

Credit card lead

Data sample:

| ID | Gender | Age | Region_Code | Occupation | Channel_Code | Vintage | Credit_Product | Avg_Account_Balance | Is_Active | Is_Lead |
|----------|--------|-----|-------------|-------------|--------------|---------|----------------|---------------------|-----------|---------|
| NNVBBKZB | Female | 73 | RG268 | Other | X3 | 43 | No | 1045696 | No | 0 |
| IDD62UNG | Female | 30 | RG277 | Salaried | X1 | 32 | No | 581988 | No | 0 |
| HD3DSEMC | Female | 56 | RG268 | Self_Employ | X3 | 26 | No | 1484315 | Yes | 0 |
| BF3NC7KV | Male | 34 | RG270 | Salaried | X1 | 19 | No | 470454 | No | 0 |
| TEASRWXV | Female | 30 | RG282 | Salaried | X1 | 33 | No | 886787 | No | 0 |
| ACUTYTWS | Male | 56 | RG261 | Self_Employ | X1 | 32 | No | 544163 | Yes | 0 |
| ETQCZFEJ | Male | 62 | RG282 | Other | X3 | 20 | | 1056750 | Yes | 1 |
| JJNJUQMQ | Female | 48 | RG265 | Self_Employ | X3 | 13 | No | 444724 | Yes | 0 |
| ZMQFYKCB | Female | 40 | RG283 | Self_Employ | X2 | 38 | No | 1274284 | No | 0 |
| NVKTFBA2 | Female | 55 | RG268 | Self_Employ | X2 | 49 | Yes | 2014239 | No | 0 |
| NVC424KZ | Male | 53 | RG254 | Self_Employ | X3 | 123 | No | 980664 | Yes | 0 |
| GZ5TMYIR | Male | 27 | RG270 | Self_Employ | X1 | 14 | Yes | 502787 | No | 0 |
| FCPEEIY3 | Female | 27 | RG277 | Salaried | X1 | 20 | No | 811591 | Yes | 0 |
| KCE7JSFN | Male | 31 | RG254 | Salaried | X1 | 31 | Yes | 938754 | No | 0 |
| EMEEHHBK | Male | 79 | RG277 | Other | X3 | 57 | No | 832185 | Yes | 0 |

Data understanding:

- Customer ID.
- Gender of the customer.
- Age of the customer.
- Code of the Region for the customers.
- Occupation Type for the customer.
- Acquisition Channel Code for the Customer (Encoded).
- Vintage for the Customer (In Months).
- If the Customer has any active credit product (Home loan, Personal loan, Credit Card etc.).
- Average Account Balance for the Customer in last 12 Months.
- If the Customer is Active in last 3 Months.
- If the Customer is interested for the Credit Card(Is_Lead).

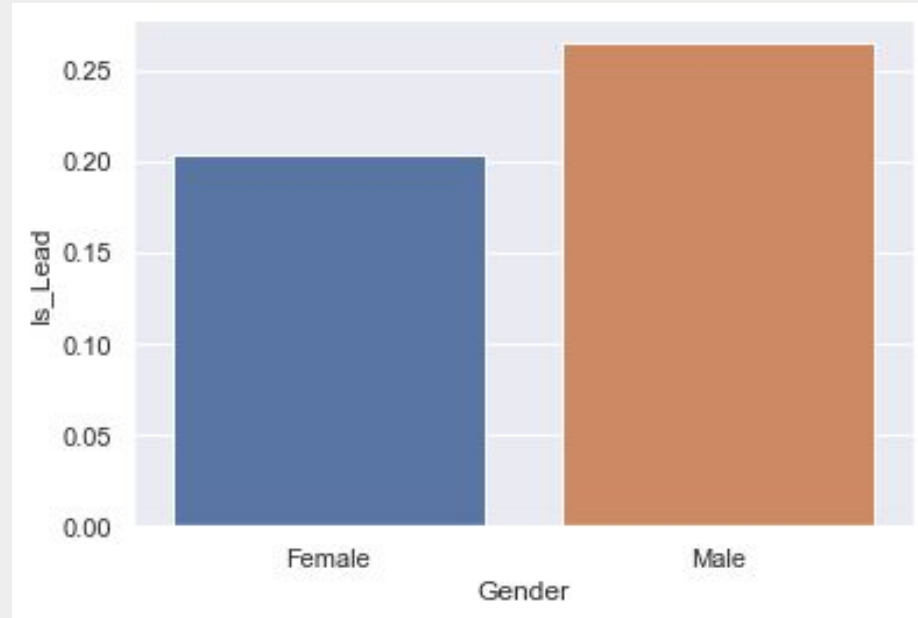
Data cleaning and Feature engineering:

- The only feature which had null values was the 'Credit_Code'. Only 29,019 values were missing out of 2,45,725, which makes around 10% so I replaced the null values with the most occurring element from the feature which was 'No'.
- There were some outliers in feature 'Age'. So I removed the top 1% values.
- I made 5 sub-groups in the features 'Age', 'Vintage' and 'Region_Code' which makes it little easy to visualize.
- Created 3 columns:
 - age_occ: Customers with certain Age and Occupations are grouped together.
 - age_chan: Customers with certain Age and Channel_Code are grouped together.
 - age_reg: Customers with certain Age and Region_Code are grouped together.

Exploratory Data Analysis

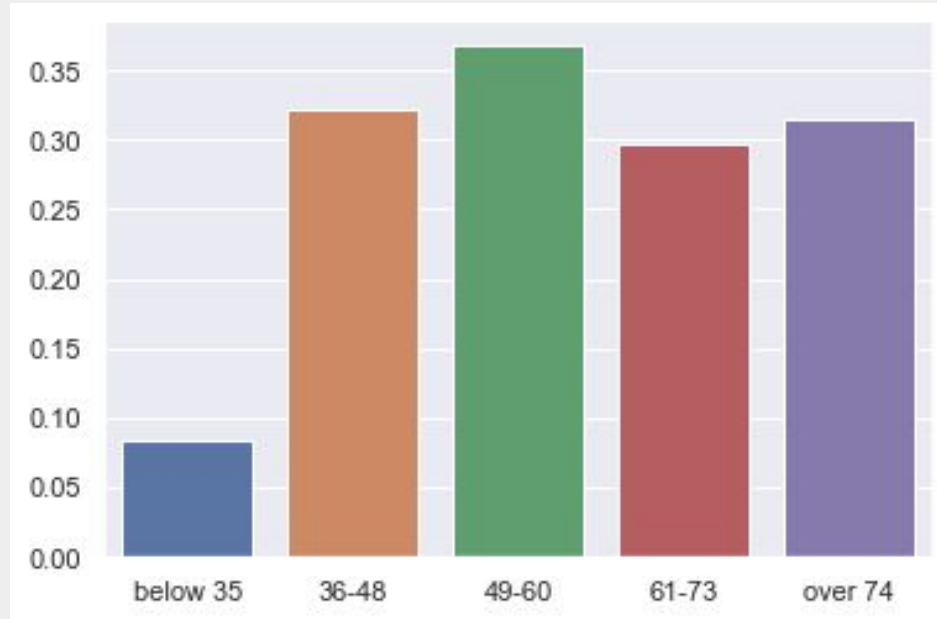
Gender

- Females are little less likely to show interest but not with a large margin.
- Percentage wise Males seem to be more interested in getting a Credit card.



Age

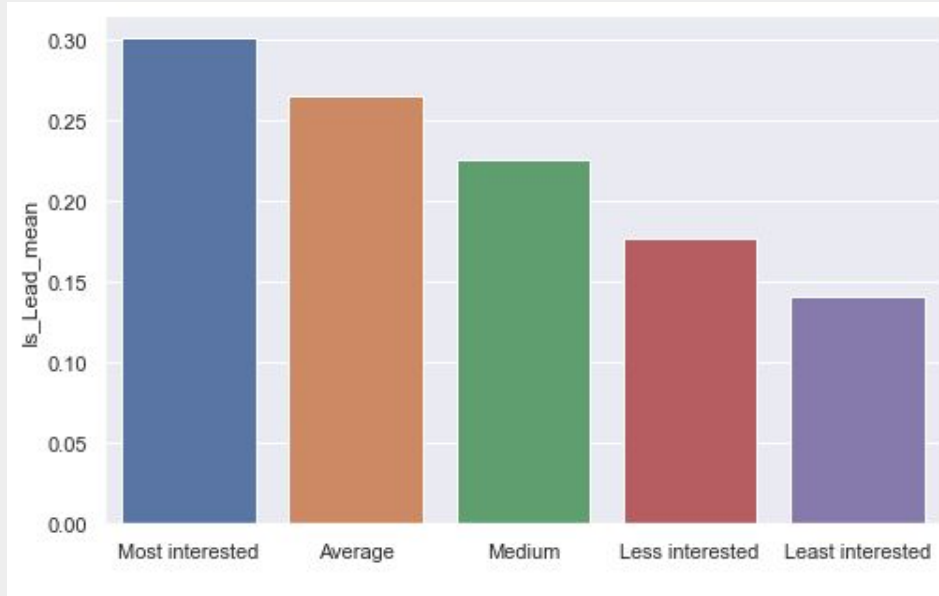
- People from age 36 to 60 are more likely to show interest in getting.
- People below age 35 are the least interested in getting a card.



Region Code

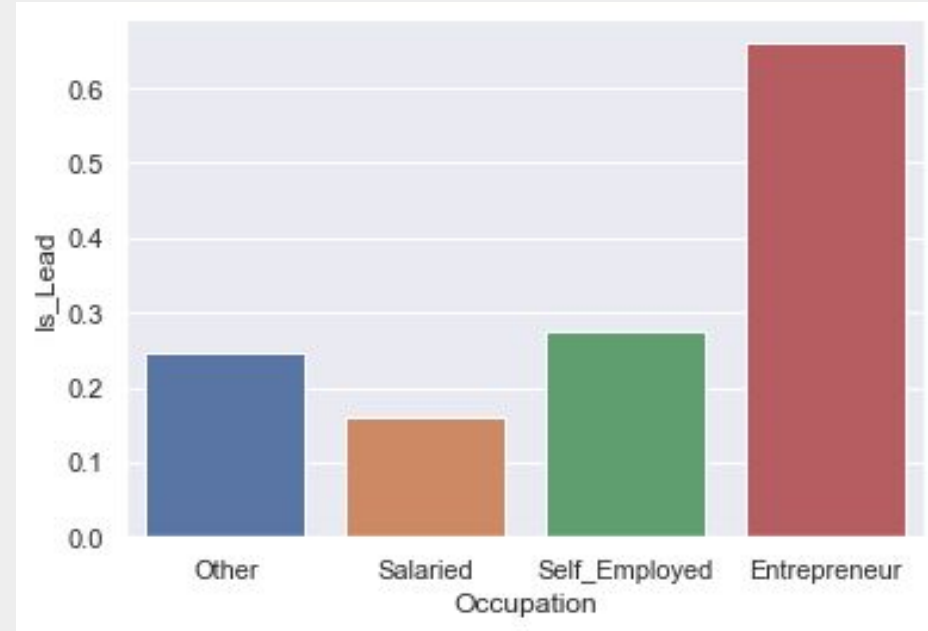
- I have grouped certain areas (Region grp) according to their interest of getting the card.
- From particular areas people are more likely to be interested. Which are given below.

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[RG283, RG284, RG268] = Most interested  
[RG276, RG253, RG265] = Average  
[RG273, RG280, RG255, RG251, RG277, RG279, RG263,  
RG269, RG258, RG272, RG278, RG281, RG254] = Medium  
[RG259, RG282, RG257, RG260, RG262, RG271, RG261,  
RG275, RG274, RG250] = Less interested  
[RG267, RG270, RG256, RG266, RG252, RG264] = Least interested
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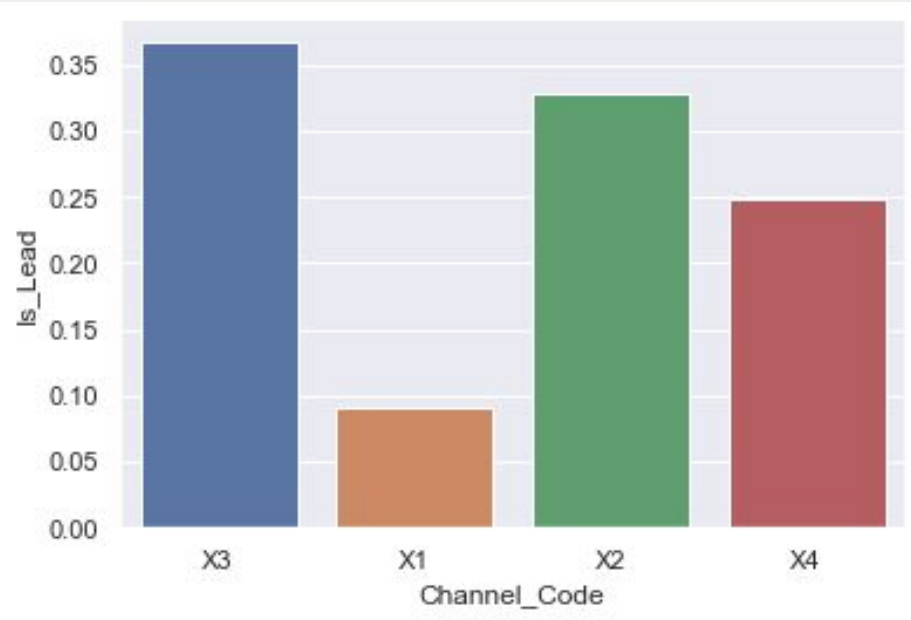
Occupation

- The group who is least likely to show interest is the 'Salaried' one.
- 'Entrepreneurs' are more likely to show interest in getting a credit card with a huge margin as compared to others



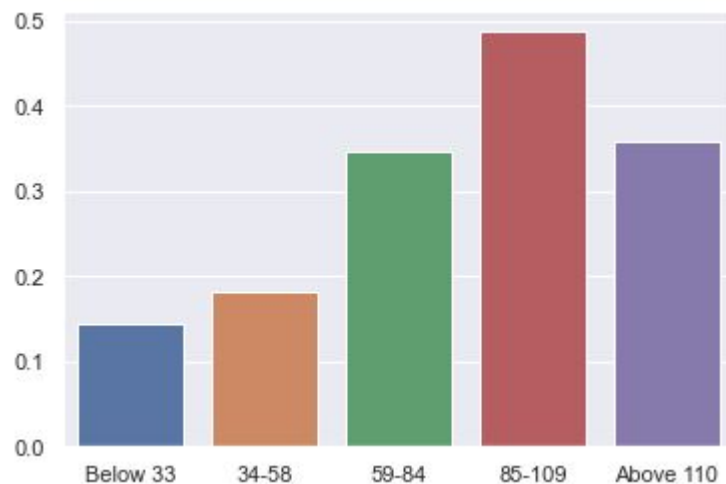
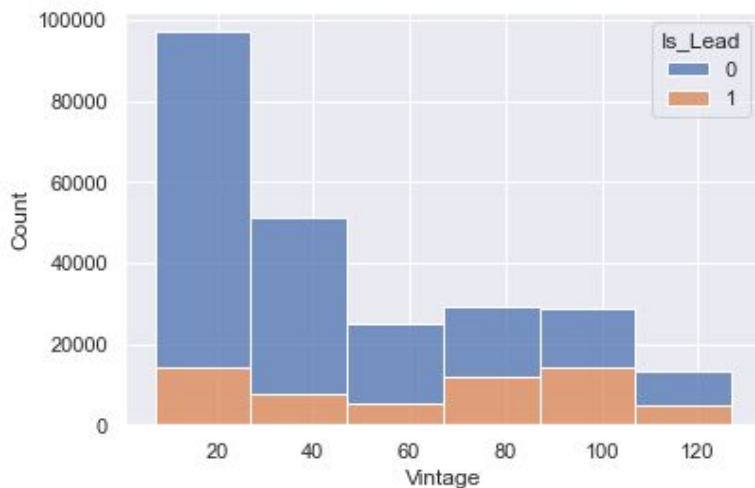
Channel code

- Customers coming from X3 and X2 acquisition channels are more likely to get the card.



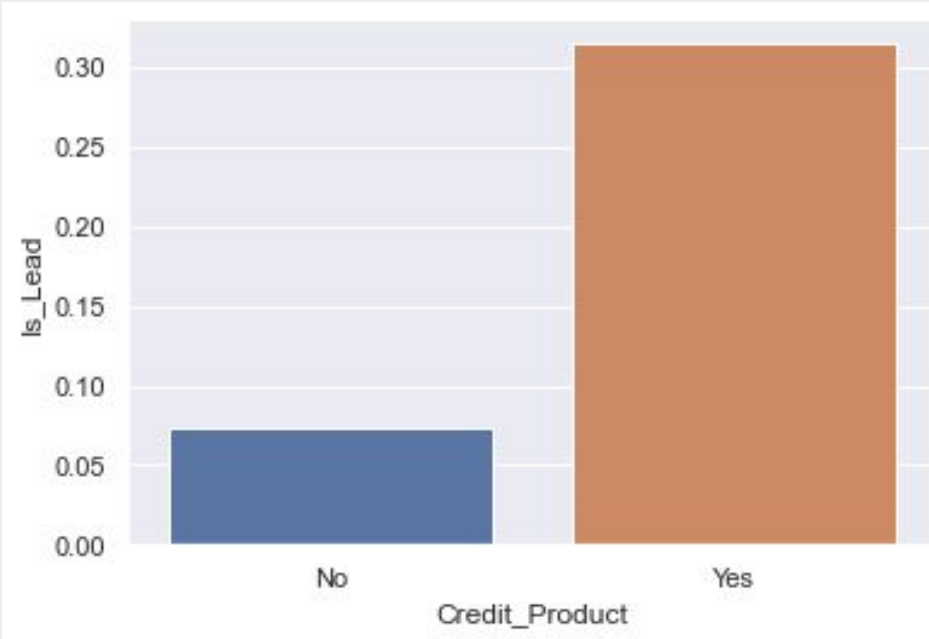
Vintage

- So the bank has a lot of new customers who have joined the bank in last 20 months.
- Customers who are with this bank since 85 to 109 months are more likely to show the interest in getting the card.



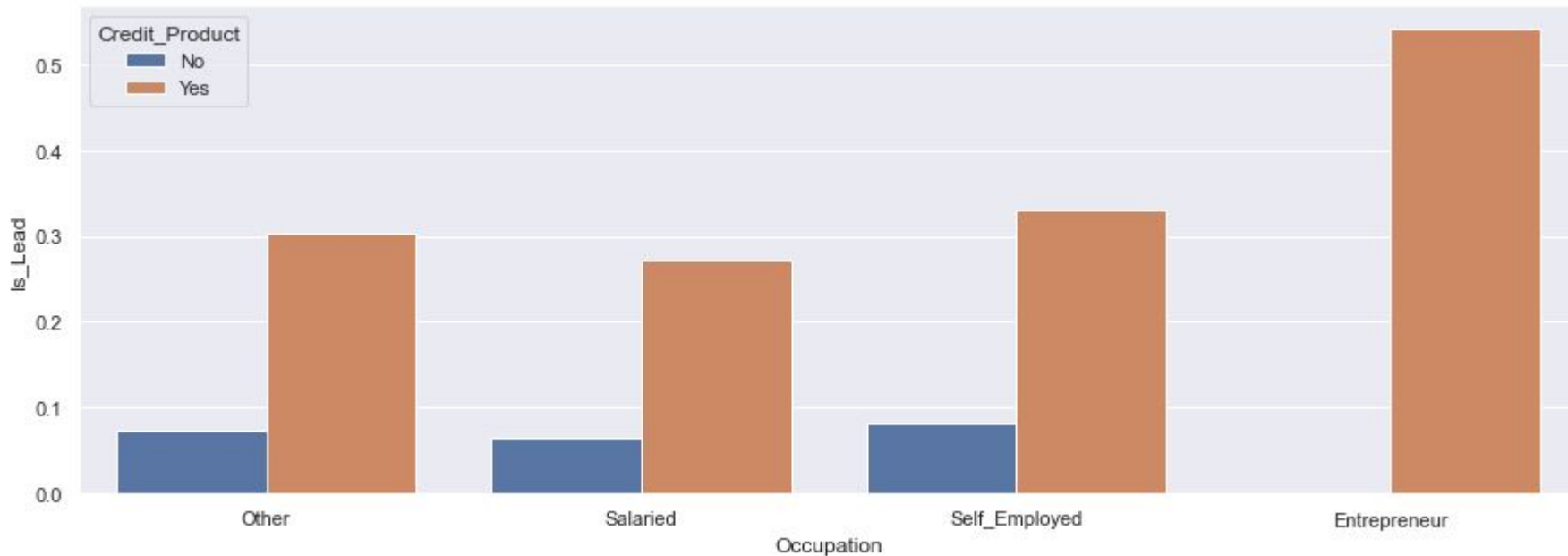
Credit product

- If the customer has any active credit product, they are more willing to get the card. Maybe to pay the loans they already have and get to use the perks of having a Credit card.



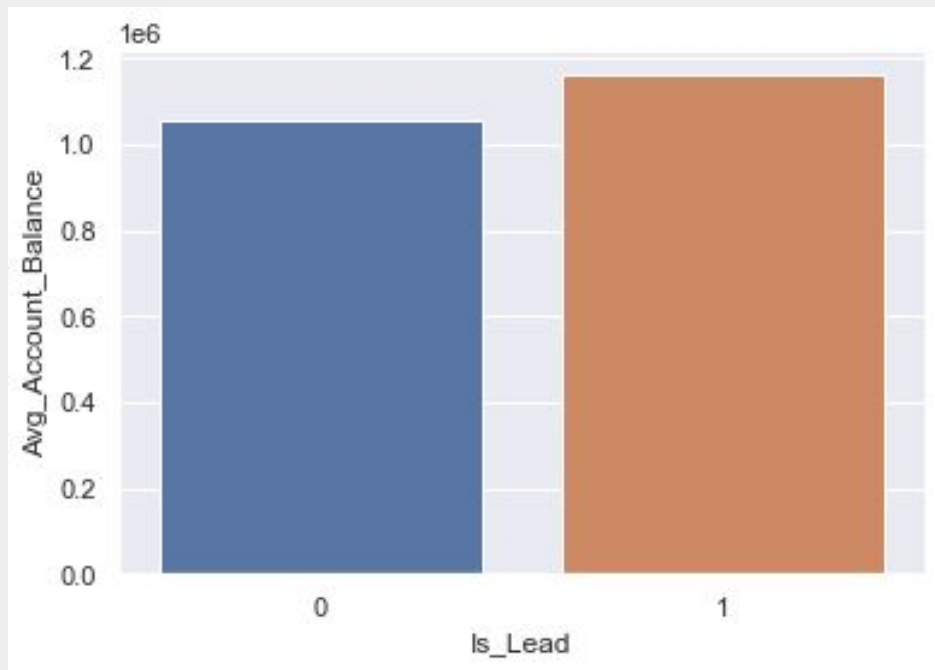
Occupation vs Is_Lead with Credit product as hue

- Entrepreneurs doesn't seem to have any credit product.



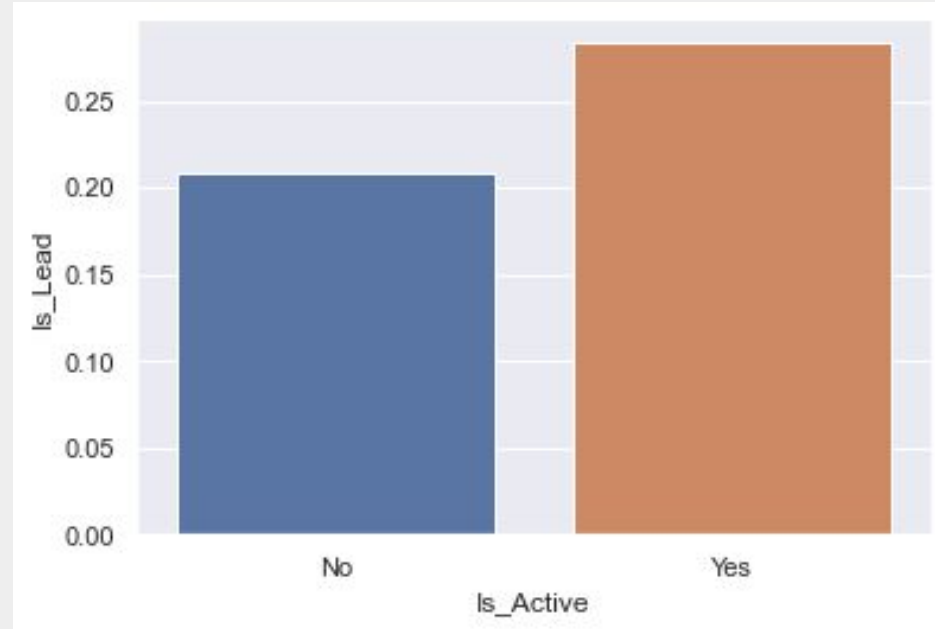
Average account balance

- People showing interest are usually the one who has larger Average account balance.



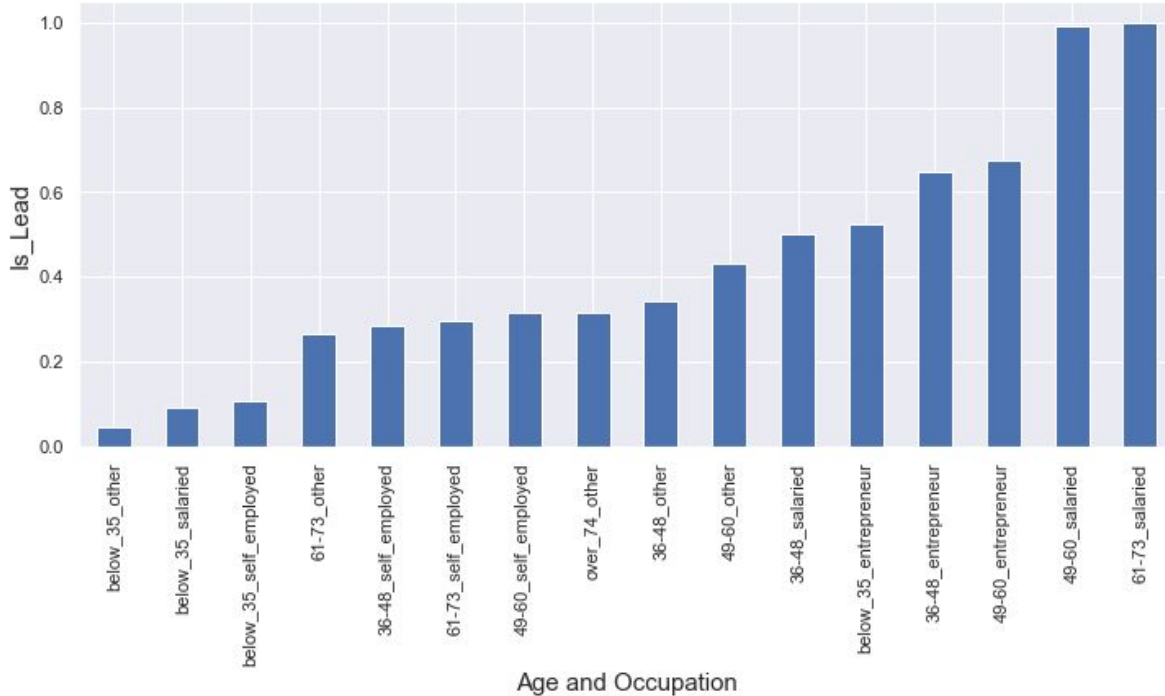
Is Active

- If the customer is active in minimum last 3 months then customers are more likely to get the card.



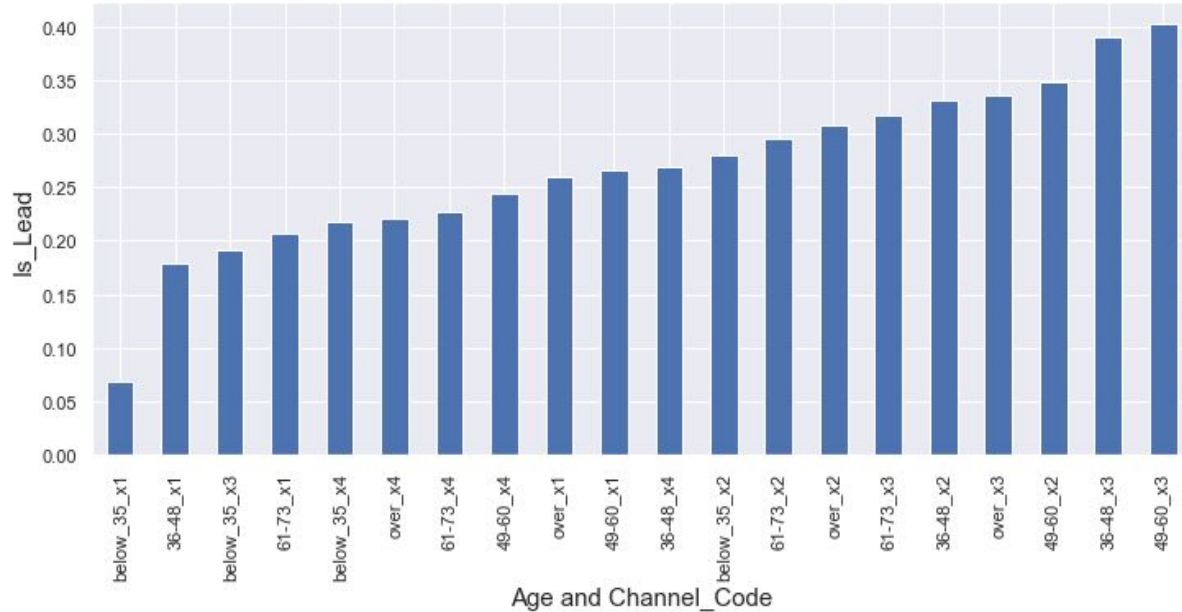
Age and Occupation

- All Entrepreneurs below age 60 and Salaried people from age 49 to 73 are more likely to get a Credit card.
- People with occupation type as salaried, self employed and others below the age 35 are least interested in getting a credit card.



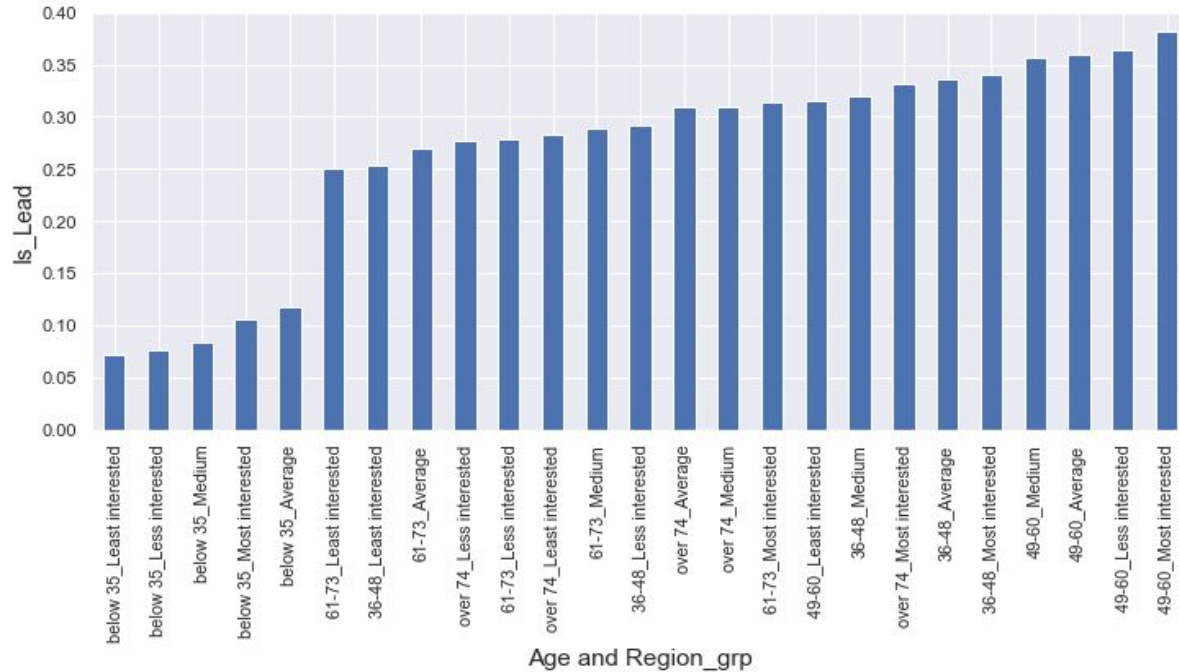
Age and Channel code

- Customers who are below age 48 coming from X1 acquisition channel and customers who are below age 35 coming from X3 acquisition channel are more likely to get the card.
- But if a customer from age 36 to 60 is coming from X3 acquisition channel is really less likely to get the credit card.



Age and Region group

- Customer who are below age 35 from all the Region groups are least interested in getting the credit card.
- Customer who from age 49 to 60 from Region groups Medium, Average, Less interested and Most interested are most interested in getting the credit card.



Summary

- So your target audience should be mostly:
 - Male.
 - Has some sort of lone already.
 - Average account balance is more.
 - Who is been a customer of bank from 85 to 109 months.
 - Age:
 - Below 48: Customers from 'X1' and 'X3' acquisition channels.
 - From 49 to 60: Except 'Least interested' Region group.
 - From 49 to 73: 'Salaried' person.
 - Below age 60: 'Entrepreneur' person.

Thank you