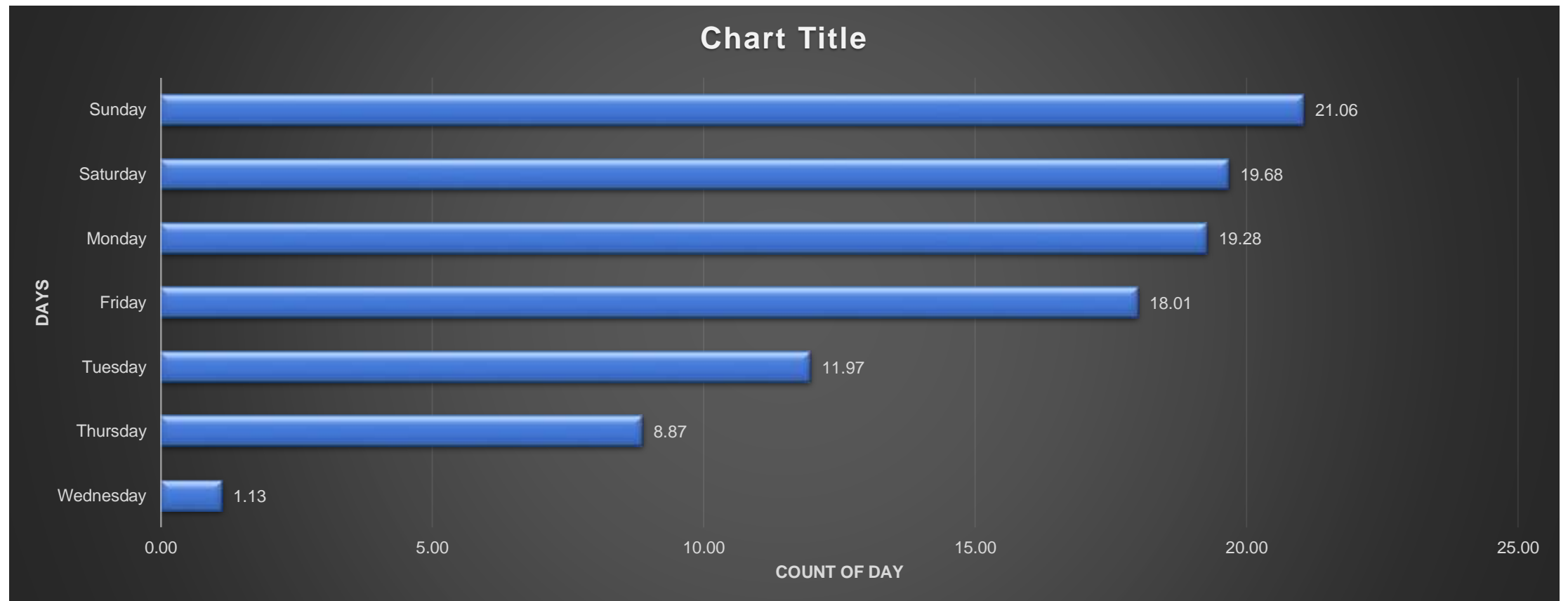**Variable under consideration: Loans.**

PART I : Univariate Analysis

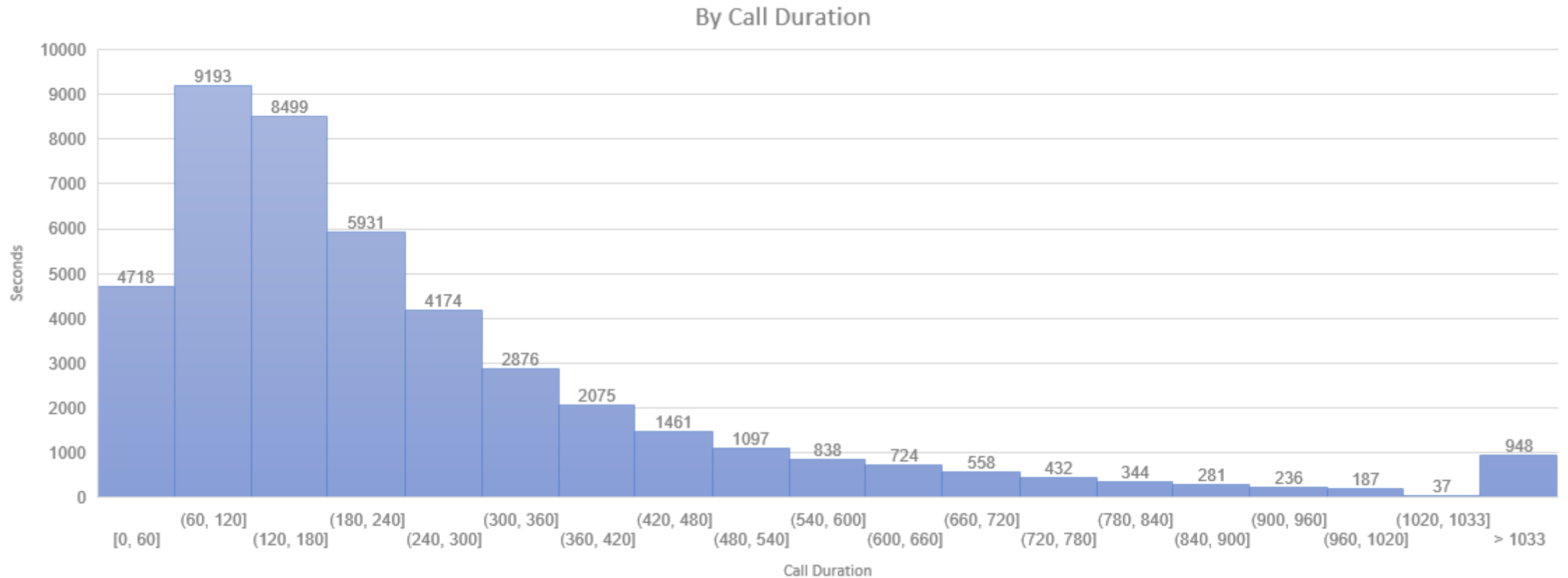Variable under consideration: Month.

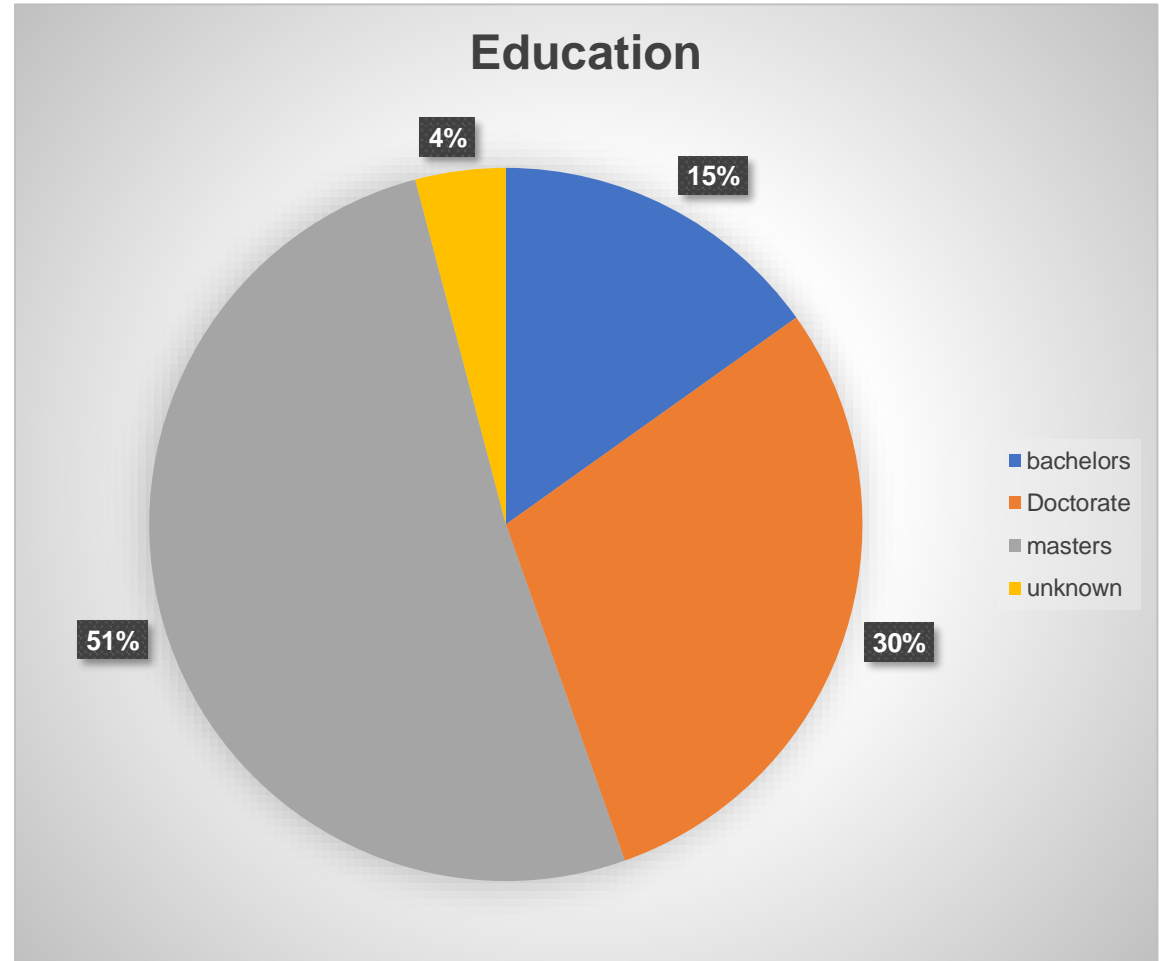# PART I : Univariate Analysis

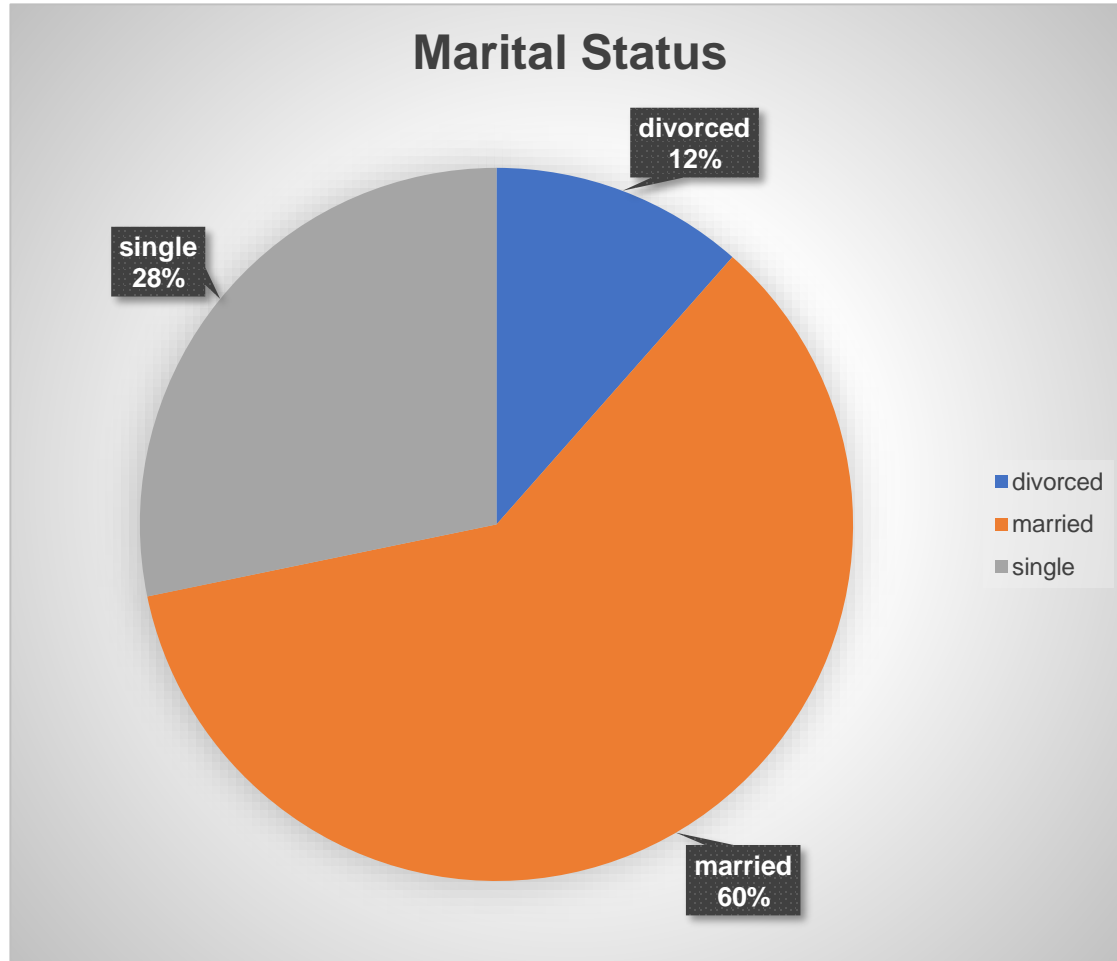**Variables under consideration: Day.**

PART I : Univariate Analysis

Variables under consideration: By call Duration.

By Call Duration
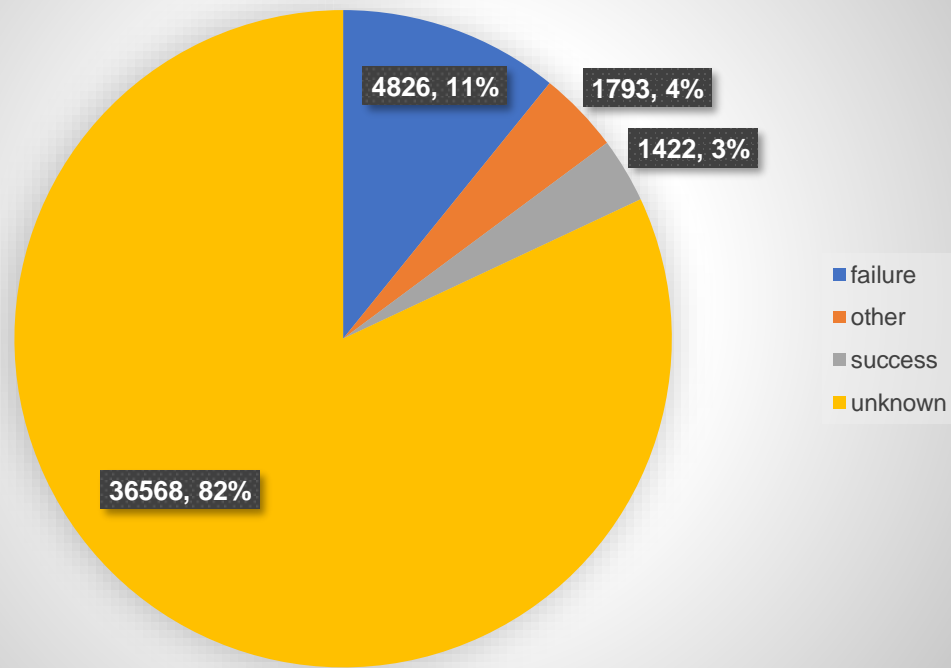
PART I : Segmented Univariate Analysis
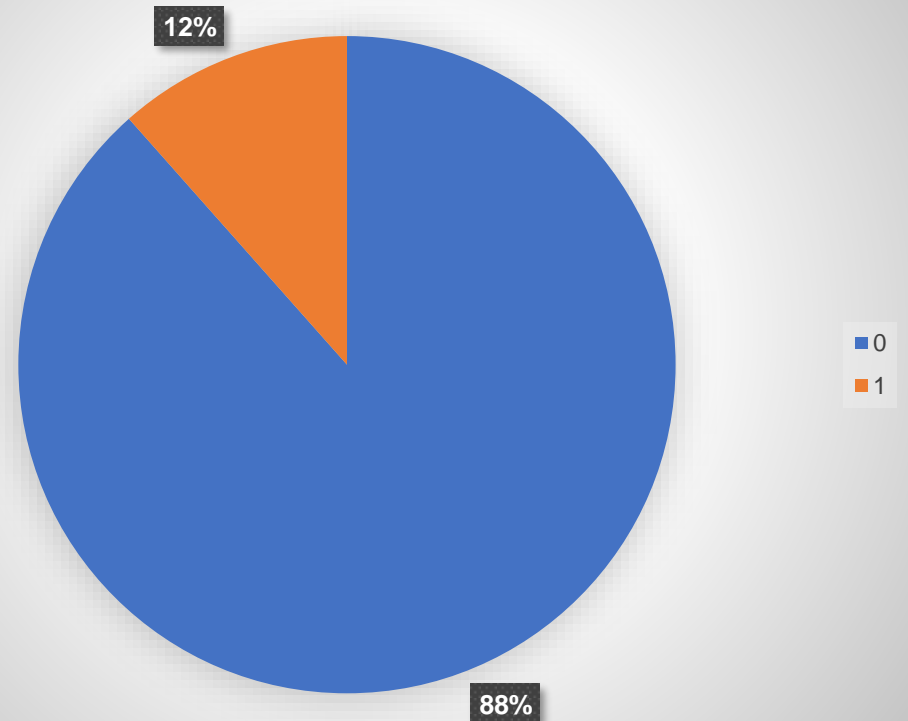
Variables under consideration: Marital Status & Education.

PART I : Segmented Univariate Analysis

Variables under consideration: Poutcome & Subscription.
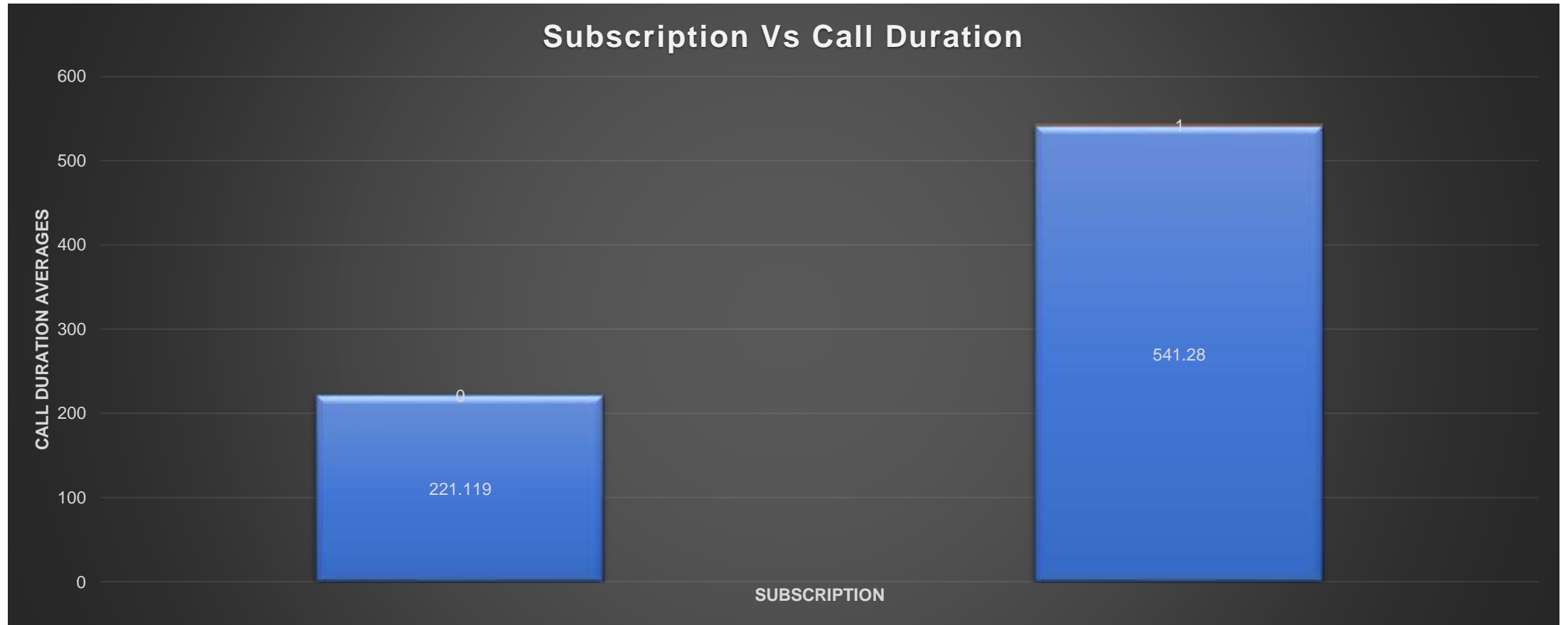
PART II : Bivariate Analysis

Variables under consideration: Call Duration & Subscription.

PART II : Bivariate Analysis

Variables under consideration: Poutcome & Subscription.
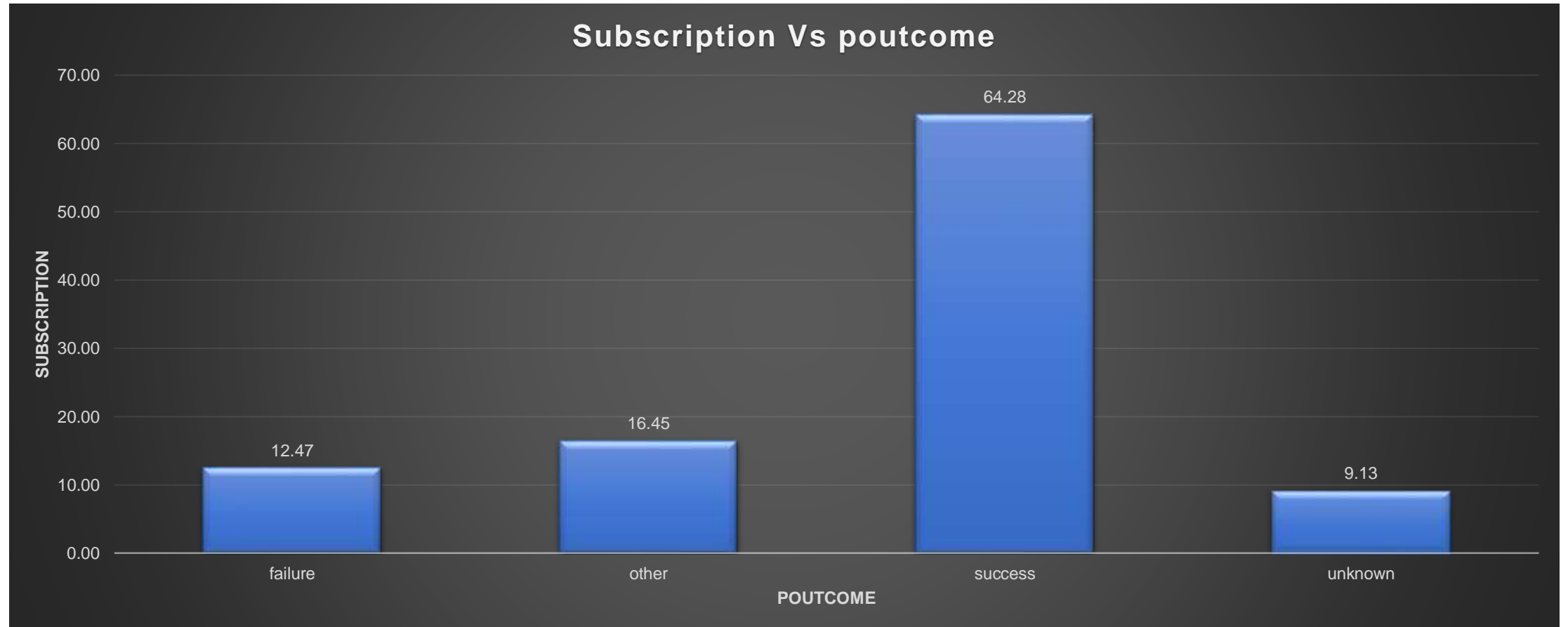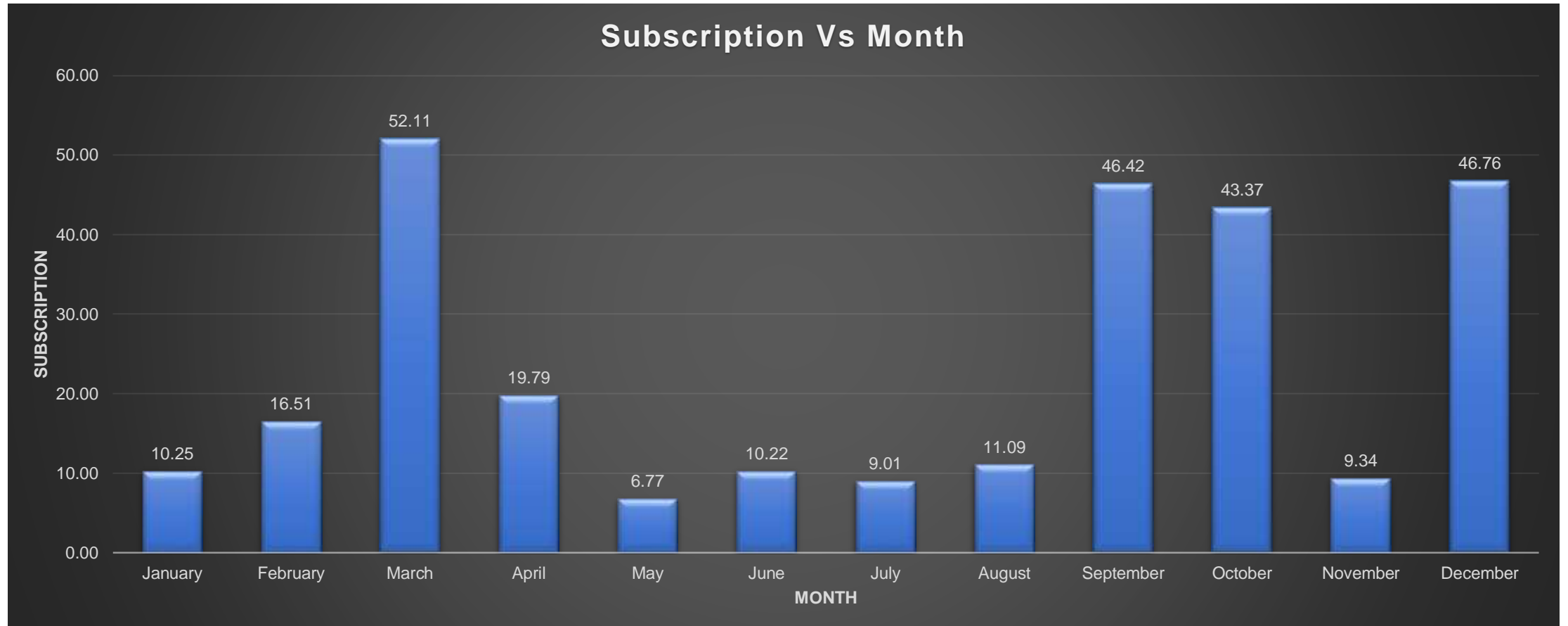
PART II : Bivariate Analysis

Variables under consideration: Months & Subscription.

PART II : Bivariate Analysis

Variables under consideration: previous & Subscription.

PART II : Bivariate Analysis

Subscription Vs Marital Status

MARITAL STATUS	SUBSCRIPTION
divorced	11.92
single	14.74
married	9.97

Subscription Vs Education

EDUCATION	SUBSCRIPTION
bachelors	8.60
Doctorate	14.82
masters	10.39
unknown	13.41
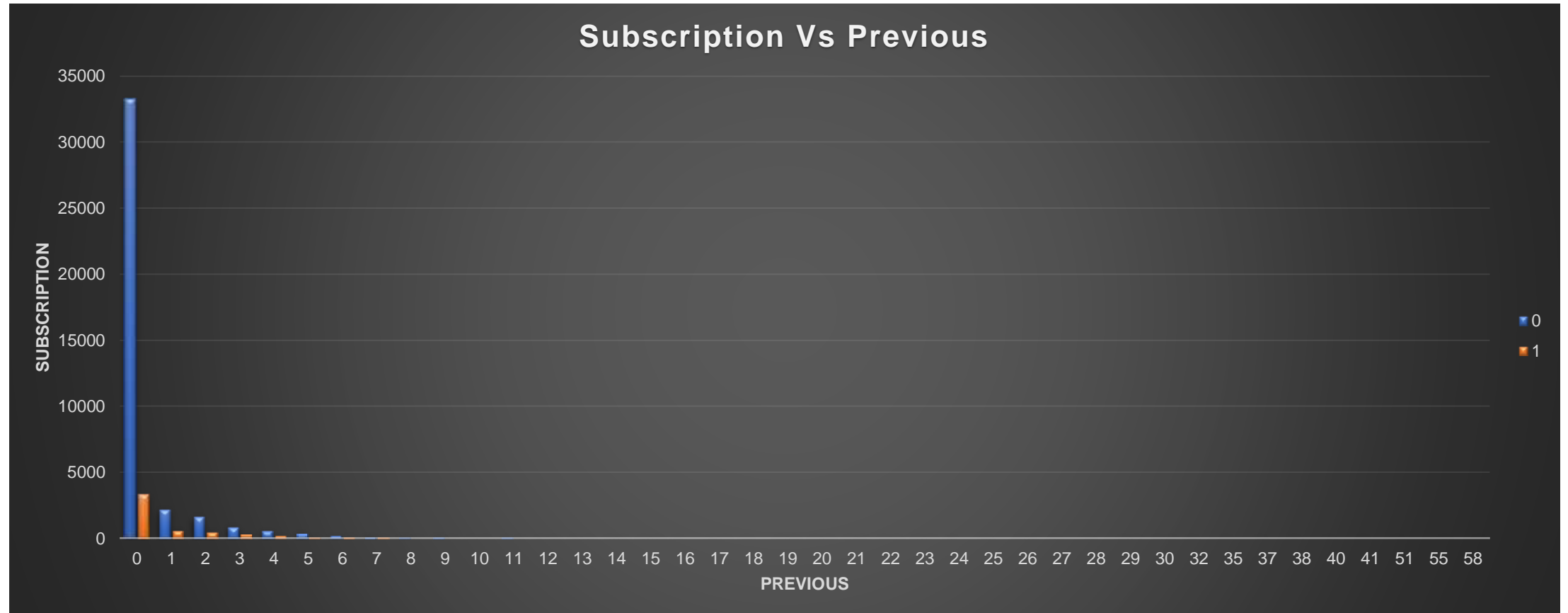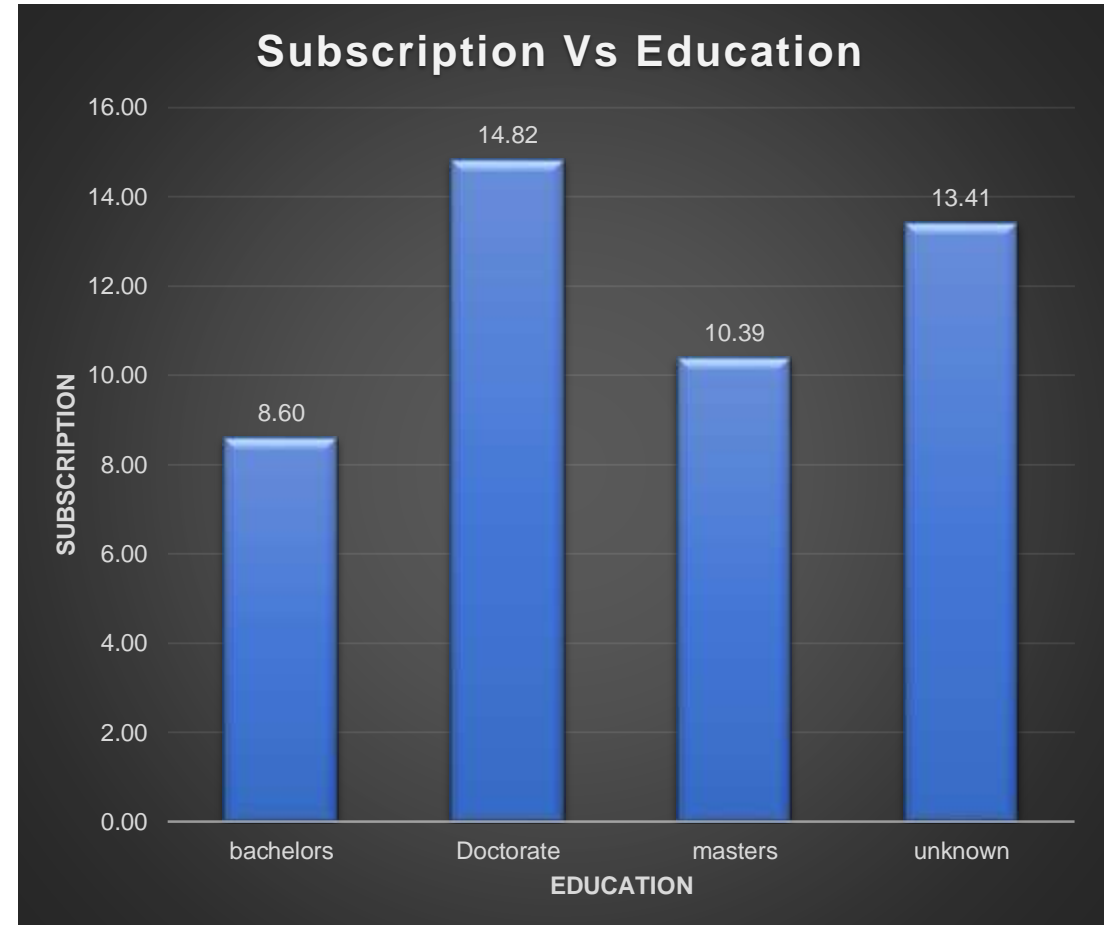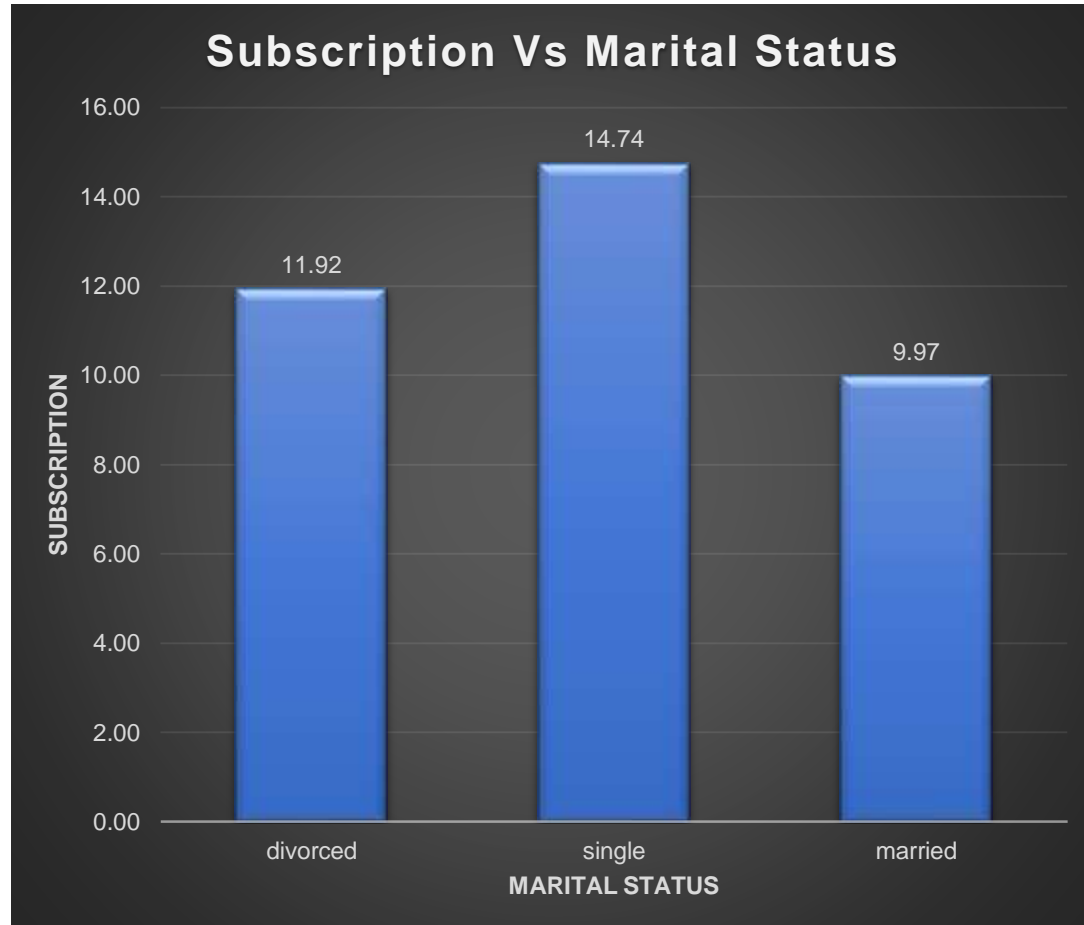
PART III: Optimization Results

Marital Status	Degree	No. of Calls	Converted Calls	Not Converted calls
Married	Bachelors	62	5	57
	Masters	51	5	46
	Doctorates	1101	141	960
Single	Bachelors	50	5	45
	Masters	865	110	755
	Doctorates	387	70	317
Divorced	Bachelors	805	110	695
	Masters	52	5	47
	Doctorates	50	7	43

PART III: Optimization Results
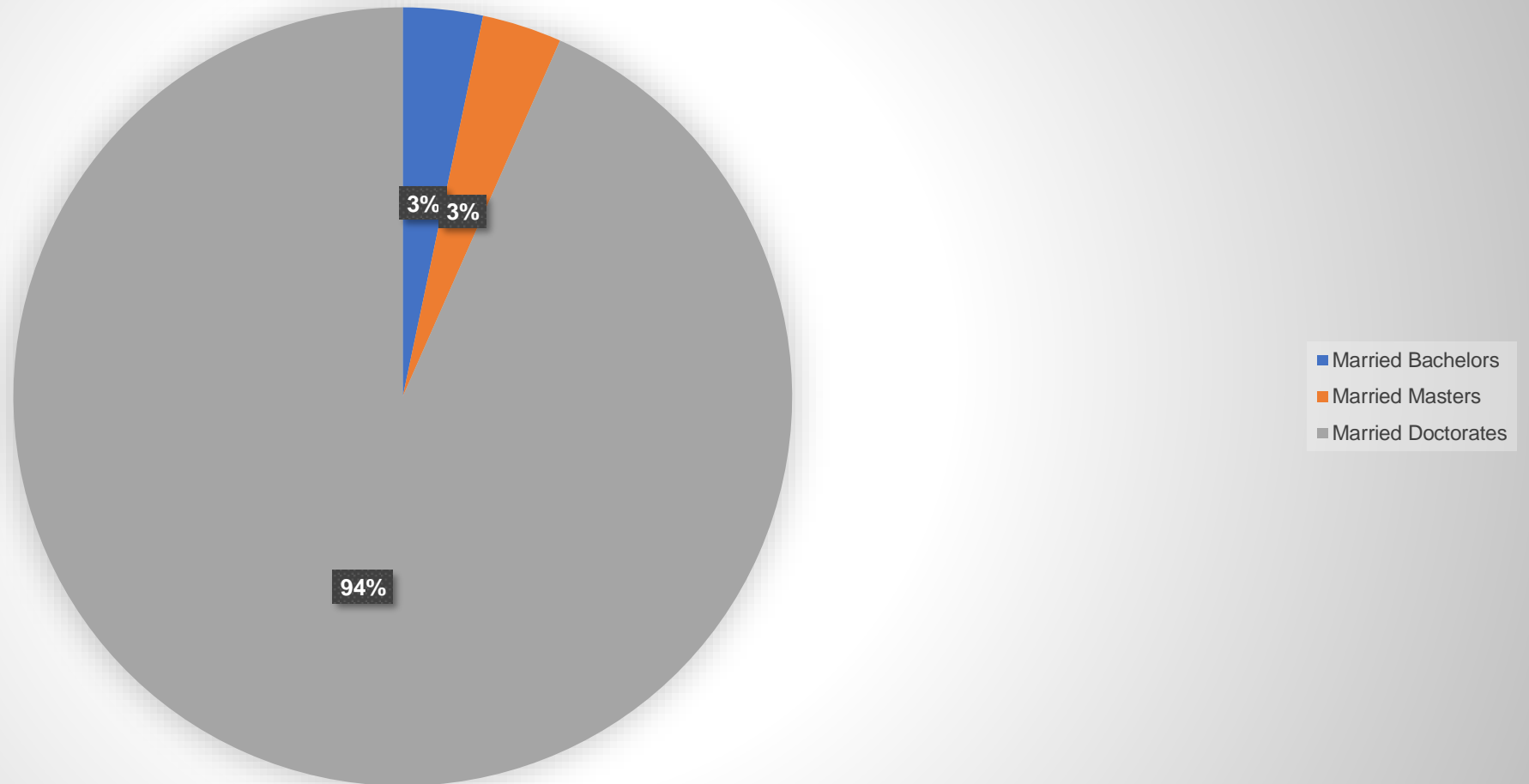
Converted calls

3% 3%

94%

- Married Bachelors
- Married Masters
- Married Doctorates

PART III: Optimization Results

Converted Calls

3%
38%
59%

- Single Bachelors
- Single Masters
- Single Doctorates

PART III: Optimization Results

Converted Calls

- 90% — Divorced Bachelors
- 4% — Divorced Masters
- 6% — Divorced Doctorates
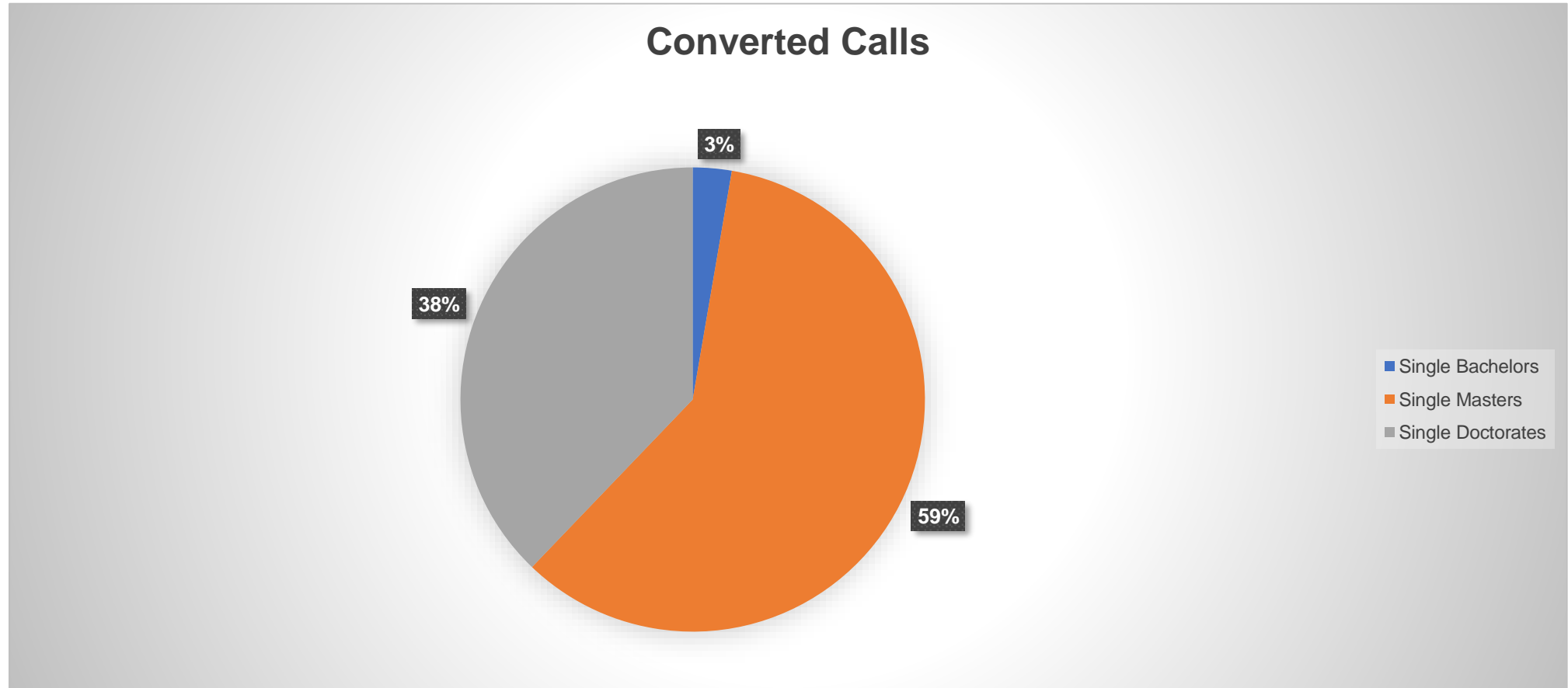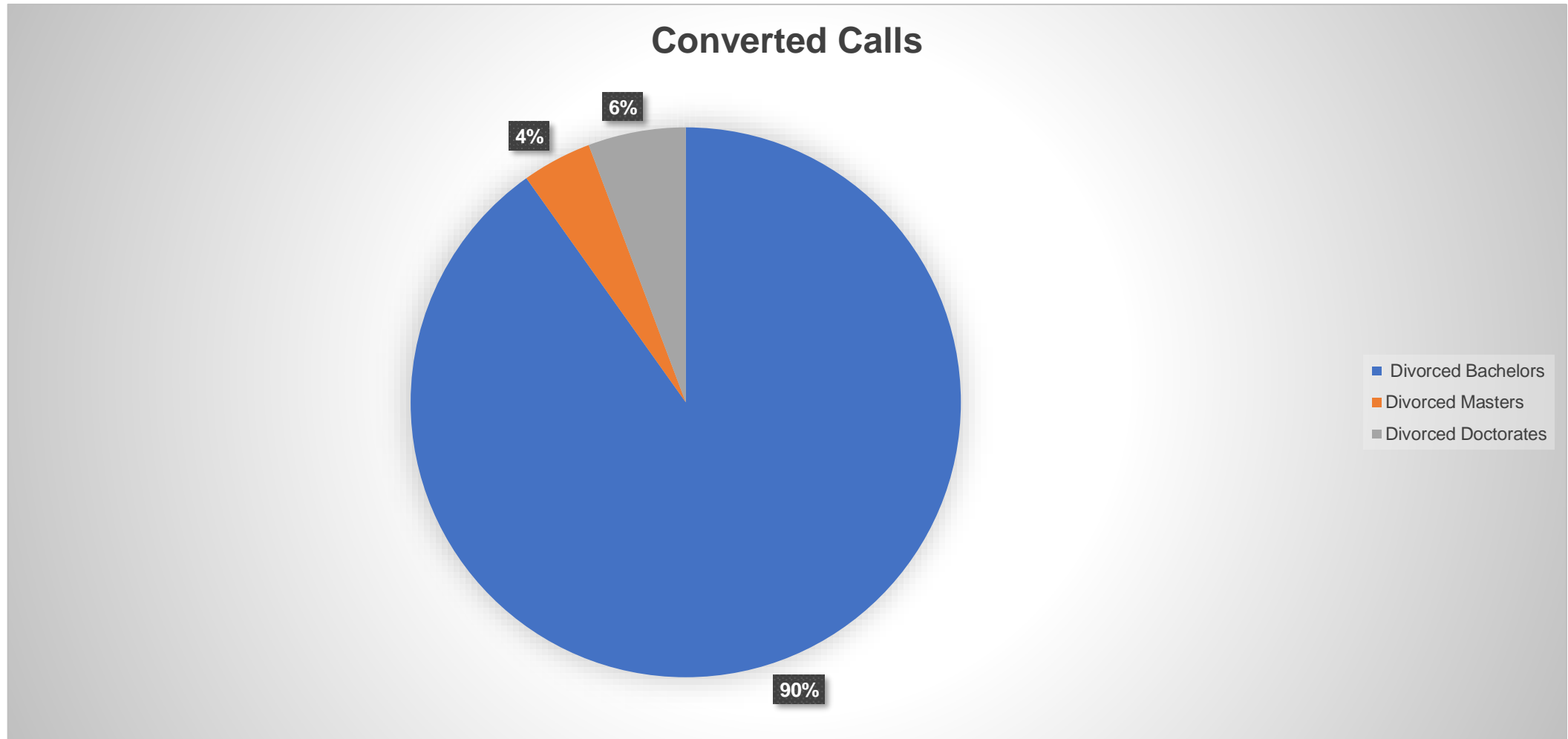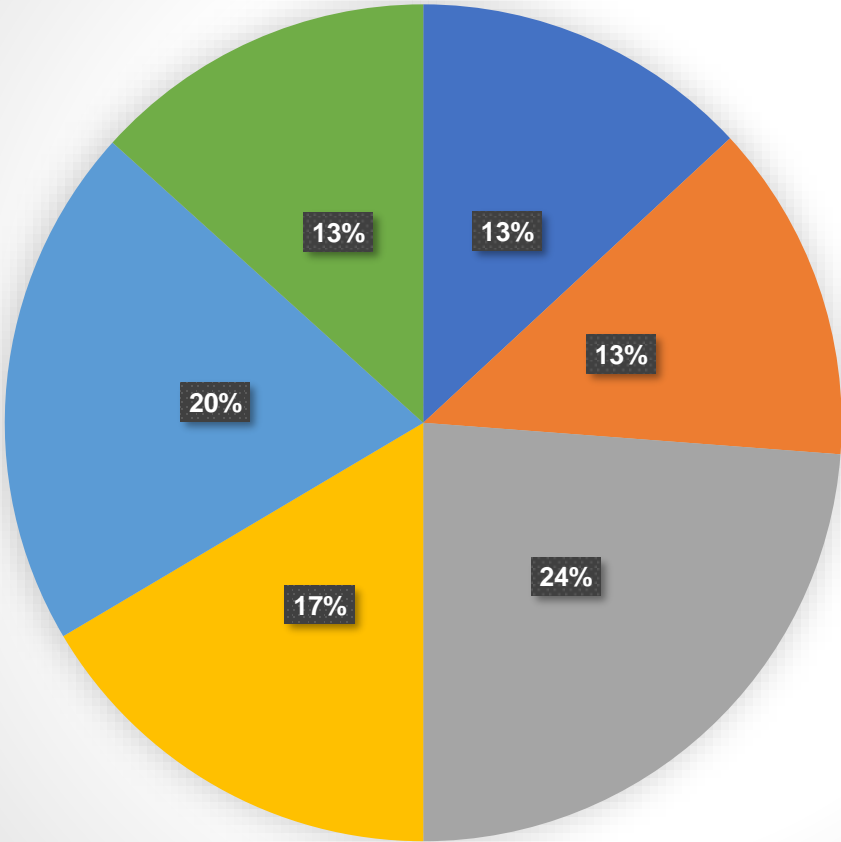
PART III: Optimization Results

Converted Categories

- Conversion Bachelors — 13%
- Conversion masters — 13%
- Conversion Doctorates — 24%
- Conversion married — 17%
- Conversion single — 20%
- Conversion Divorced — 13%

PART IV: Major Insight

Marital Status	Degree	No. of Calls
Married	Bachelors	62
	Masters	51
	Doctorates	1101
Single	Bachelors	50
	Masters	865
	Doctorates	387
Divorced	Bachelors	805
	Masters	52
	Doctorates	50