

# ASSIGNMENT

Name :Financial Loan's Application

## Problem Statement

The loan providing companies find it hard to give loans to the people due to their insufficient or non-existent credit history. Because of that, some consumers use it to their advantage by becoming a defaulter. Suppose we work for a consumer finance company which specialises in lending various types of loans to urban customers. You have to use EDA to analyse the patterns present in the data. This will ensure that the applicants capable of repaying the loan are not rejected.

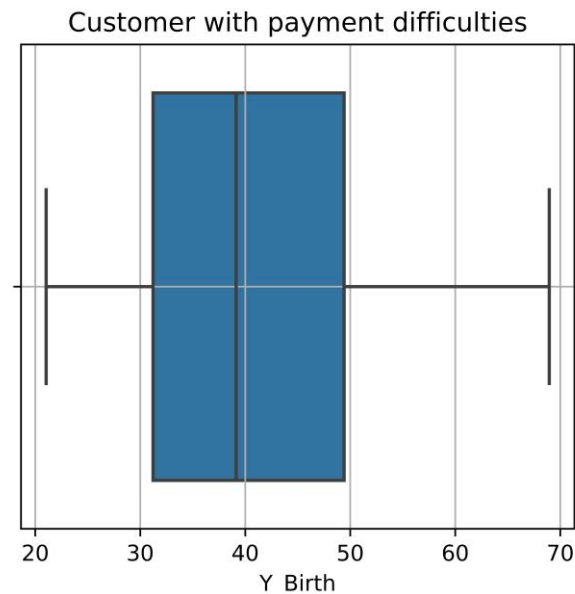
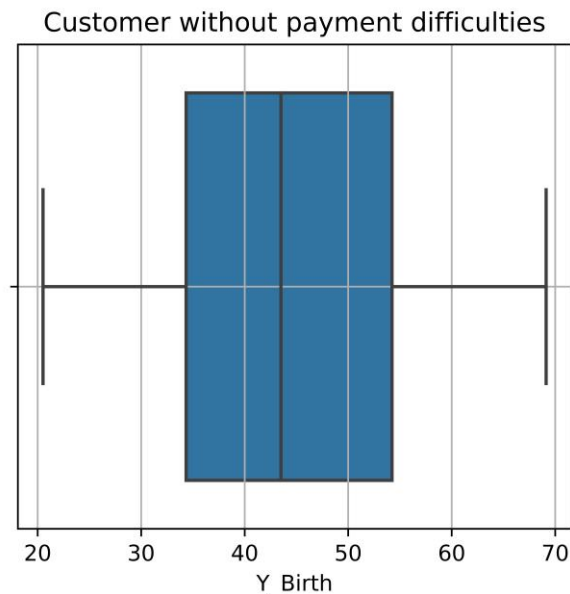
## Assignment Objective

This case study aims to identify patterns which indicate if a client has difficulty paying their instalments which may be used for taking actions such as denying the loan, reducing the amount of loan, lending (to risky applicants) at a higher interest rate, etc. This will ensure that the consumers capable of repaying the loan are not rejected and Vice Versa..

# PART I : Univariate Analysis

## Financial Loan's Application

**Variable under consideration:** AGE OF CLIENT (YEARS\_BIRTH)



### PROBLEM:

Which age Groups are facing the payment difficulties?

### SOLUTION STATEMENT:

Customers without payment difficulties laying between 34-54 years of age.

Customers with payment difficulties laying between 30-50 yeas of age.

### CONCLUSION::

No such insights can be seen between the Customers with or without payment difficulties on the behalf of their age.

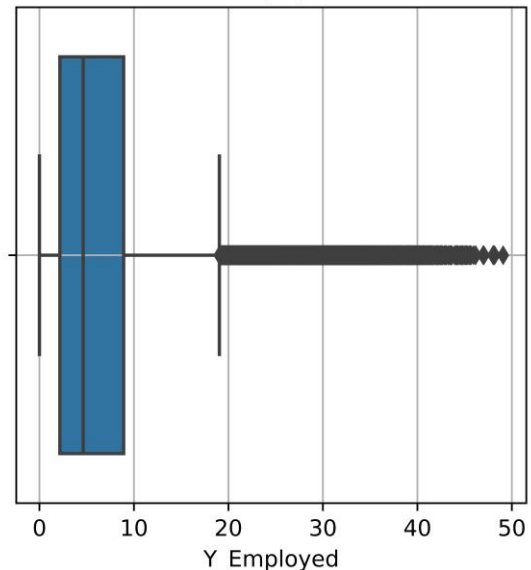
Both of them are almost from the same age group.

# PART I : Univariate Analysis

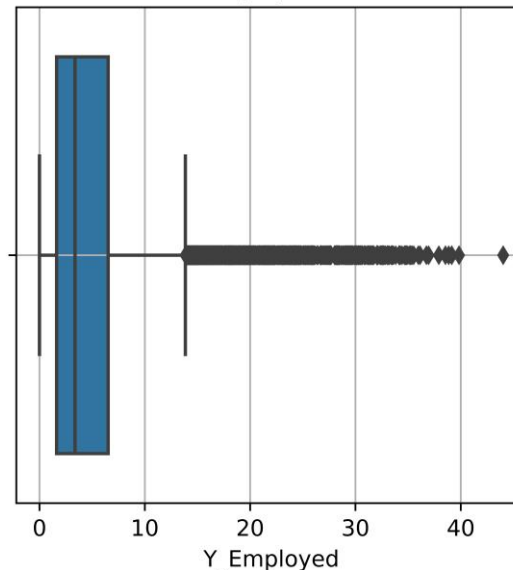
## Financial Loan's Application

**Variable under consideration:** YEARS\_EMPLOYED

Customer without payment difficulties



Customer with payment difficulties



### PROBLEM:

Which client groups are facing the payment difficulties on the behalf of their years of employment?

### SOLUTION STATEMENT:

Customers without payment difficulties are employed from 2 to 10 years.

Customers with payment difficulties are employed from to 2 to 7 years.

### CONCLUSION::

Here we can clearly see that the client how are employed from more than 7 years are not facing problems as compared to the other client's.

Less years of employment can lead to have difficulty in repaying of loans.

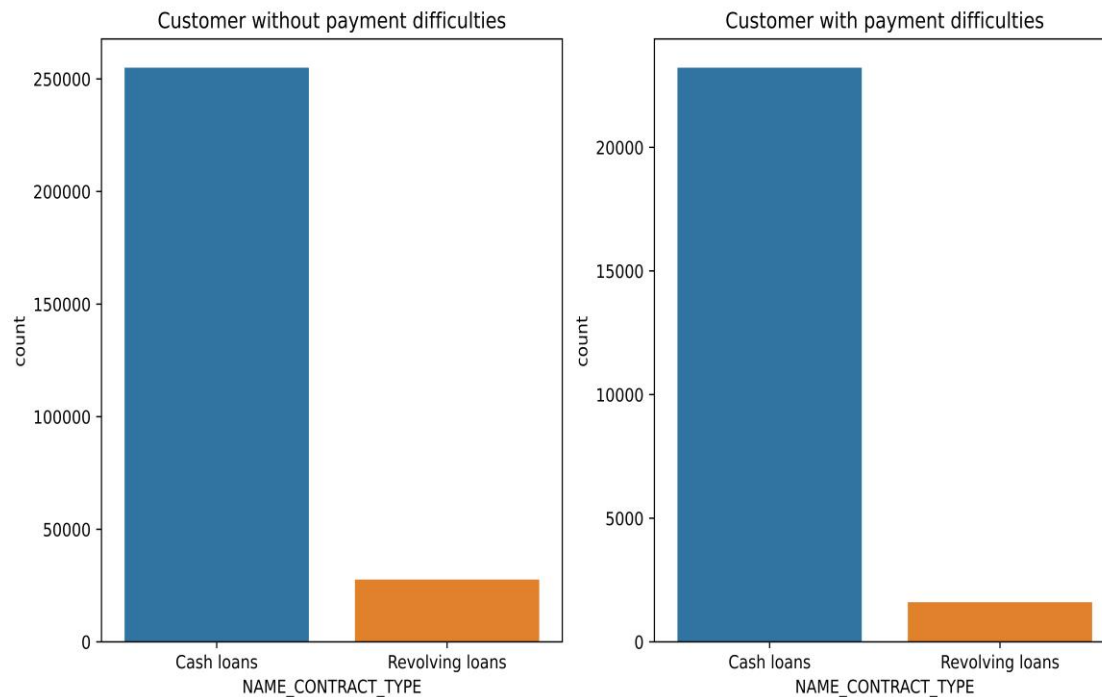
# PART I : Univariate Analysis

## Financial Loan's Application

**Variable under consideration:** NAME\_CONTRACT\_TYPE

**PROBLEM:**

Which type of loans are preferred by the clients?



**SOLUTION STATEMENT:**

In both of the cases, cash loans are much popular as compared to revolving loans.

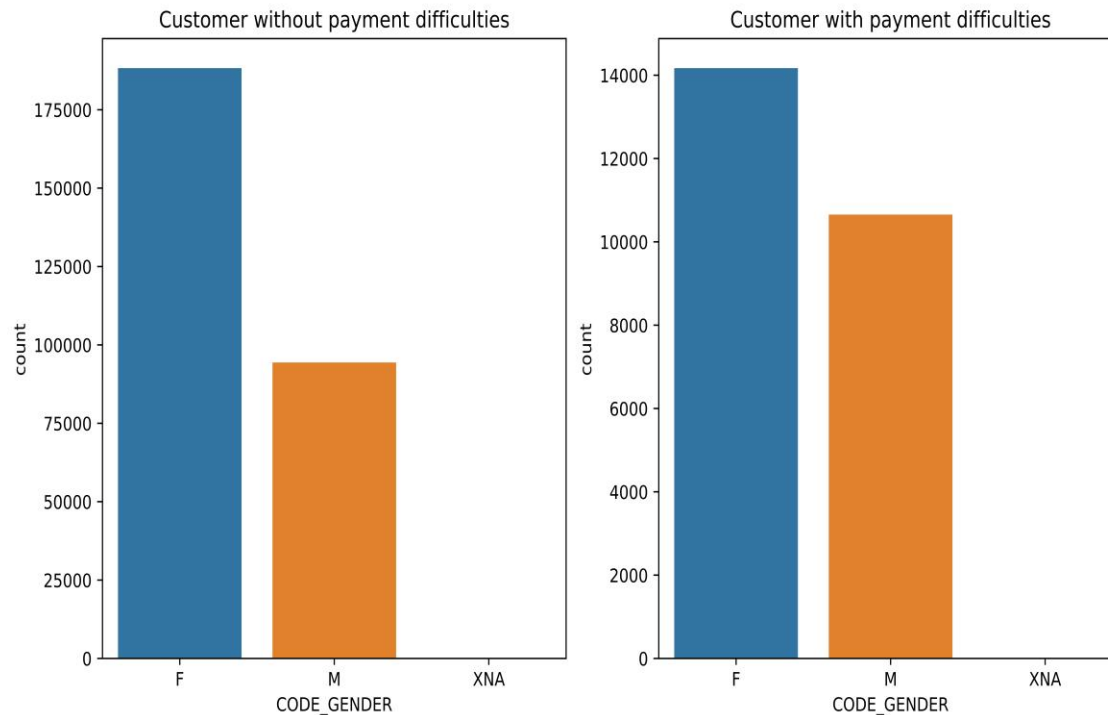
**CONCLUSION::**

Here we can clearly see that the client are interested to take cash loans in both of the scenario.

# PART I : Univariate Analysis

## Financial Loan's Application

**Variable under consideration:** CODE\_GENDER



### **PROBLEM:**

From the Gender point of view, what can be seen is there any helpful insight?

### **SOLUTION STATEMENT:**

In both of the cases Females are considered to be dominating over males.

But if we compare males, we can clearly see that males are facing more difficulties with the payment.

### **CONCLUSION::**

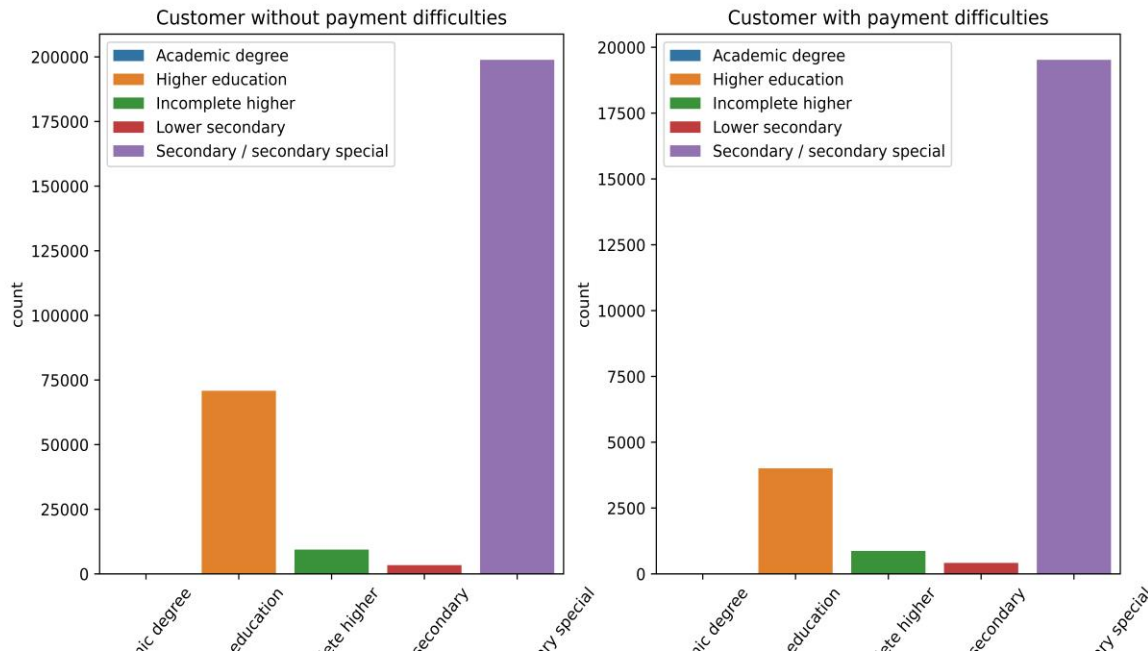
Here we can clearly see that Females are far better from males in repaying the loans.

This shows that Females are the first priority for giving the loans.

# PART I : Univariate Analysis

## Financial Loan's Application

Variable under consideration: NAME\_EDUCATION\_TYPE



### PROBLEM:

From the Education point of view, what can be seen is there any helpful insight?

### SOLUTION STATEMENT:

In both of the cases, Secondary/secondary special education is the main source.

Our most of the clients without having any difficulty in repaying the loans are from secondary/secondary special education background.

### CONCLUSION::

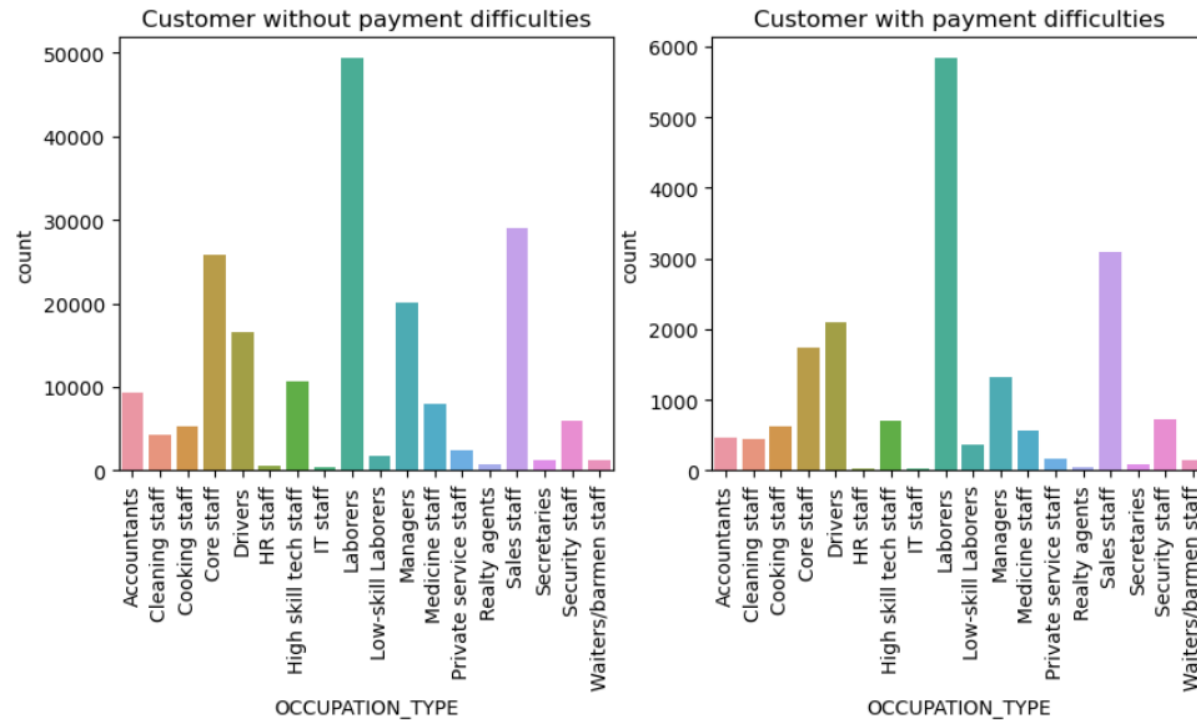
Here we can clearly see that Education type is also become one of our point of interaction.

Education type can be either Secondary/Secondary special or Higher Education.

# PART I : Univariate Analysis

## Financial Loan's Application

Variable under consideration: OCCUPATION\_TYPE



### PROBLEM:

Which occupation type clients are facing more problems in repaying the loans?

### SOLUTION STATEMENT:

There are multiple branches who are facing problem in repaying the loans.

### CONCLUSION::

Top three Occupation facing difficulties in repaying the loans:

1. Labours,
2. Sales Staff,
3. Drivers

Top three Occupation not facing difficulty in repaying the loans:

1. Labours,
2. Sales Staff,
3. Core Staff

We can put Core Staff over Drivers.

# PART I : Univariate Analysis

## Financial Loan's Application

Variable under consideration: NAME\_INCOME\_TYPE

**PROBLEM:**

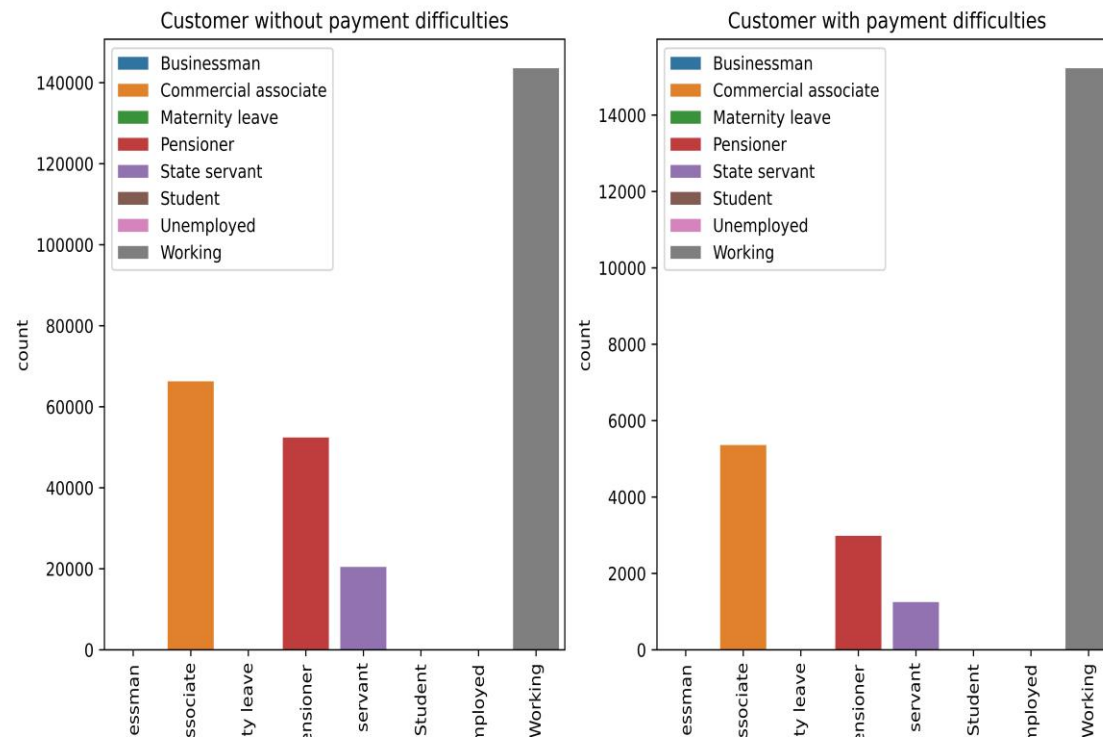
Which Income type clients are facing more problems in repaying the loans?

**SOLUTION STATEMENT:**

There are multiple branches who are facing problem in repaying the loans.

**CONCLUSION::**

Working class Category facing more difficulty in repaying the loans.





# PART II : Bivariate Analysis

## Financial Loan's Application

**Variable under consideration:** Amt Goods Price  
Amt Credit

**PROBLEM:**

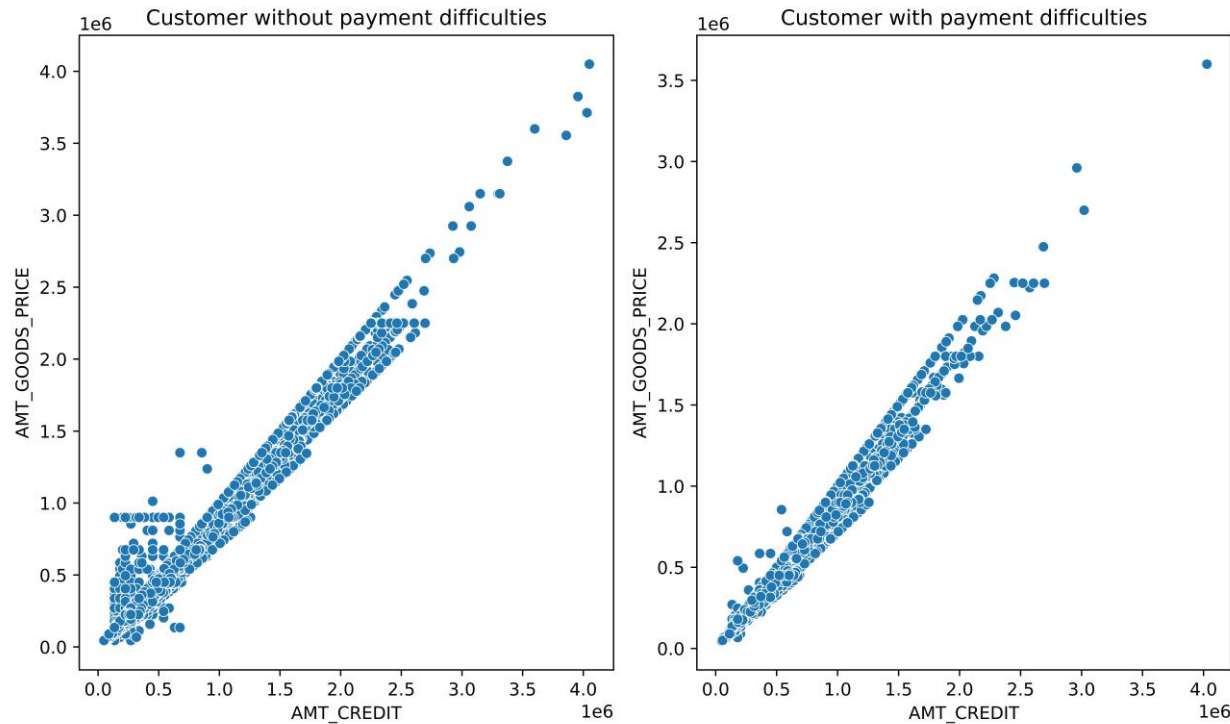
Which Is there any correlation between these two variables amount goods price and amount credit?

**SOLUTION STATEMENT:**

Perfect Positive Correlation Between both the variables.

**CONCLUSION::**

As the amount goods price increases, amount credit also increase.



# PART II : Bivariate Analysis

## Financial Loan's Application

**Variable under consideration:** Amt Annuity  
Amt Credit

**PROBLEM:**

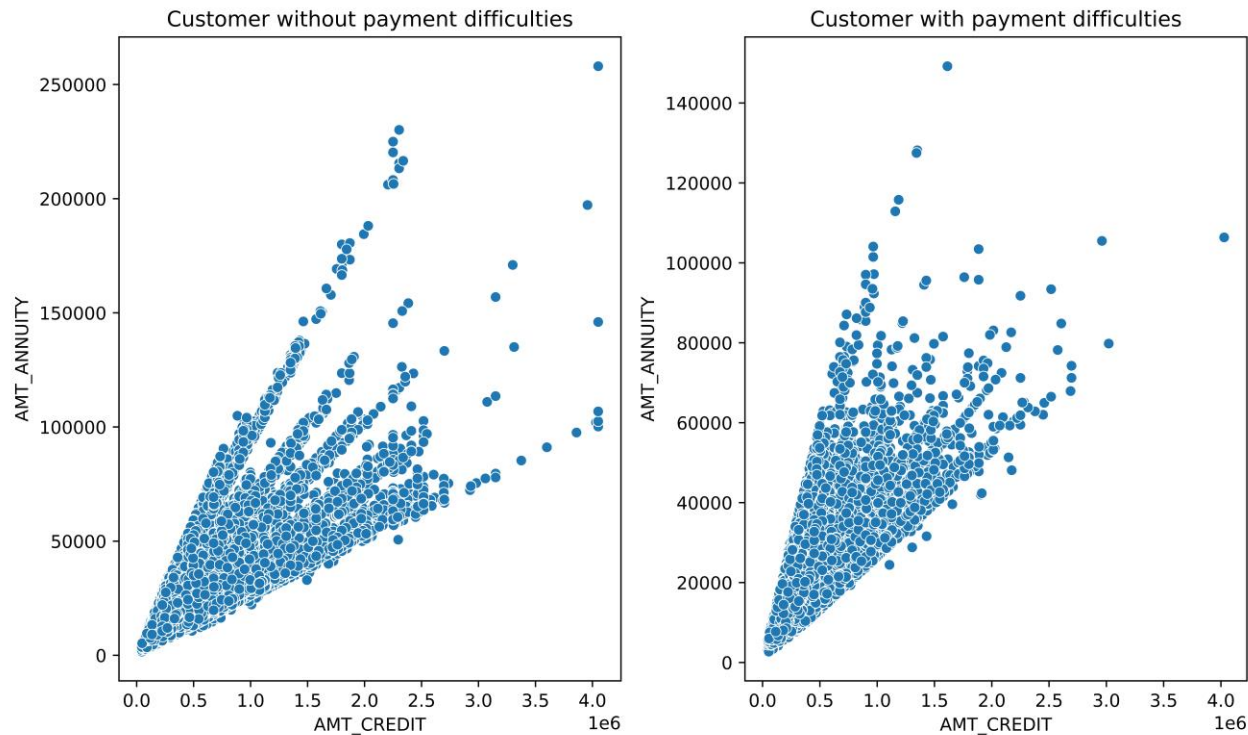
Which Is there any correlation between these two variables amount annuity and amount credit?

**SOLUTION STATEMENT:**

Positive Correlation Between both the variables.

**CONCLUSION::**

People without payment difficulties takes more credit for the annuity.

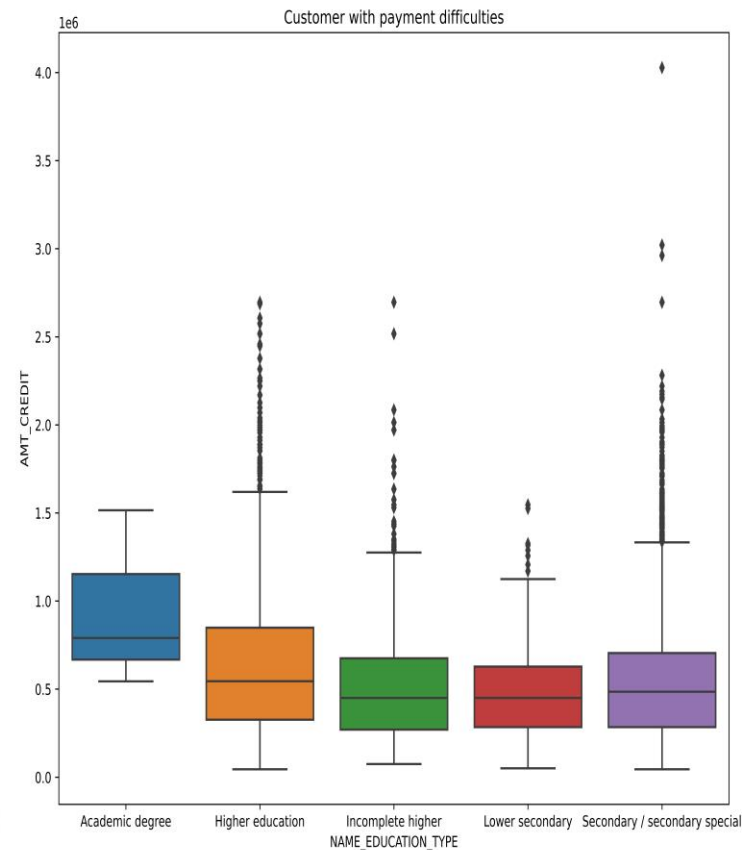
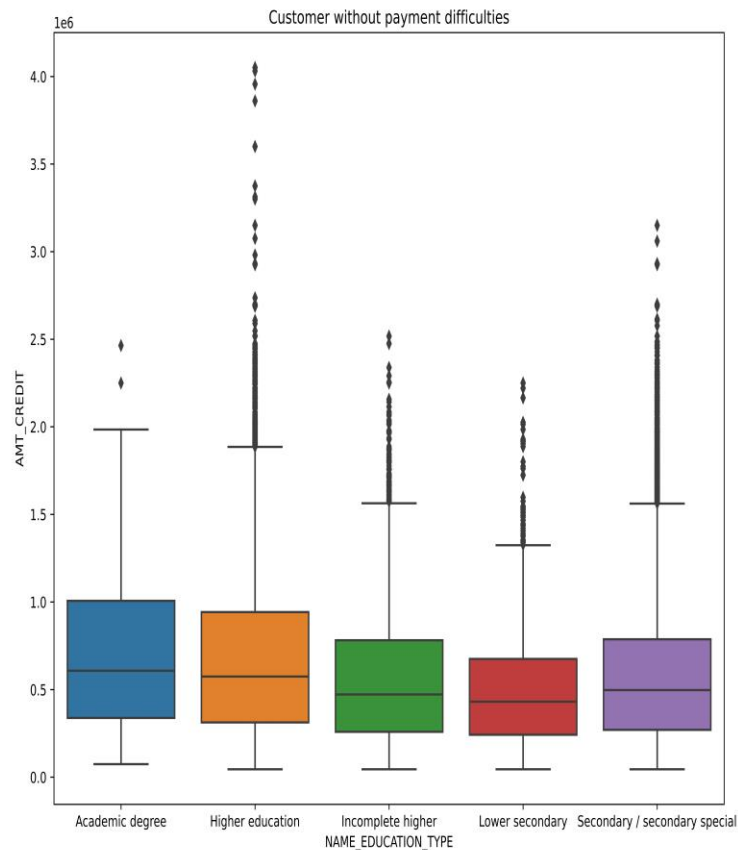


# PART II : Bivariate Analysis

## Financial Loan's Application

Variable under consideration:

Name Education Type &  
Amt Credit



**PROBLEM:**

How Credit amount and Education type related?

**SOLUTION STATEMENT:**

Customers with payment difficulties of academic degree is higher than without payment difficulties

**CONCLUSION::**

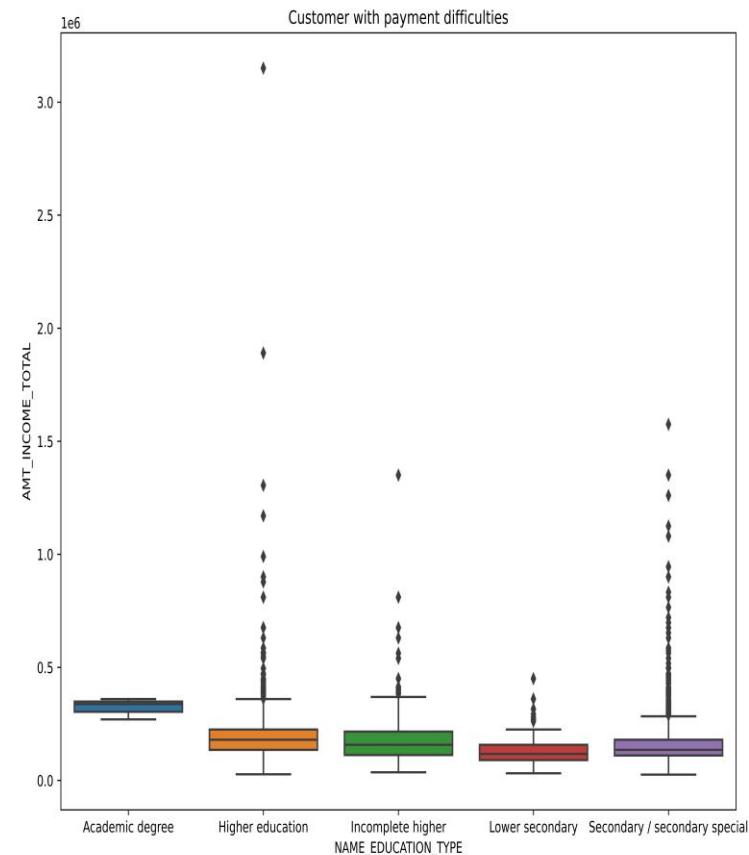
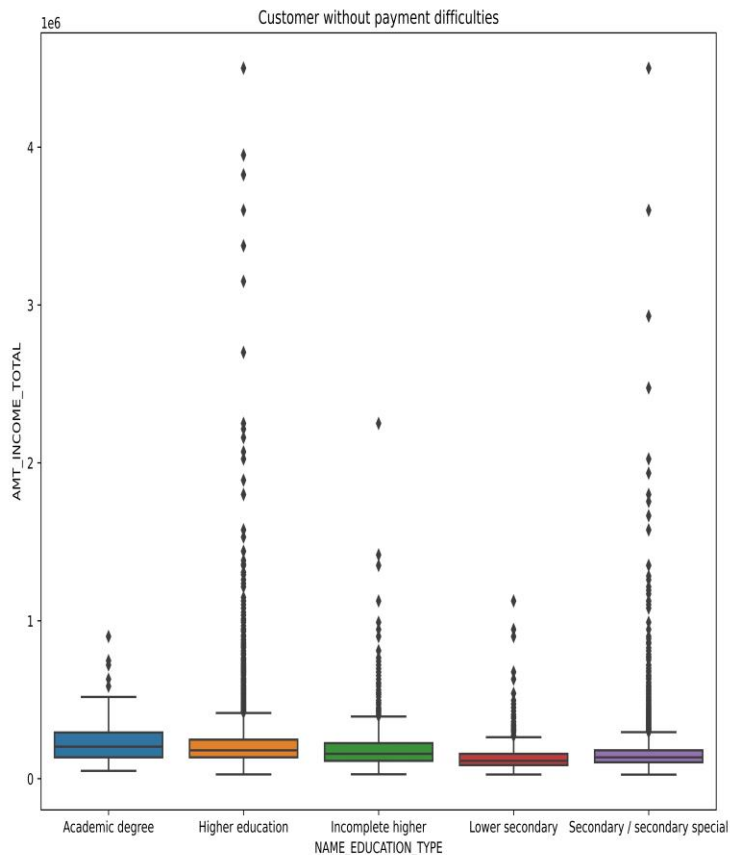
All other education types having the approximately same range.  
Higher the education less difficulty in repaying the loans.

# PART II : Bivariate Analysis

## Financial Loan's Application

**Variable under consideration:**

**Name Education Type &  
Amt Income Total**



**PROBLEM:**

How amount income total and Education type related?

**SOLUTION STATEMENT:**

Customers without payment difficulties having more outliers than compared to the customers having payment difficulties.

**CONCLUSION::**

Our top two priorities for providing the loans must be either from Higher Education or Secondary/Secondary special type.

# PART II : Bivariate Analysis

## Financial Loan's Application

Variable under consideration:

Occupation Type &  
Amt Credit

**PROBLEM:**

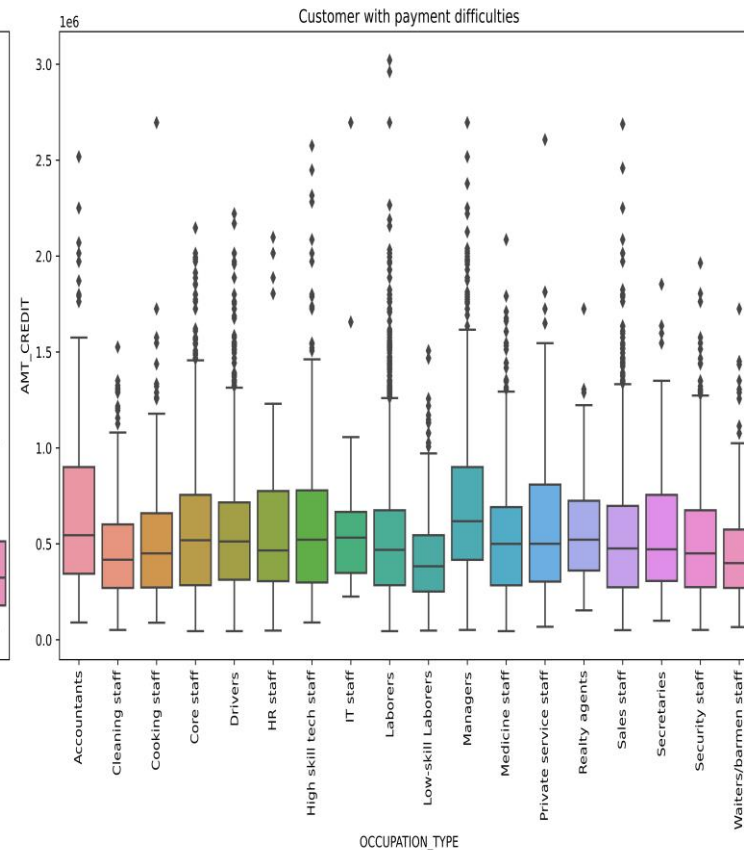
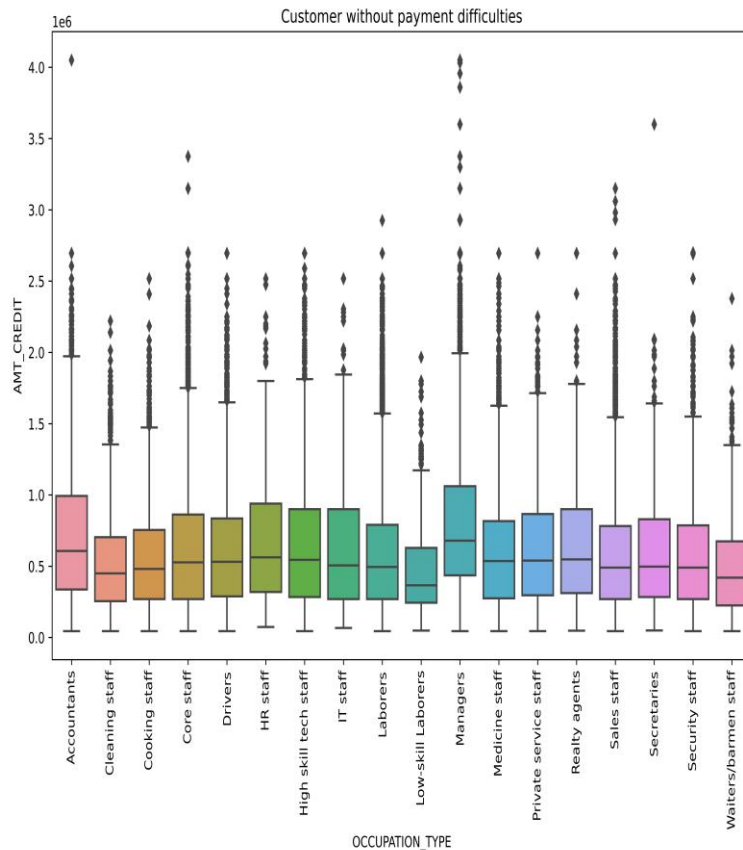
How amount credit and Occupation type are related?

**SOLUTION STATEMENT:**

Range of customers without payment difficulties is more as compared to the range of customers with payment difficulties.

**CONCLUSION::**

Our top priority for providing the loans must be the Manager Occupation.  
Labour part having 50-50 chances for repaying the loans.



# PART III: Optimization Results

## Financial Loan's Application

### 5 STATEMENT PROVIDING THE MAJOR INSIGHTS THAT CAN BE HELPFUL FOR FINDING THE BEST APPLICATION

1. Banks should focus less on Income Type 'Working' as they are facing more difficulty in repaying the loans.
2. Housing Type 'With Parents' having least number of unsuccessful repayments.
3. Banks should focus on 'Managers', 'labours', 'Core staff' and 'Sales staff' for successful repayments.
4. In Education, 'Secondary/Secondary Special' and 'Higher Education' should be the focused for the successful repayment.
5. In Gender , 'Female' are more in number for applying loans.