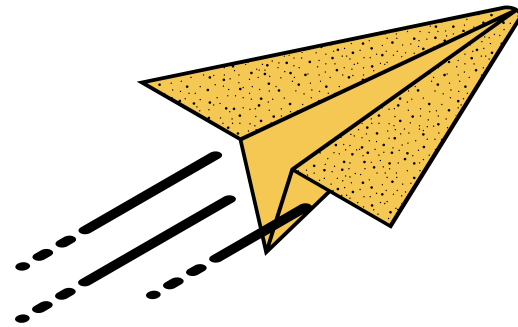
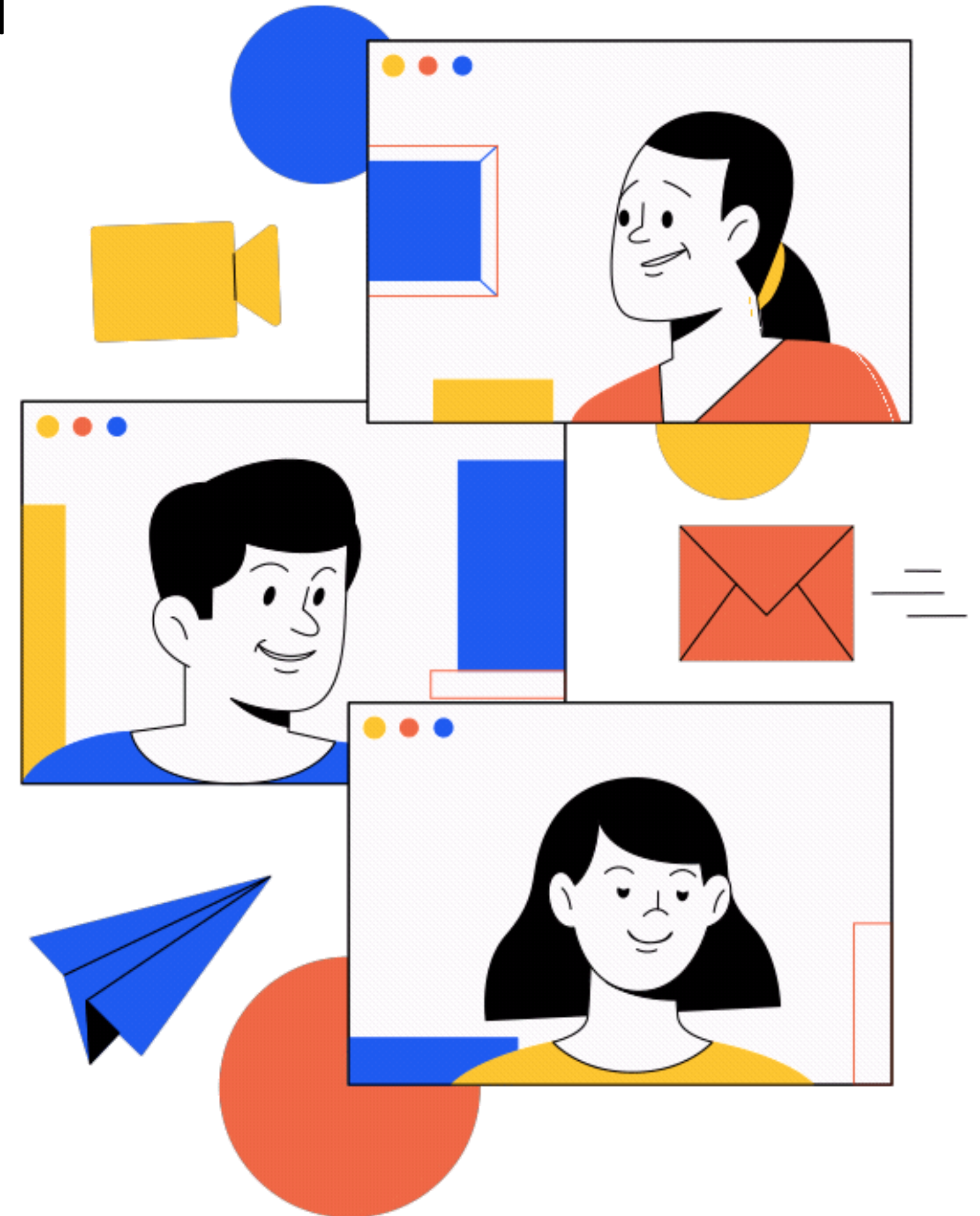


Presented by Kanak Agarwal



# BANKING ANALYSIS

Exploring Customer Behavior and  
Campaign Effectiveness



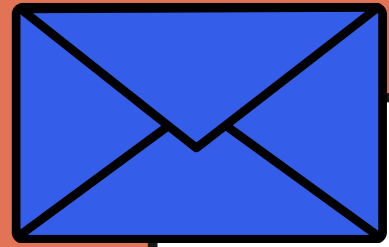


# INTRODUCTION

- **Objective:** To analyze the dataset to understand customer behavior and improve telemarketing campaign effectiveness.
- **Key Focus:**
  - Customer demographics
  - Campaign performance metrics
  - Factors influencing term deposit subscription



# **ANALYZING OUTPUTS**

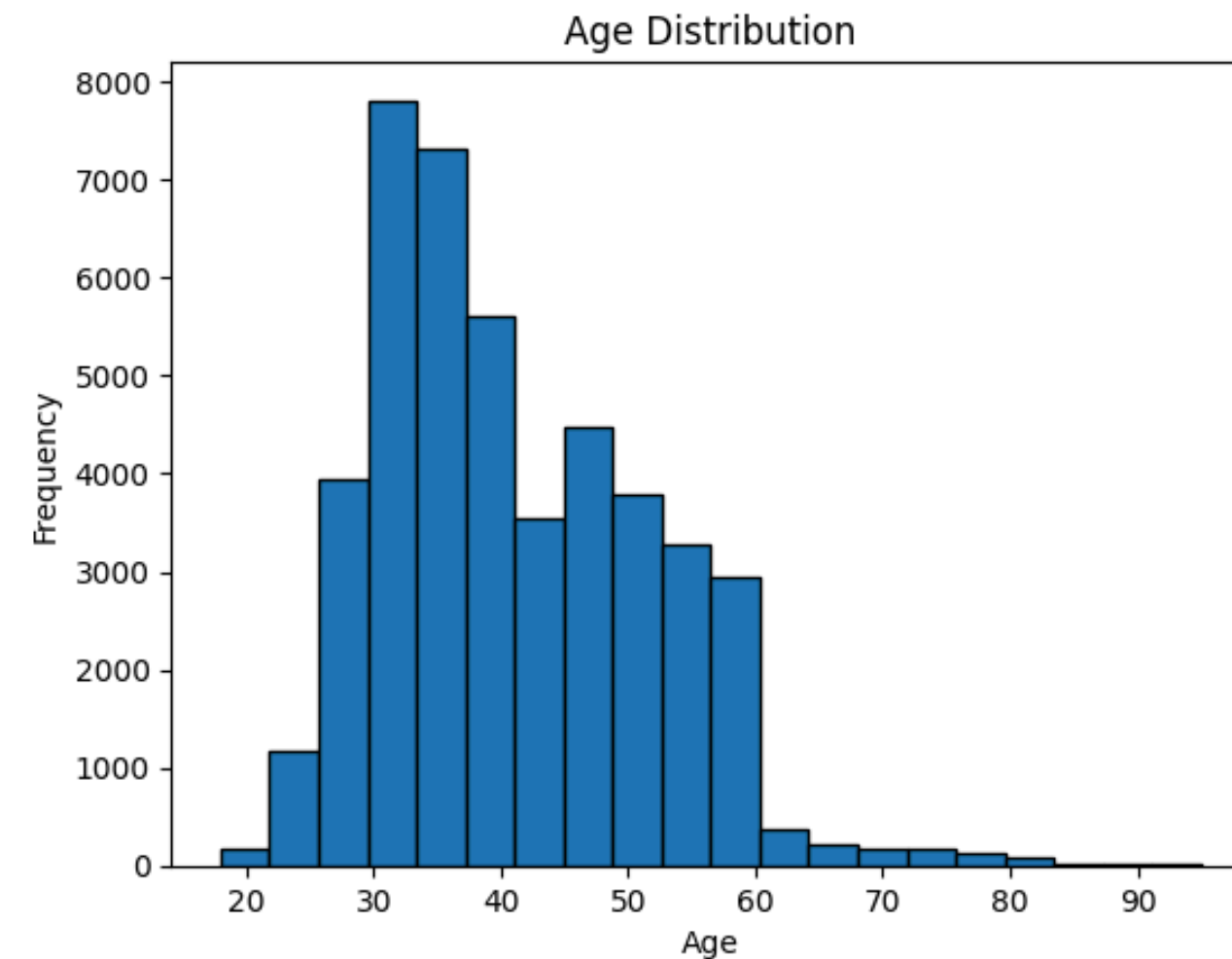


# AGE DISTRIBUTION



## Insights

- Target Audience: Marketing efforts could focus on individuals aged 30-40 years, as they are the largest demographic.
- Potential Expansion: Consider strategies to attract younger clients (under 30) or older clients (above 50), as they are currently underrepresented.



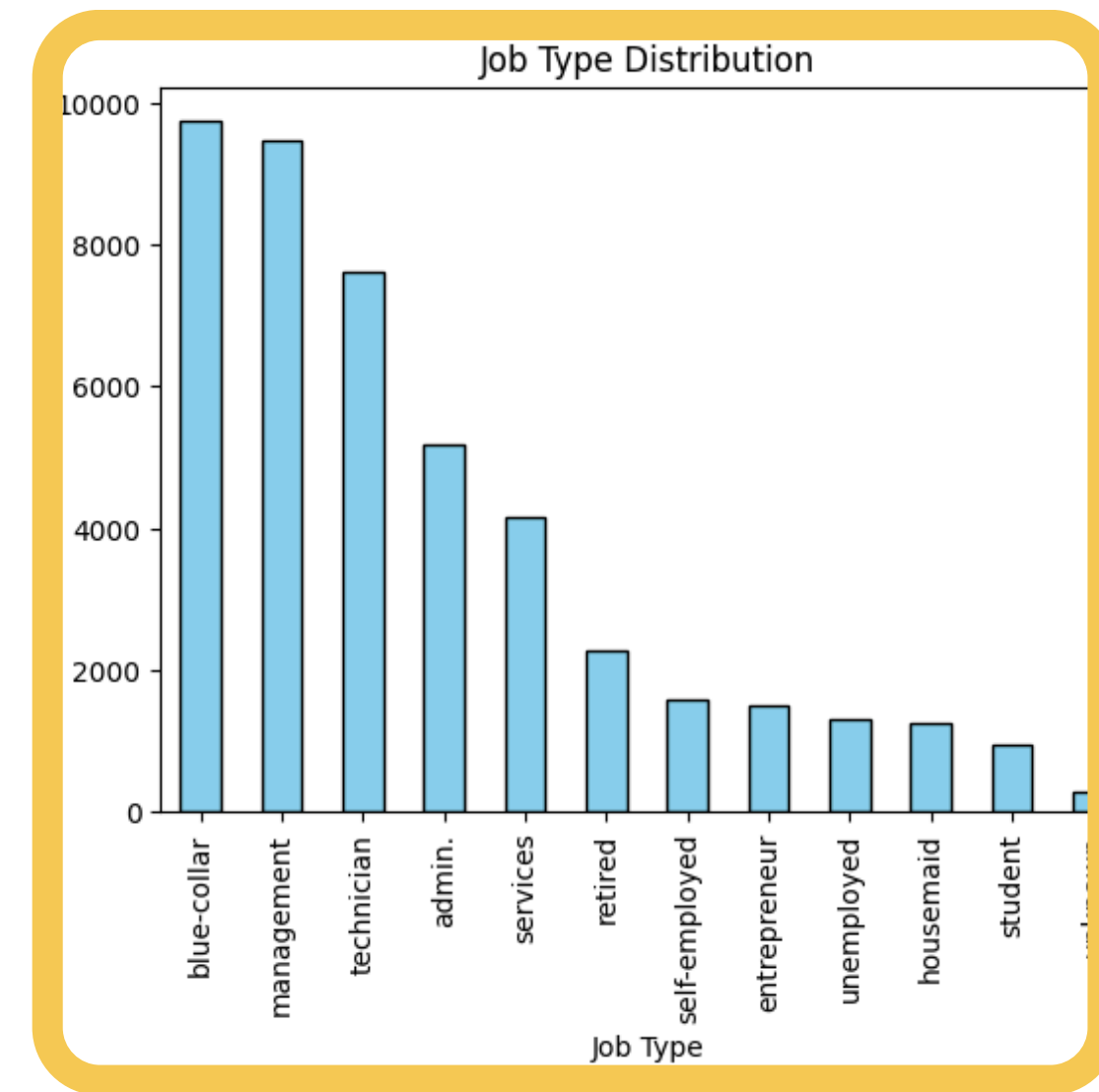
# JOB TYPE DISTRIBUTION

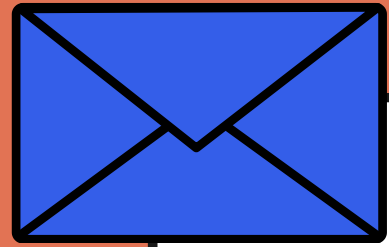
- **Insights**

**Blue-collar workers dominate:** The majority of clients are blue-collar workers, suggesting that the bank caters to a significant portion of the working-class population.

**Management and Technician presence:** A significant number of clients are in management and technical roles, indicating that the bank also attracts professionals and skilled workers.

**Diverse Job Types:** The bank has a diverse customer base, with clients from various job types, including self-employed individuals, entrepreneurs, and students.



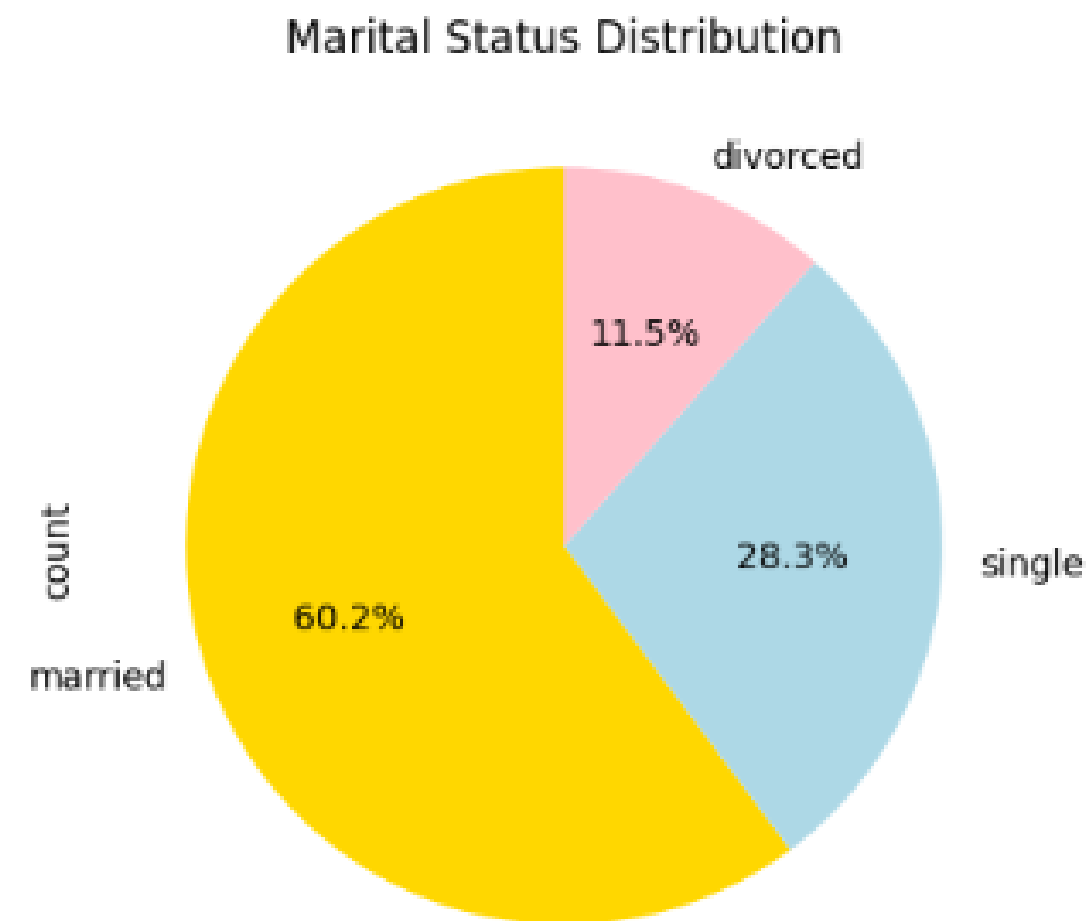


# MARITAL STATUS DISTRIBUTION

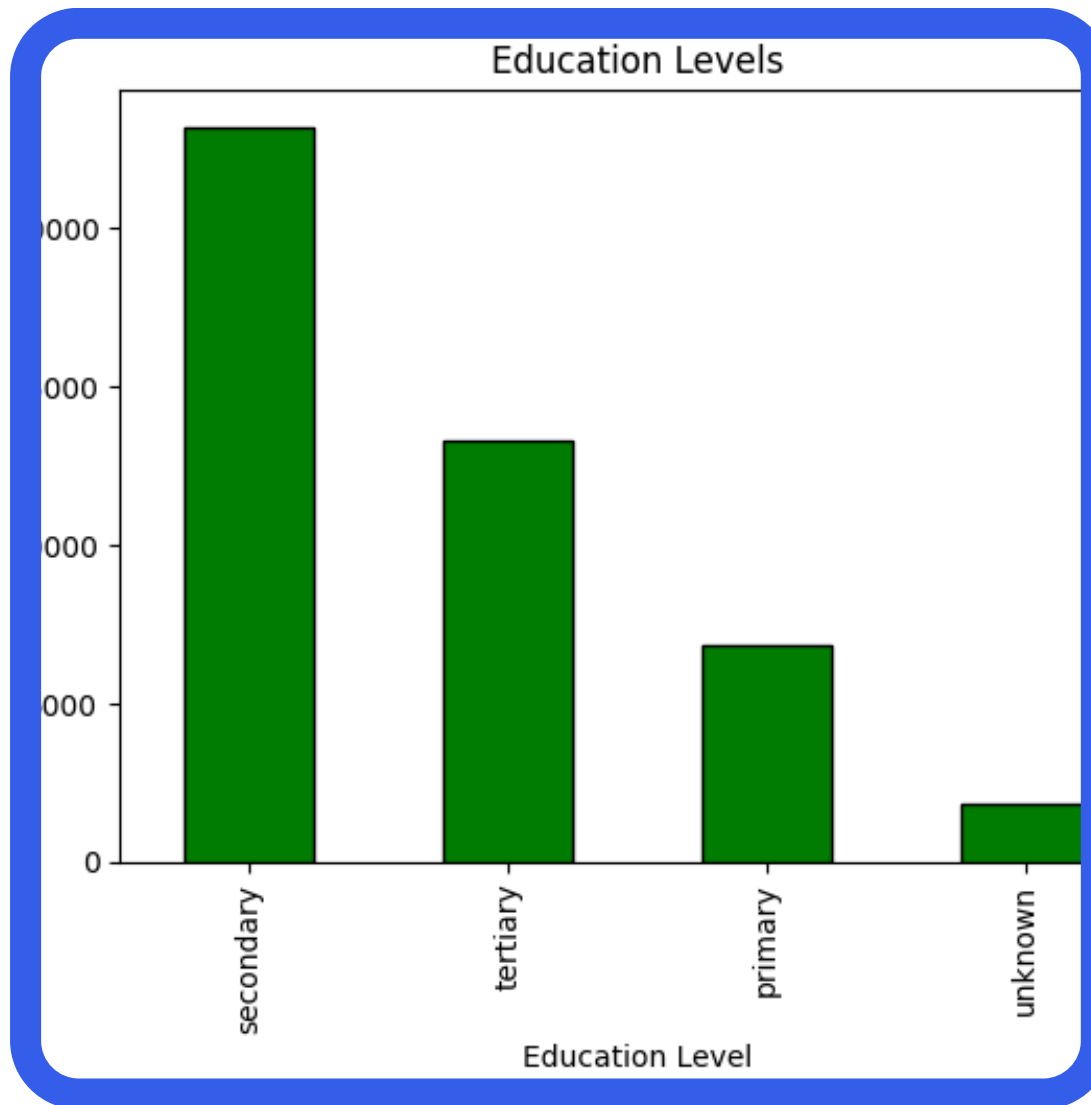


## Insights

- Married individuals dominate: The majority of clients (60.2%) are married. This suggests that the bank's customer base is primarily composed of married individuals.
- Significant portion is single: A substantial portion of clients (28.3%) are single. This segment could be a potential target for specific financial products or services.
- Smaller divorced population: A smaller proportion of clients (11.5%) are divorced. This suggests that the bank may have fewer products or services specifically tailored to the needs of divorced individuals.

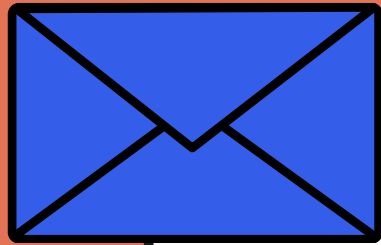


# EDUCATION LEVELS



## • Insights

- **Secondary Education Dominates:** The majority of clients have completed secondary education. This suggests that the bank's customer base is primarily composed of individuals with a secondary education level.
- **Tertiary Education Significant:** A significant number of clients have completed tertiary education, indicating a presence of professionals and skilled workers among the customer base.
- **Primary Education and Unknown Levels:** A smaller proportion of clients have completed primary education or have unknown education levels. This could be due to various factors, such as data quality issues or a lack of formal education.



# DEFAULTED LOANS



## Insights

Low Default Rate: The default rate is very low, with only 1.8% of clients having defaulted on their loans. This indicates that the bank has a strong credit risk management system and its clients are generally responsible borrowers.

proportion

default

no

98.197541

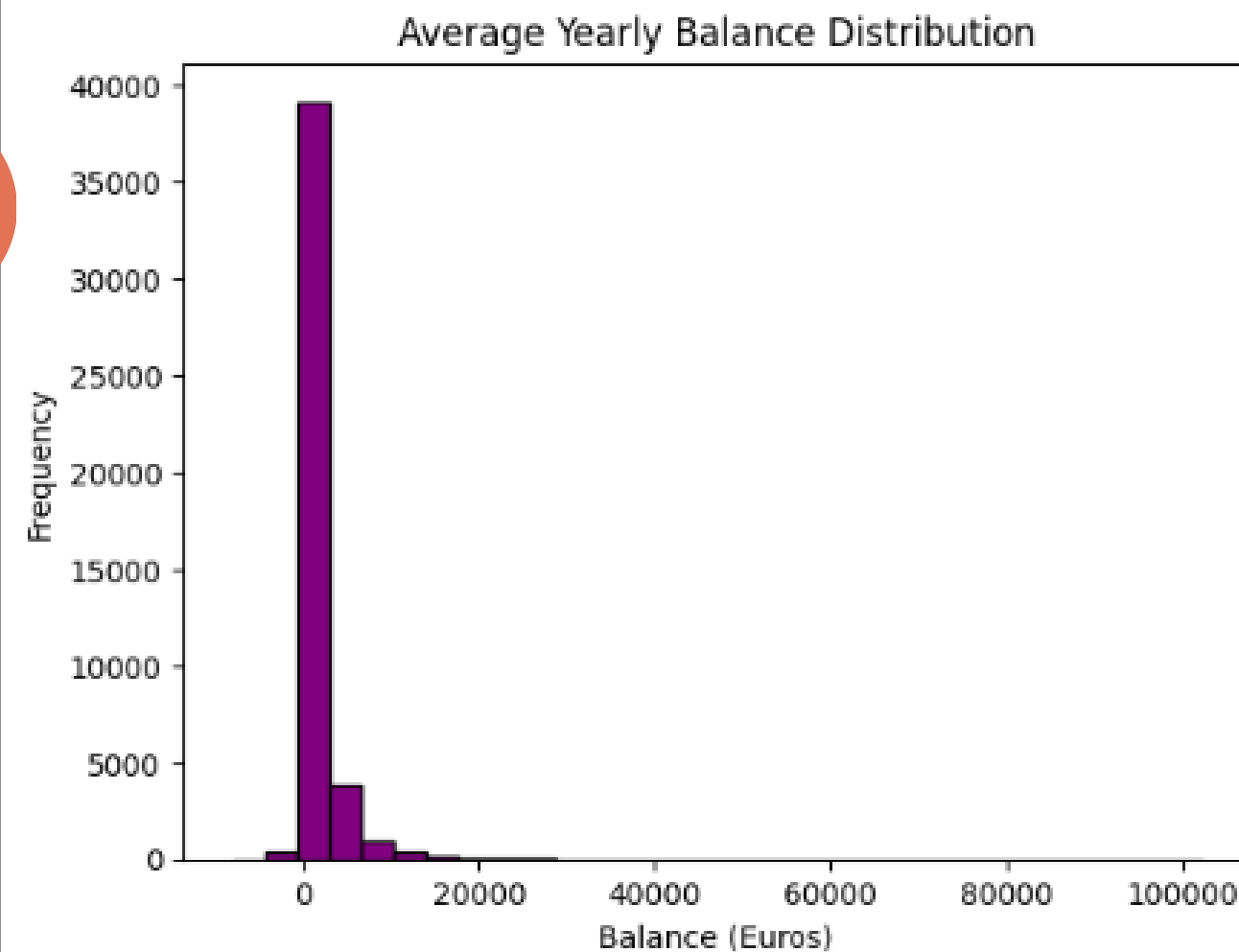
yes

1.802459

dtype: float64



# AVERAGE YEARLY BALANCE DISTRIBUTION



## • Insights

- Low-Balance Clients: The majority of clients have a low average balance, suggesting that the bank may have a large base of retail customers.
- High-Value Clients: A small segment of clients has a significantly higher average balance, making them valuable customers for the bank.
- Wealth Management Opportunities: The bank could explore opportunities to offer wealth management services to high-value clients

# HOUSING

- **Insights**

Majority of clients have a housing loan: The majority of clients (25,130) have a housing loan.

A significant number of clients do not have a housing loan: A substantial number of clients (20,086) do not have a housing loan.

Possible Interpretations:

High Housing Loan Penetration: The bank may have a relatively high housing loan penetration rate, indicating a strong presence in the housing finance market.

Popular Housing Loan Products: The bank may offer attractive housing loan products with competitive interest rates and flexible repayment terms.

housing		count
yes		25130
no		20086
dtype: int64		

# LOAN

- **Insights**

Majority of clients do not have a loan: The majority of clients [37,972] do not have a loan.

A significant number of clients have a loan: A substantial number of clients [7,244] do have a loan.

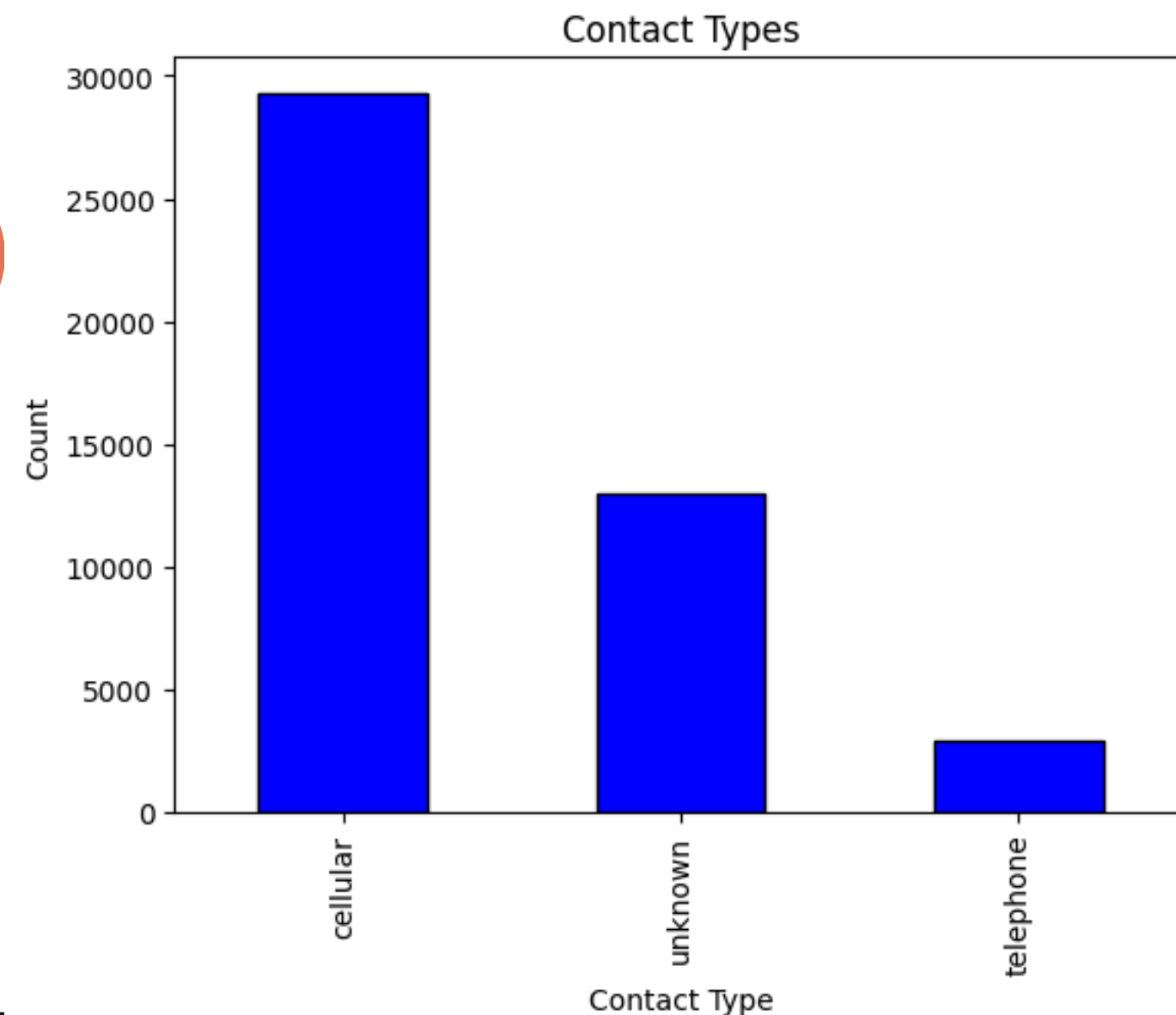
Possible Interpretations:

Low Loan Penetration: The bank may have a relatively low loan penetration rate, indicating potential opportunities for growth in this area.

Risk-Averse Clients: A large proportion of clients may be risk-averse and prefer not to take on debt.

```
count
loan
no    37972
yes    7244
dtype: int64
```

# CONTACT TYPE



- **Insights**

The visualization shows that the most common contact type used by the bank is cellular, followed by unknown and telephone. This suggests that the bank primarily relies on mobile phones to reach out to clients, with a smaller portion of contacts made through traditional telephone calls. The "unknown" category could be due to missing or incomplete data.

This insight highlights the importance of mobile communication channels for the bank's marketing and outreach efforts.

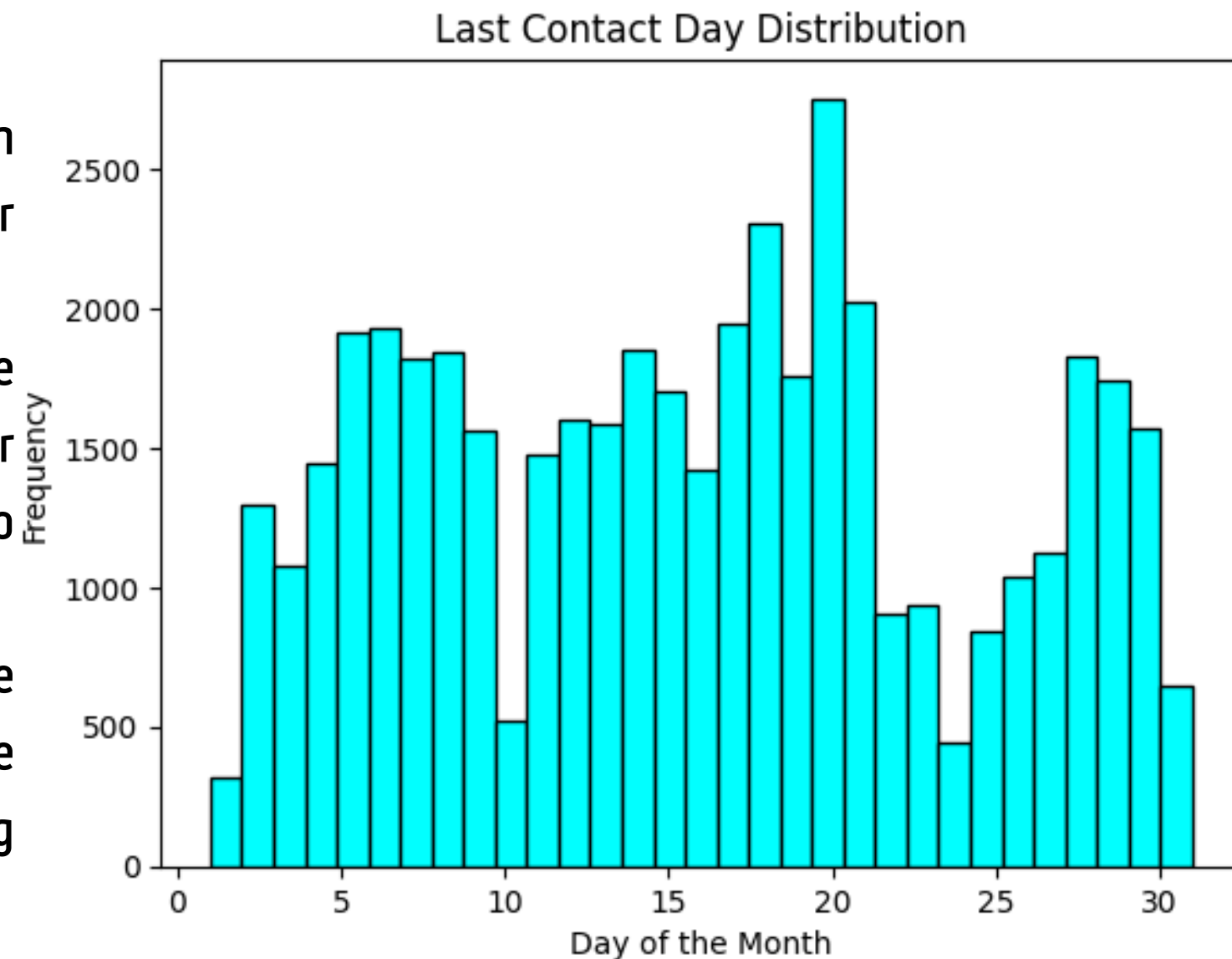
# LAST CONTACT DAY DISTRIBUTION

- **Insights**

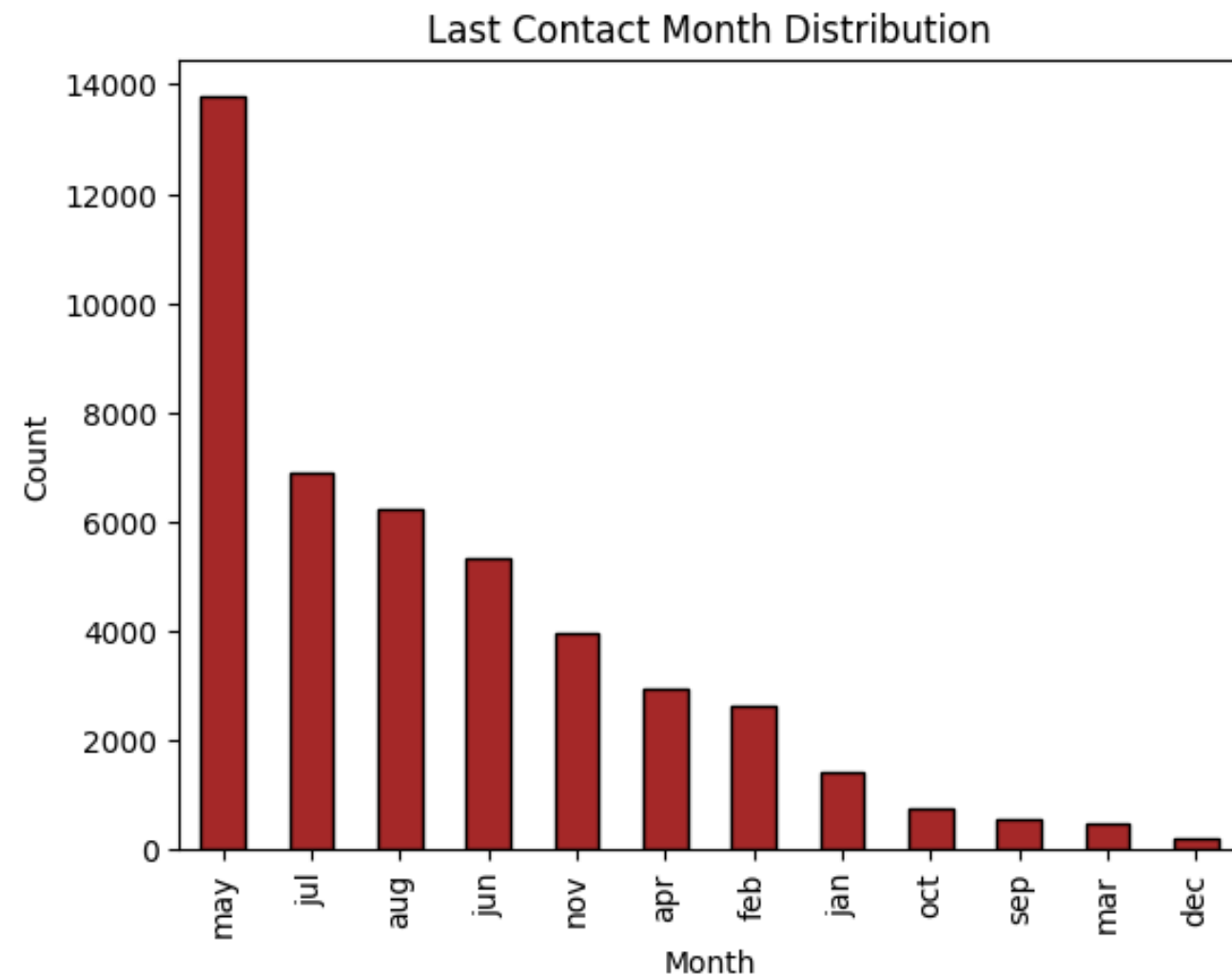
The bank might want to consider focusing on the days with higher contact frequency (5th, 10th, 15th, 20th, 25th) for targeted campaigns or important outreach efforts.

The decrease in contact towards the end of the month could be due to various reasons, such as month-end activities or other priorities. The bank might want to investigate this further to understand the underlying causes.

To improve customer engagement, the bank could explore strategies to increase contact frequency towards the end of the month. This could involve scheduling follow-up calls or sending personalized messages.



# LAST CONTACT MONTH DISTRIBUTION



- **Insights**

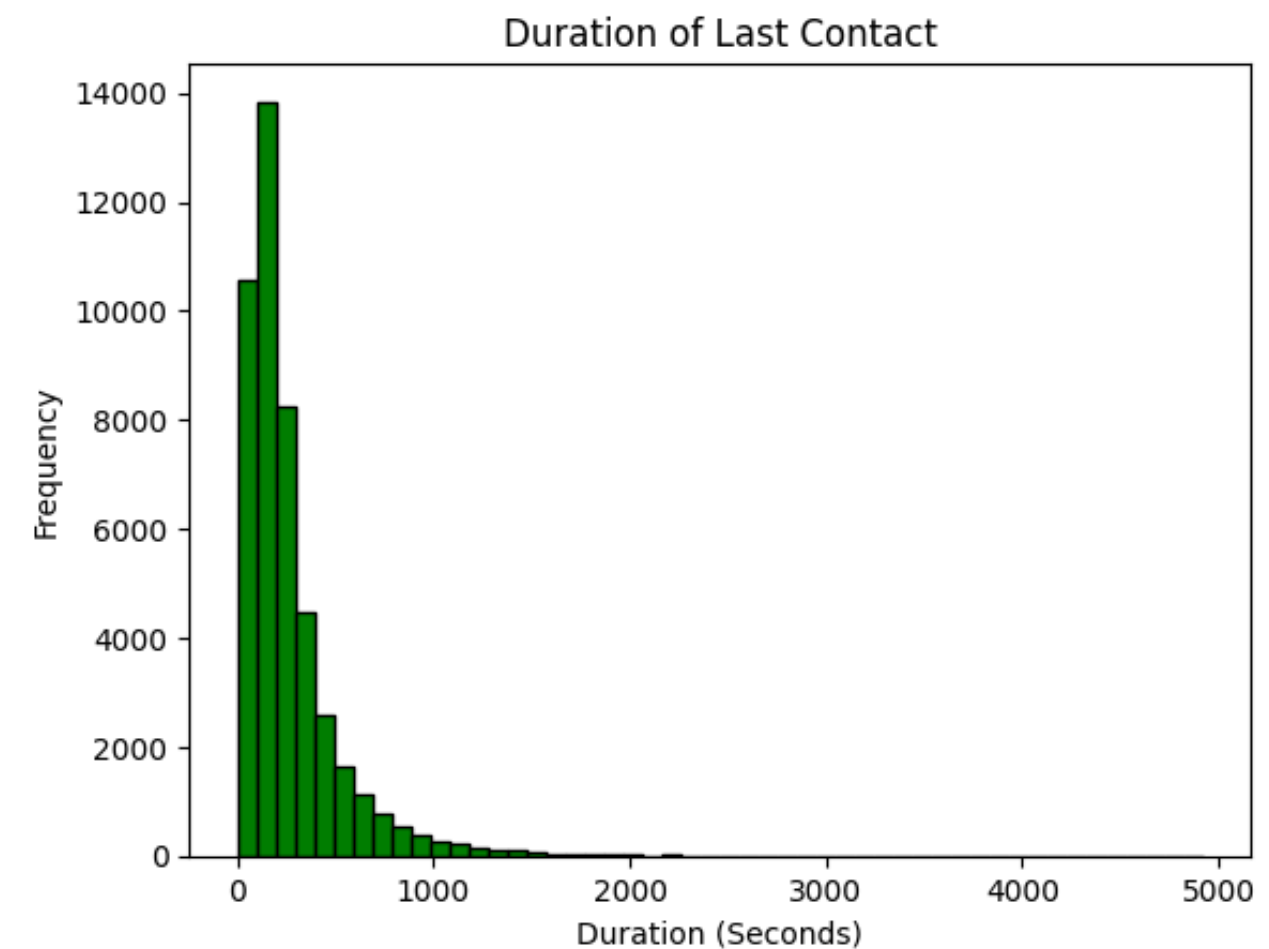
The visualization shows the distribution of the last contact month for each client. The month with the highest frequency of contacts is May, followed by July and August. The frequency of contacts decreases gradually from May to December.

Seasonal Variation: The bank's contact efforts may be influenced by seasonal factors, such as holidays or economic trends.

# DURATION OF THE LAST CONTACT

- **Insights**

The visualization shows the distribution of the duration of the last contact with each client. The distribution is heavily skewed to the right, with most contacts lasting a few hundred seconds or less. However, there is a long tail, indicating that some contacts lasted for several thousand seconds.

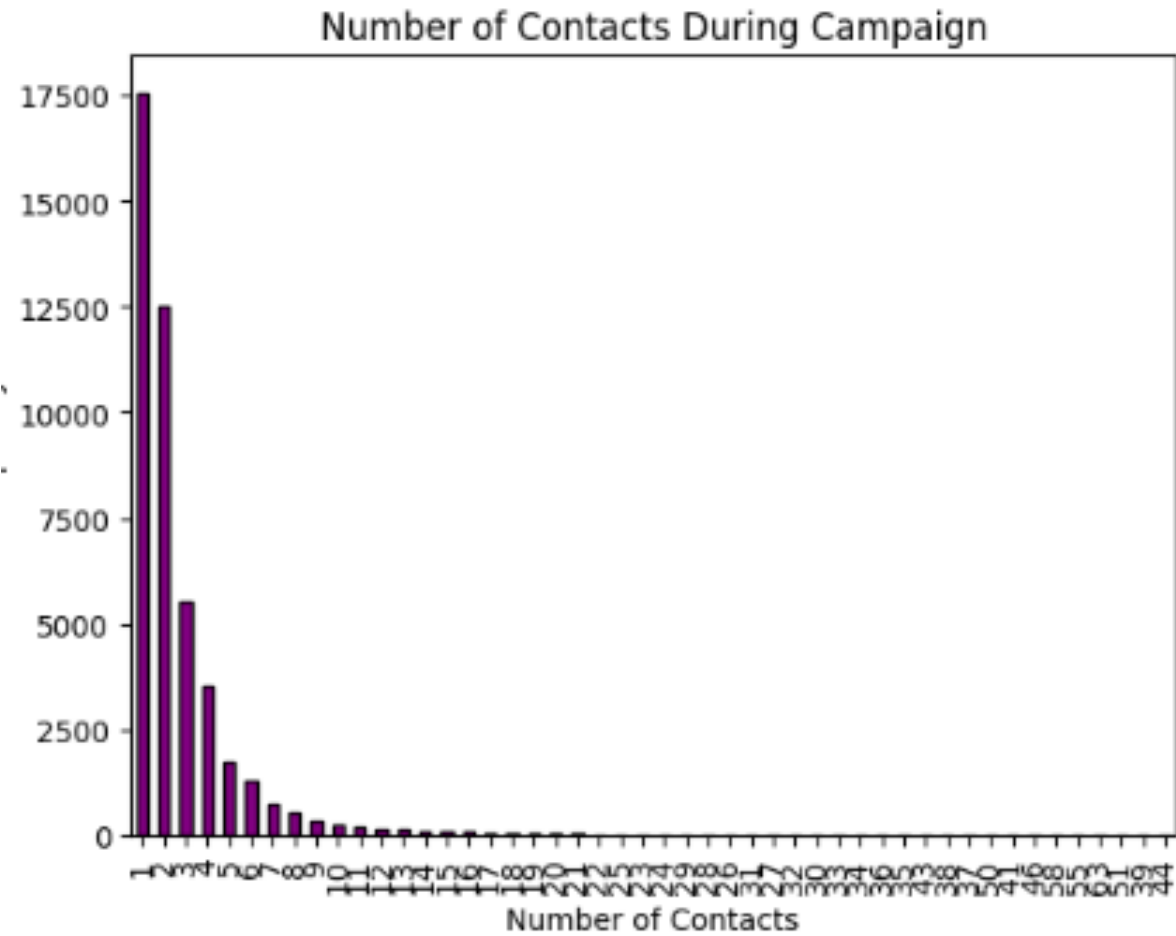


# NUMBER OF CONTACTS DURING CAMPAIGN



- **Insights**

The visualization shows the distribution of the number of contacts made during the current campaign for each client. The majority of clients had only a few contacts, with the highest frequency being around 1-2 contacts. This indicates that the bank's contact efforts during the current campaign were relatively limited for most clients.

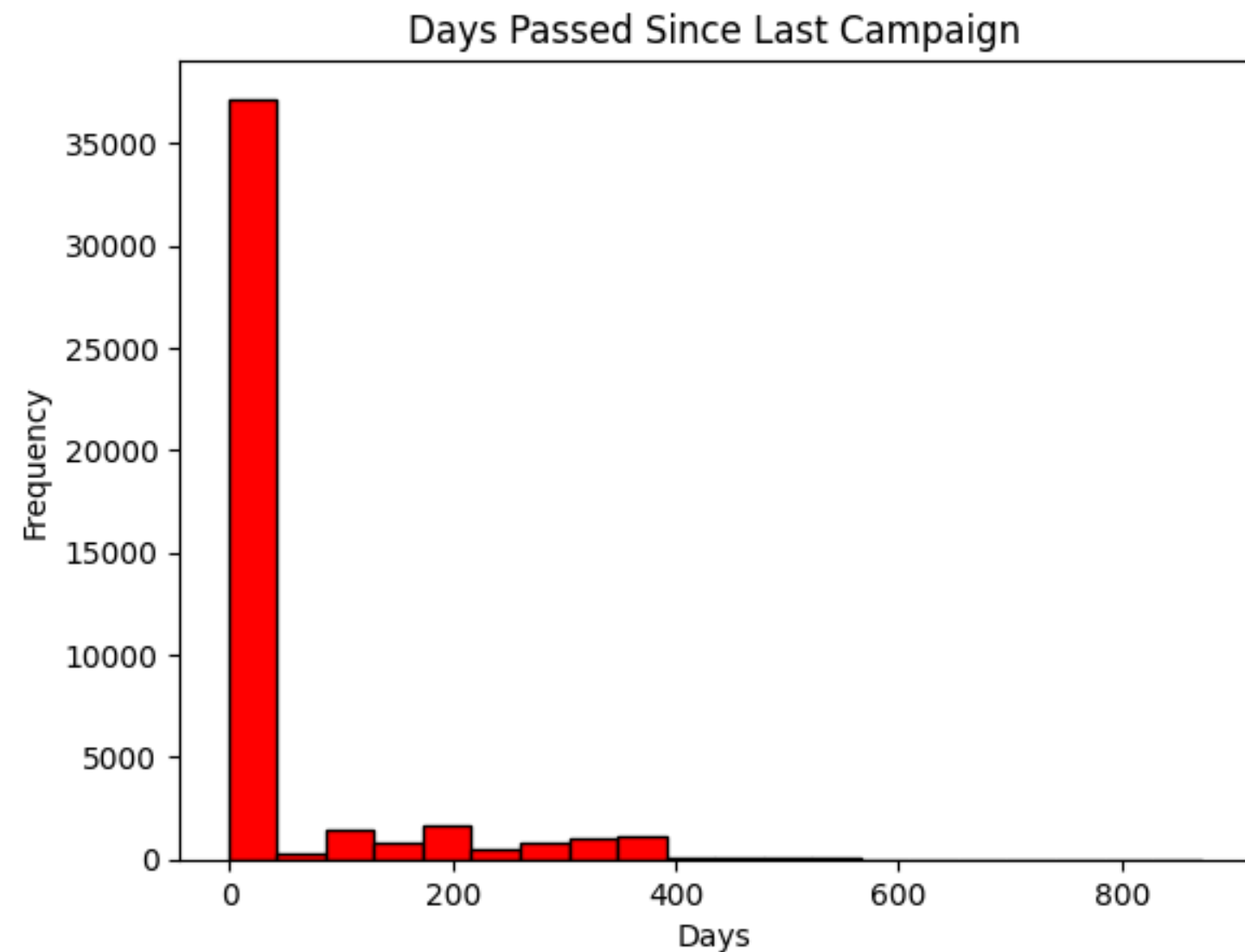




# 'DAYS PASSED SINCE LAST CAMPAIGN'

- **Insights**

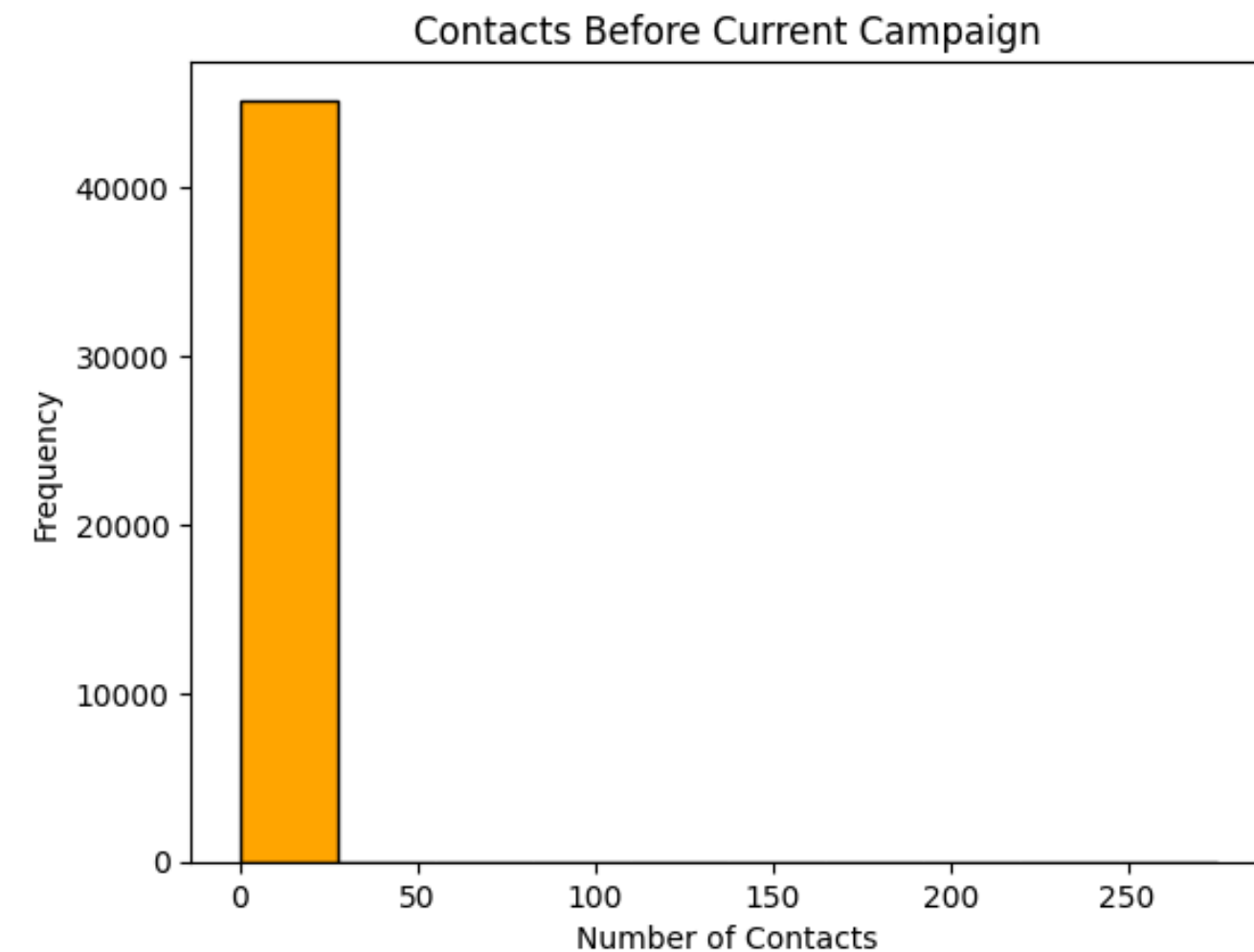
The visualization shows the distribution of the number of days that have passed since the last contact with a client from a previous campaign. The majority of clients were contacted relatively recently, with the highest frequency being within the first 100 days. This indicates that the bank has been actively maintaining contact with its clients.



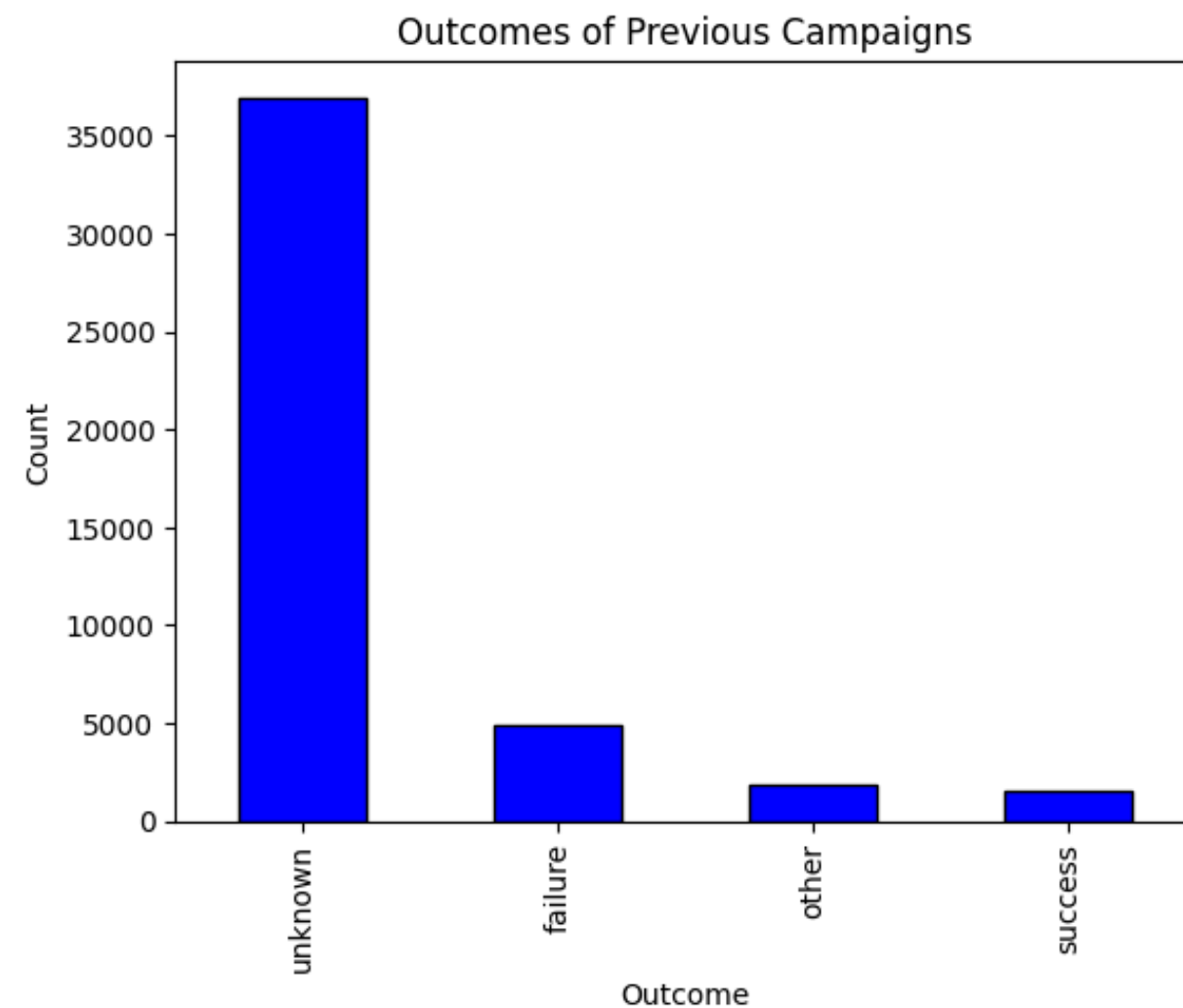
# 'CONTACTS BEFORE CURRENT CAMPAIGN

- **Insights**

The visualization shows the distribution of the number of contacts made before the current campaign for each client. The majority of clients had very few or no previous contacts, with the highest frequency being around 0-10 contacts. This indicates that the bank's previous campaigns may not have been very targeted or persistent in reaching out to clients.



# OUTCOMES OF PREVIOUS CAMPAIGNS



## Insights

The visualization shows the outcomes of previous marketing campaigns. The most common outcome is "unknown," which indicates that the results of many campaigns are not clearly documented or tracked. This could be due to various reasons, such as lack of proper data collection or analysis.

The next most common outcome is "failure," followed by "other" and "success." This suggests that a significant proportion of the bank's previous campaigns did not achieve their desired objectives.

# TERM DEPOSIT SUBSCRIPTION



- **Insights**

The visualization shows that a significantly larger number of clients did not subscribe to a term deposit compared to those who did. Specifically, there were approximately 39,000 clients who did not subscribe, while only about 5,000 subscribed. This indicates that the bank's marketing campaign for term deposits was not very successful in converting clients.

# CONCLUSIONS

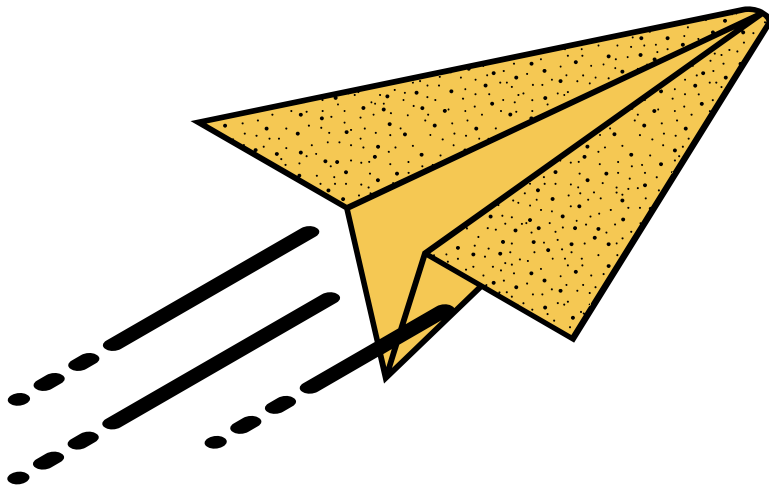


1. **Target Audience:** Focus on 30-40-year-olds, blue-collar, and management professionals, as they form the largest groups.
2. **Marketing Strategies:** Emphasize mobile-friendly campaigns and personalized outreach for underrepresented groups (e.g., students, retirees).
3. **Financial Products:** Offer tailored solutions for clients with lower balances and cross-sell products like personal loans.
4. **Campaign Optimization:** Improve targeting by analyzing past campaign success and refining call frequency to boost term deposit subscriptions.

**Key Takeaway:** Data-driven strategies and personalized financial solutions can enhance engagement and increase term deposit conversions.



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proportion

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