

# 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

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## 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.

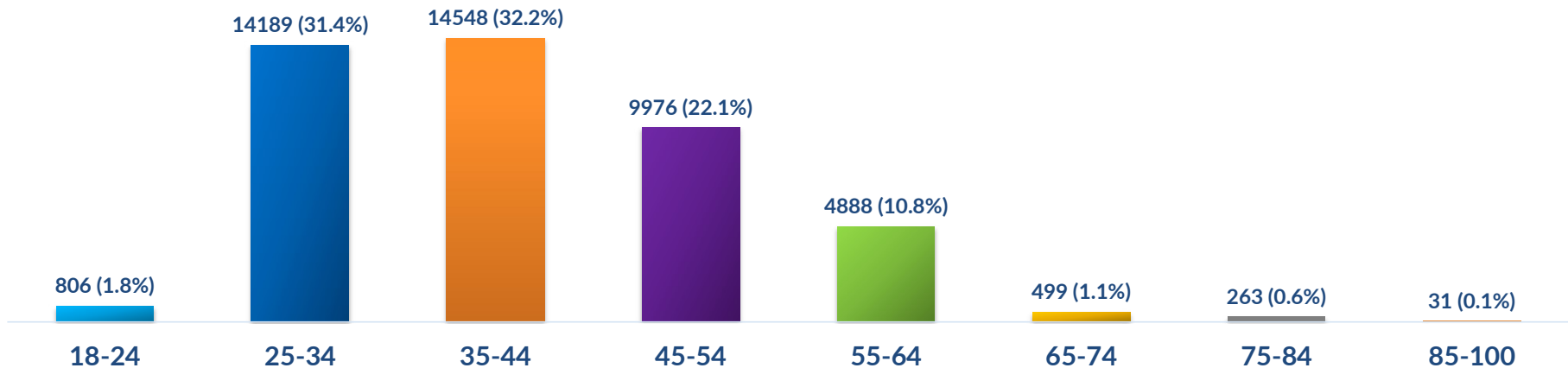
## Assignment Objective

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

# PART I : Univariate Analysis

Variable under consideration: Age Group

*Customer Distribution by AGE GROUP*



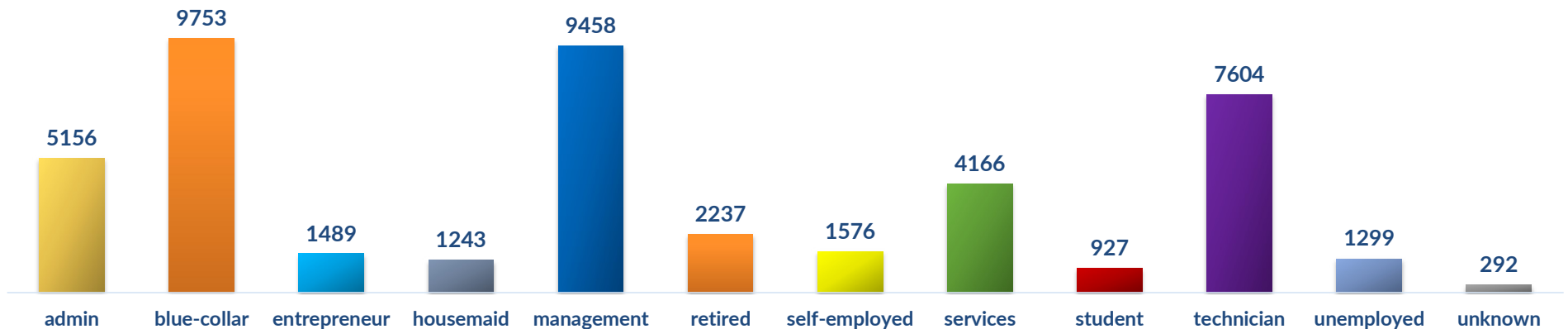
## INSIGHTS & RECOMMENDATION:

- The **35-44 age group** forms the largest segment with **14,548 customers (32.2%)**. Prioritize marketing strategies toward this age group to maximize conversion rates.
- Develop secondary engagement strategies for younger customers (**aged 25-34**).

# PART I : Univariate Analysis

Variable under consideration: Job

*Customer distribution by JOB*



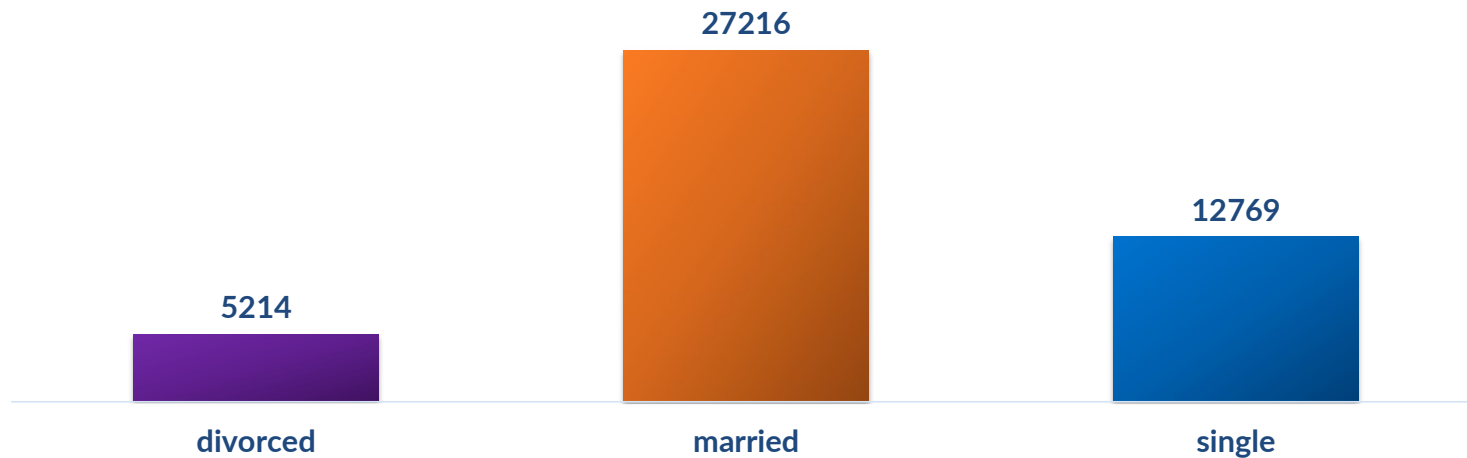
## INSIGHTS & RECOMMENDATIONS:

- **Blue-collar** and **Management** job roles together form the largest customer groups, contributing over **42%** of the total customers.
- Management professionals offer higher potential for larger term deposits.
- Focus primary marketing efforts on **management** roles; design flexible offerings for blue-collar segments.

# PART I : Univariate Analysis

Variable under consideration: Marital Status

## *Customer distribution by MARITAL STATUS*



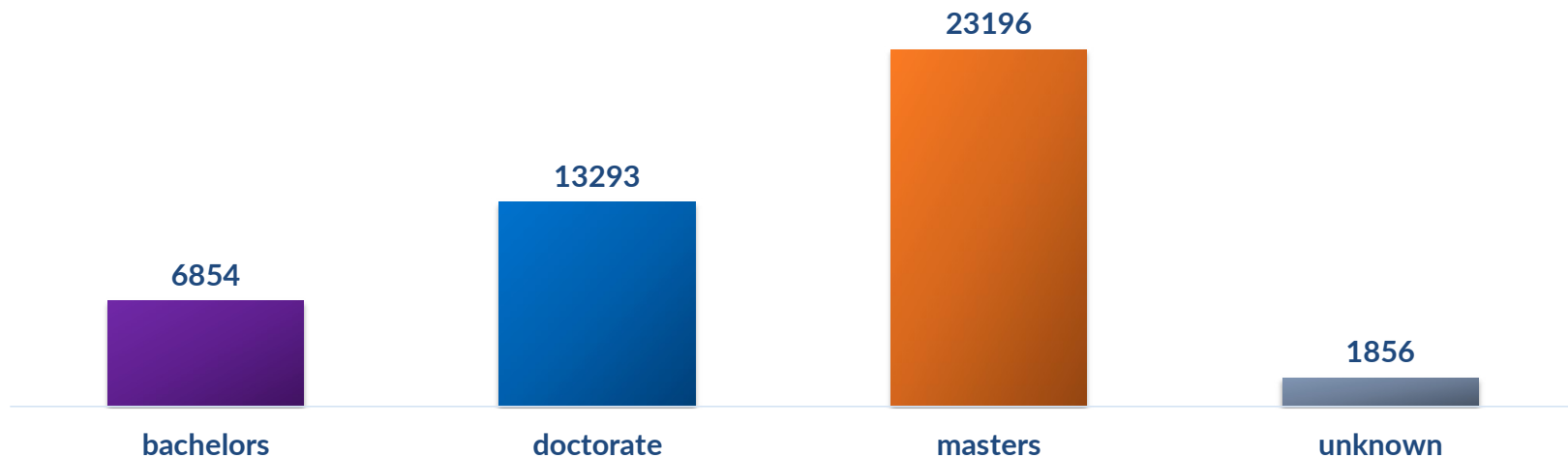
### INSIGHTS & RECOMMENDATIONS:

- **Married** customers form the largest segment with **27,216** individuals.
- Focus marketing on this group for higher conversion, as they may prioritize stable savings.
- Consider **tailored messaging for single individuals** to build early financial trust.

# PART I : Univariate Analysis

Variable under consideration: **Education**

*Customer distribution by EDUCATION*



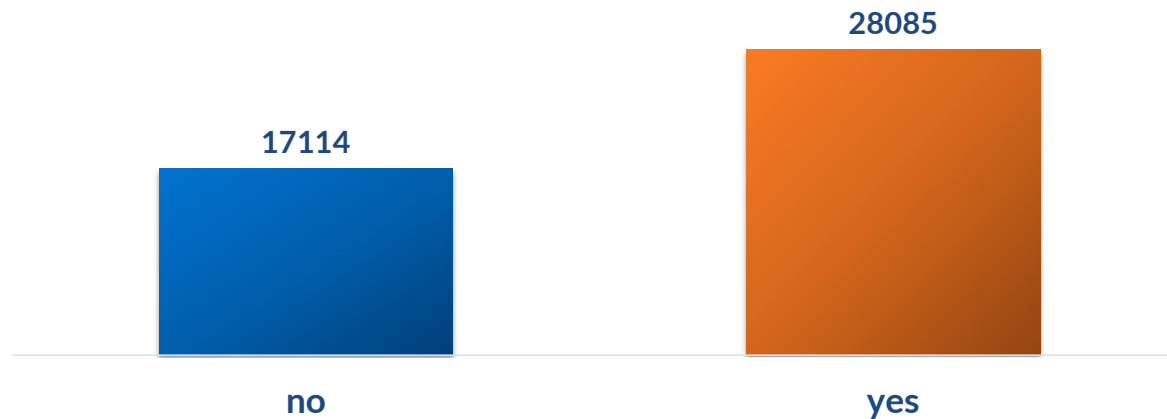
## INSIGHTS & RECOMMENDATION:

- Customers with **Master's degrees** form the largest segment — **focus marketing on this group.**
- **Doctorate holders** are also a strong secondary segment.
- Target **Bachelor's degree holders** with simplified messaging.

# PART I : Univariate Analysis

Variable under consideration: Has Loan?

*Customers having Existing Loan*



## INSIGHTS & RECOMMENDATION:

- Majority of customers (~62%) have existing loans.
- These customers may have limited financial flexibility — **lower chances of accepting new term deposits.**
- **Focus on customers without loans** for better conversion potential.

# PART I : Univariate Analysis

Variable under consideration: **Subscription**

## *Customer Response to Term Deposit*



### **INSIGHTS & RECOMMENDATION:**

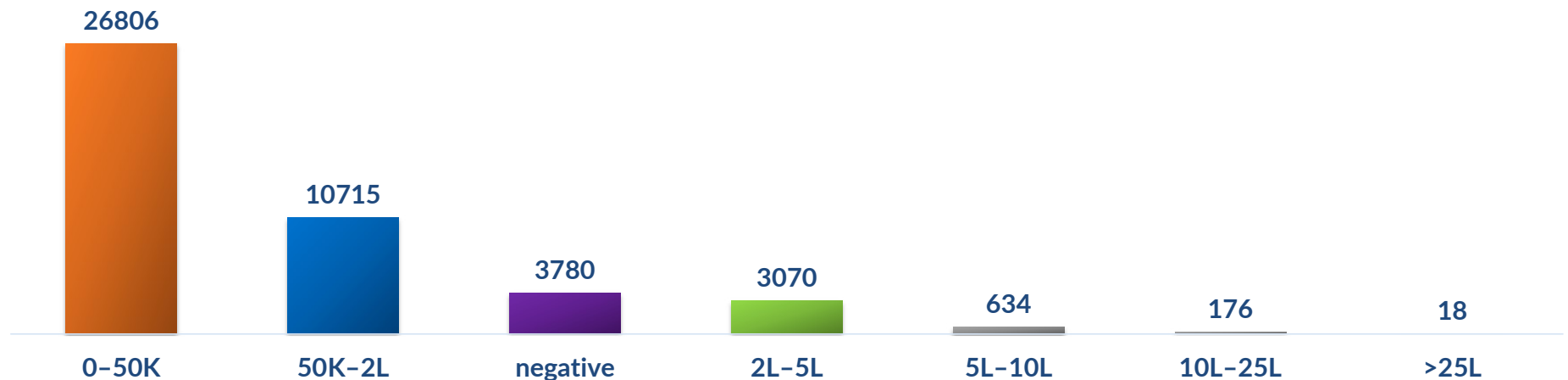
- High decline rate shows misalignment with customer needs.
- Improve marketing to highlight term deposit benefits.
- Simplify communication to enhance accessibility.



# PART I : Univariate Analysis

Variables under consideration: **Balance Bucket**

*Customer distribution by Cash Balance*



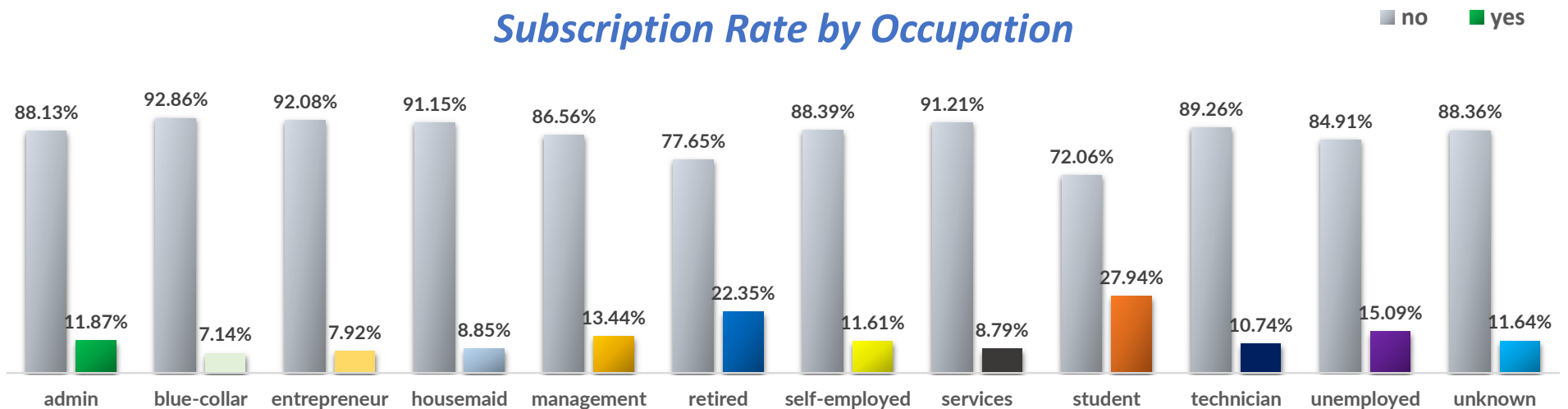
## **INSIGHTS & RECOMMENDATIONS:**

- Most customers have a balance between **0-50K**, indicating lower savings capacity.
- Focus on creating term deposit plans for mid-range balances **50K-2L**, which show higher engagement potential.
- Simplify offerings to attract customers in the **negative balance** group, addressing financial recovery needs.

## PART II : Segmented Univariate Analysis

Variables under consideration: Job and Subscription

*Subscription Rate by Occupation*

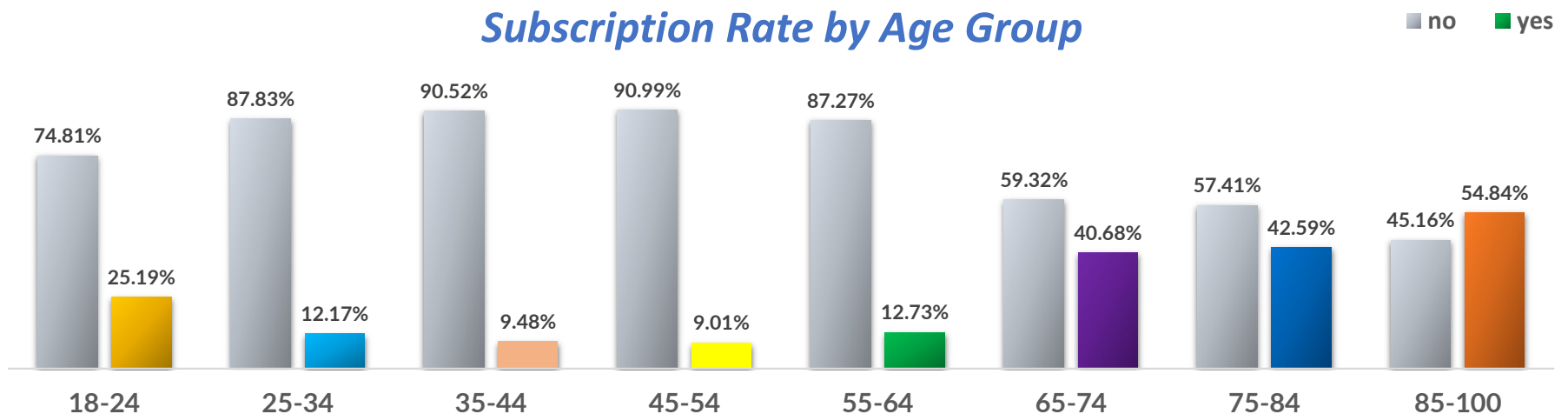


### INSIGHTS & RECOMMENDATIONS:

- **Students** and **retired** individuals show the highest subscription rates — prioritize them in future campaigns.
- **Blue-collar** and **entrepreneurs** have the lowest response — consider deprioritizing or tailoring communication.
- Segment campaigns by job type to improve targeting efficiency and boost subscription conversions.

## PART II : Segmented Univariate Analysis

Variables under consideration: Age Group and Subscription

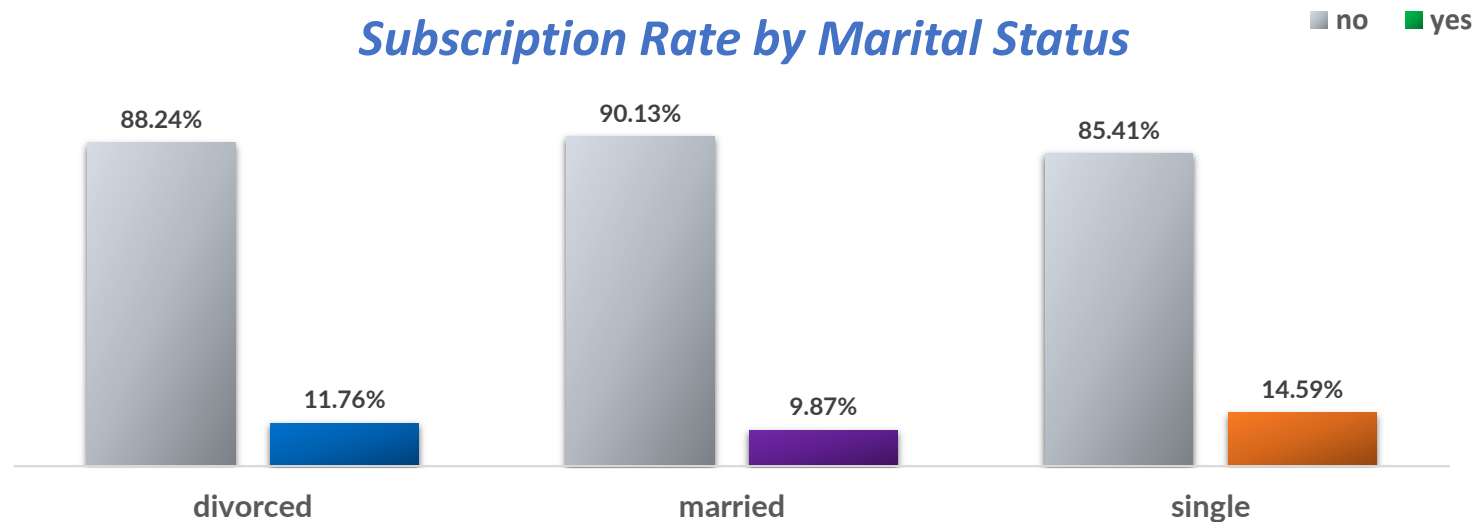


### INSIGHTS & RECOMMENDATIONS:

- Focus on **age group 65–100**, which shows the highest interest in term deposits
- Re-engage **35–64 age group**, where response is lowest, possibly due to liquidity preferences or alternate investment focus.
- Customize messaging by age group to improve conversions.

## PART II : Segmented Univariate Analysis

Variables under consideration: Marital Status and Subscription

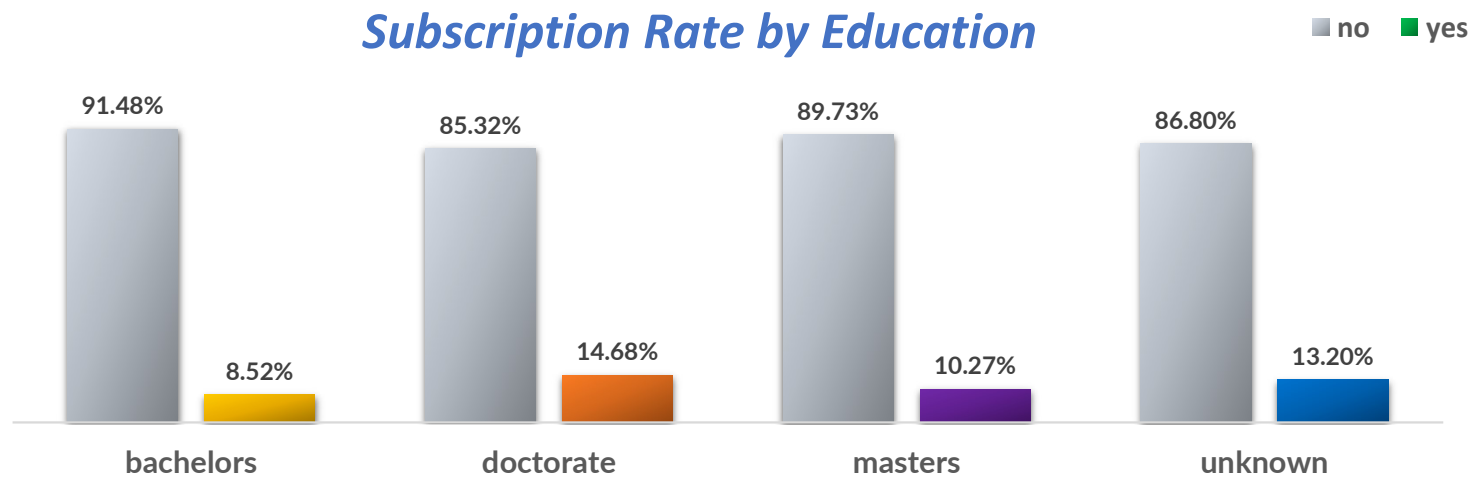


### INSIGHTS & RECOMMENDATIONS:

- **Single** individuals have the highest subscription rate. Focus on campaigns tailored to their flexible financial goals.
- **Divorced** individuals show moderate engagement. Create personalized outreach emphasizing stability and growth..
- **Married** individuals have the lowest subscription rate. Investigate barriers and develop family-oriented financial plans.

## PART II : Segmented Univariate Analysis

Variables under consideration: Education and Subscription

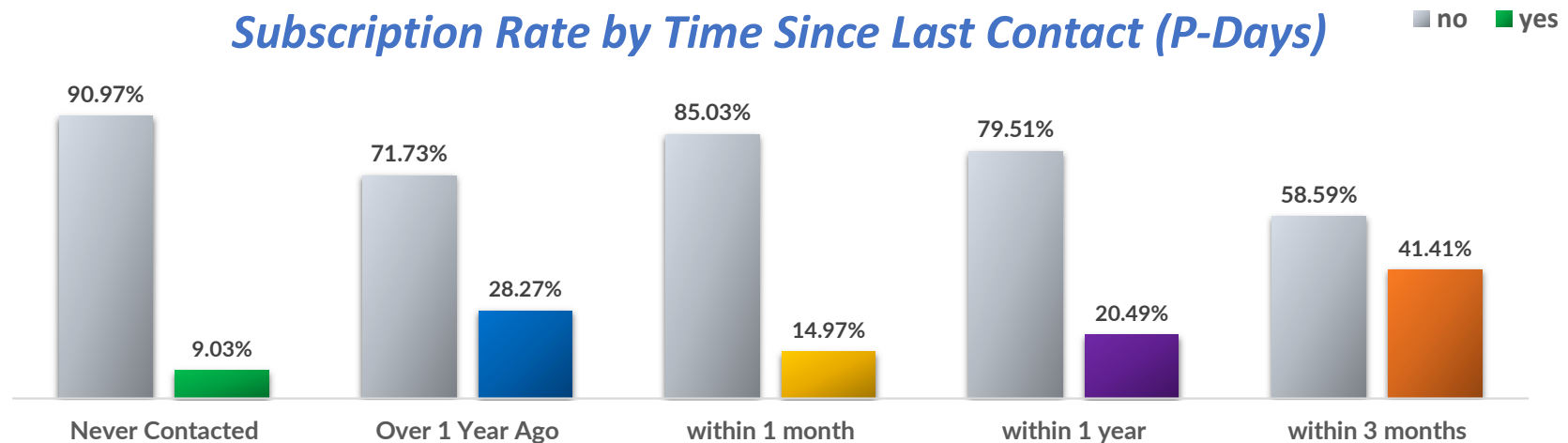


### INSIGHTS & RECOMMENDATIONS:

- **Doctorate** holders have the highest subscription rate, Focus on promoting term deposits as long-term investment options tailored to this educated segment.
- **Bachelor's** degree holders have the lowest subscription rate, Simplify offerings to better appeal to this broad and diverse demographic.

## PART II : Segmented Univariate Analysis

Variables under consideration: When Contacted? (P-Days) and Subscription



### INSIGHTS & RECOMMENDATIONS:

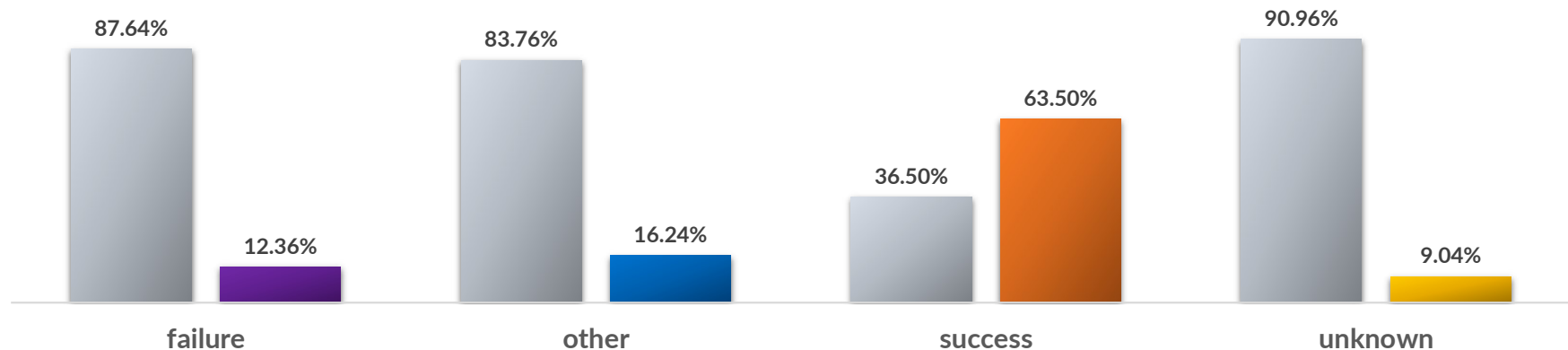
- Customers contacted **within 3 months** show the **highest subscription rate**, Focus on frequent follow-ups and maintaining recent contact for better conversions.
- Customers **never contacted** have the **lowest subscription rate**, Prioritize engaging these customers through new outreach strategies to improve results.

## PART II : Segmented Univariate Analysis

Variables under consideration: P-Outcome and Subscription

*Subscription Rates by Previous Campaign Outcome*

■ no ■ yes



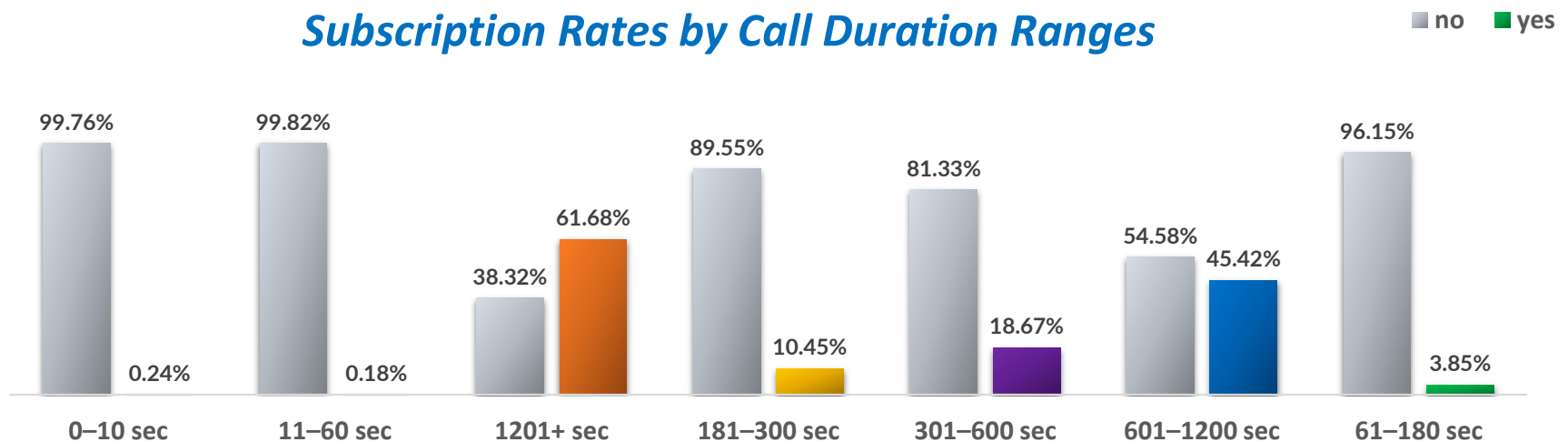
### INSIGHTS & RECOMMENDATIONS:

- Previous **success** in the campaign leads to the **highest subscription rate**, Focus on re-targeting customers with a successful history to maximize conversions.
- The **unknown** and **failure** outcomes show the **lowest subscription rates**, Develop strategies to educate and re-engage these groups, addressing their concerns and barriers.

## PART II : Segmented Univariate Analysis

Variables under consideration: Call duration range and Subscription

*Subscription Rates by Call Duration Ranges*



### INSIGHTS & RECOMMENDATIONS:

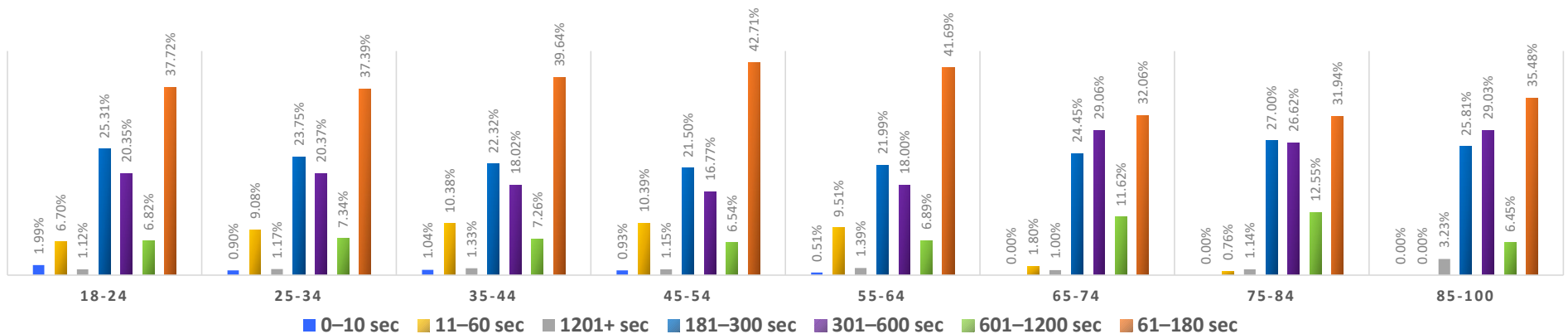
- Calls lasting **1201+ seconds** show the **highest subscription rate**, Invest in training customer service teams to conduct meaningful long-duration calls for better engagement.
- Calls lasting **0-60 seconds** have the **lowest subscription rates**, Avoid excessively short calls and focus on extending call durations to build trust and interest.



# PART III : Bivariate Analysis

Variables under consideration: Age Group and Call Duration Range

## *Subscription Rate By Age And Call Duration*



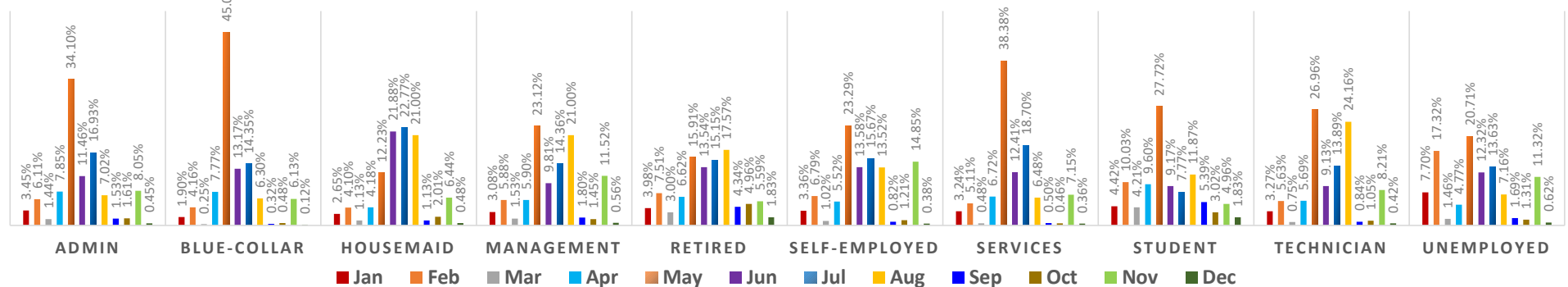
### INSIGHTS & RECOMMENDATIONS:

- **61-180 sec calls** consistently yield the **highest subscription rates across all age groups**; Optimize conversation flow within this duration to maximize conversions.
- **Subscription rates vary across age groups**, but **longer calls (180-1200 sec) show moderate success**; Use extended conversations strategically for deeper engagement.

# PART III : Bivariate Analysis

Variables under consideration: Job, Month and Subscription

## Subscription Rate By Job And Month



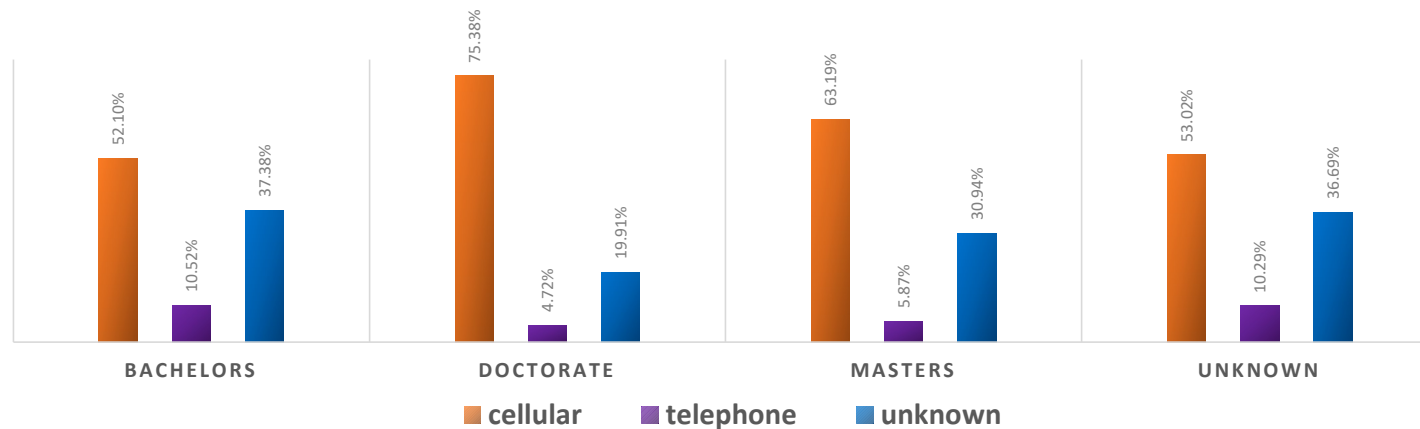
### INSIGHTS & RECOMMENDATIONS:

- Blue-Collar workers have the **highest subscription rate in May**; Prioritize marketing efforts for this segment during that month to maximize conversions.
- Subscription rates **fluctuate significantly across job categories and months**; Adjust targeting strategies based on seasonal trends for better engagement.
- Certain job groups, like **Housemaids**, show **consistently low subscription rates across months**; Consider revising outreach or messaging strategies for these groups.

## PART III : Bivariate Analysis

Variables under consideration: Education, Contact and Subscription

### *Subscription Rate By Education And Contact Type*



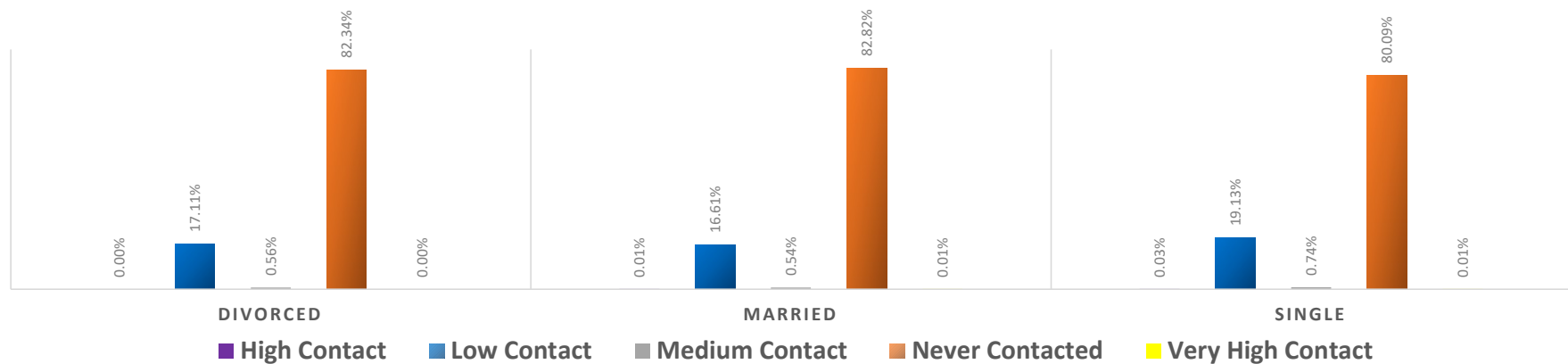
#### **INSIGHTS & RECOMMENDATIONS:**

- **Retired** individuals have the **highest subscription rates** across **all months**; Prioritize targeted messaging for this group to maximize engagement year-round.
- Subscription rates vary across **jobs and months**, with notable peaks for **Blue-Collar** and **Services** in **May**; Optimize campaign timing based on seasonal trends for better conversions.

## PART III : Bivariate Analysis

Variables under consideration: Education, Previous Contacted (Previous) and Subscription

### *Subscription Rate by Marital Status and Previous Contact*



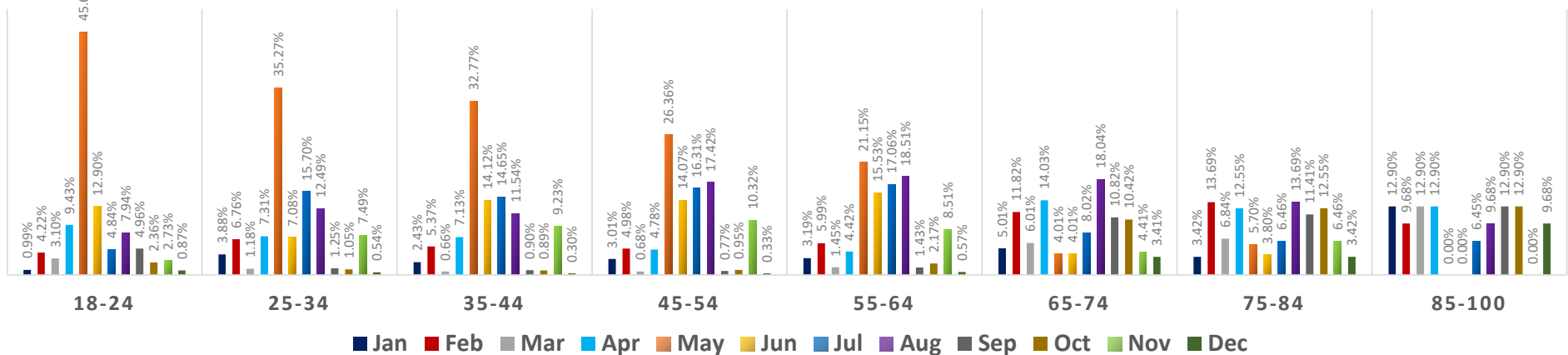
#### INSIGHTS AND RECOMMENDATIONS:

- **Never Contacted** group has **the highest subscription rates** across **all marital statuses**; Prioritize outreach to new prospects rather than those with prior interactions.
- **Low Contact** performs **better than other contacted categories**; Optimize engagement strategies for limited but meaningful interactions.

# PART III : Bivariate Analysis

Variables under consideration: Age Group, Month and Subscription

Subscription Rate By Age And Month



## INSIGHTS & RECOMMENDATIONS:

- The **18-24 age group** shows the **highest subscription rate** in **May**; Focus marketing efforts on this group during that month to maximize conversions.
- **Subscription rates gradually decline** as age increases, with the **lowest rates** in the **85-100 age group**; Adjust engagement strategies to better appeal to older demographics.

# PART III : Bivariate Analysis

Variables under consideration: Job, Call Duration Range and Subscription

Subscription Rate By Job And Call Duration



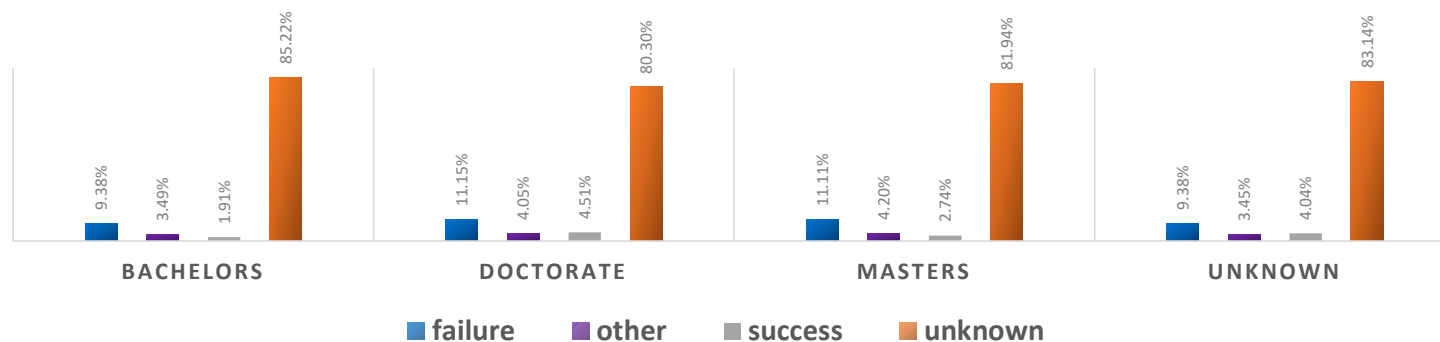
## INSIGHTS & RECOMMENDATIONS:

- **61-180 sec calls** consistently drive the **highest subscription rates** across **most job categories**; Prioritize optimizing conversations within this range for better conversions.
- **1201+ sec calls** tend to have the **lowest subscription rates**; Avoid overly long conversations unless necessary, as they don't appear to yield strong conversions.

## PART III : Bivariate Analysis

Variables under consideration: Education, P-Outcome and Subscription

### Subscription Rate By Education And Previous Outcome



#### INSIGHTS & RECOMMENDATIONS:

- Subscription rates are **highest** for the "Unknown" previous outcome group across **all education levels**; Prioritize targeted outreach strategies for individuals with unknown past interactions to improve engagement.
- Success** and **failure** categories show significantly **lower subscription rates** compared to "Unknown"; Consider refining messaging and incentives for these groups to boost conversions.

# PART IV: Major insights

## Customer Profile Insights:

- The largest customer segments by age are **35-44 years** (32.2%) and **25-34 years** (31.4%). Prioritize marketing towards these groups.
- **Married individuals** form the dominant group (27,216 customers), but **single individuals** show the highest subscription rate.
- **Blue-collar** and **management** job roles comprise over 42% of total customers, with **management professionals** offering high potential for term deposits.

## Subscription Trends:

- Only **11.42%** of customers subscribed to term deposits, indicating low alignment with customer needs.
- **Retired individuals** and **students** have the highest subscription rates; tailor marketing efforts accordingly.
- **65+ age group** shows the highest subscription rate, while **35-64 age group** has the lowest response.

## Financial Position & Loan Impact:

- **62% of customers have existing loans, potentially reducing their interest in term deposits.**
- Customers with **higher account balances (50K-2L)** show greater engagement; focus on tailored offers.
- **Negative balance customers** may need financial recovery strategies before deposit conversions.

## Campaign & Communication Strategy:

- Customers **contacted within the last 3 months** show the highest subscription rates.
- **Call duration is crucial: Calls lasting 1201+ sec result in the highest conversion, whereas 0-60 sec calls have poor outcomes.**
- **Previous campaign success** strongly correlates with higher subscription rates; focus on customers with positive past interactions.

## Optimized Targeting Recommendations:

- **Prioritize outreach to customers never contacted before**—highest potential for new conversions.
- **Adjust targeting by job type and seasonality:** Blue-collar workers subscribe most in **May**.
- **Leverage personalized messaging based on education:** Doctorate holders are highly receptive, while bachelor's degree holders require simplified offers.