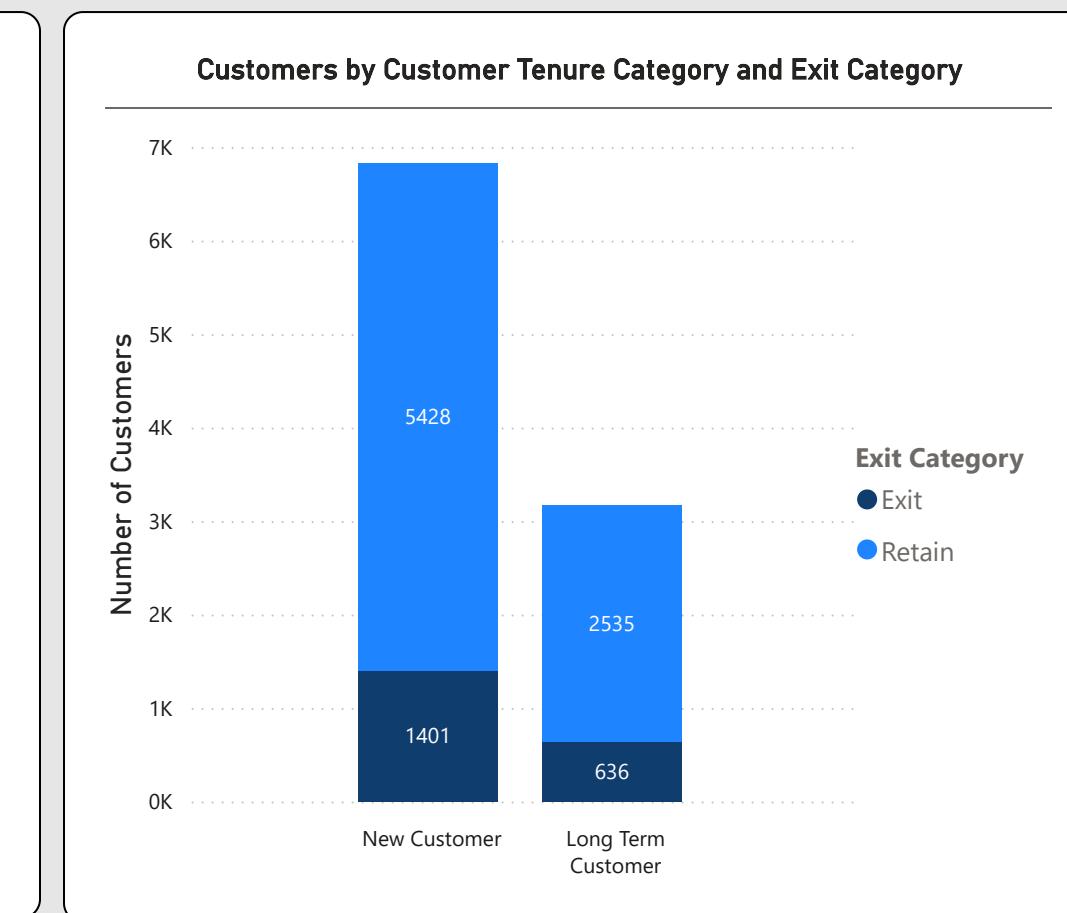
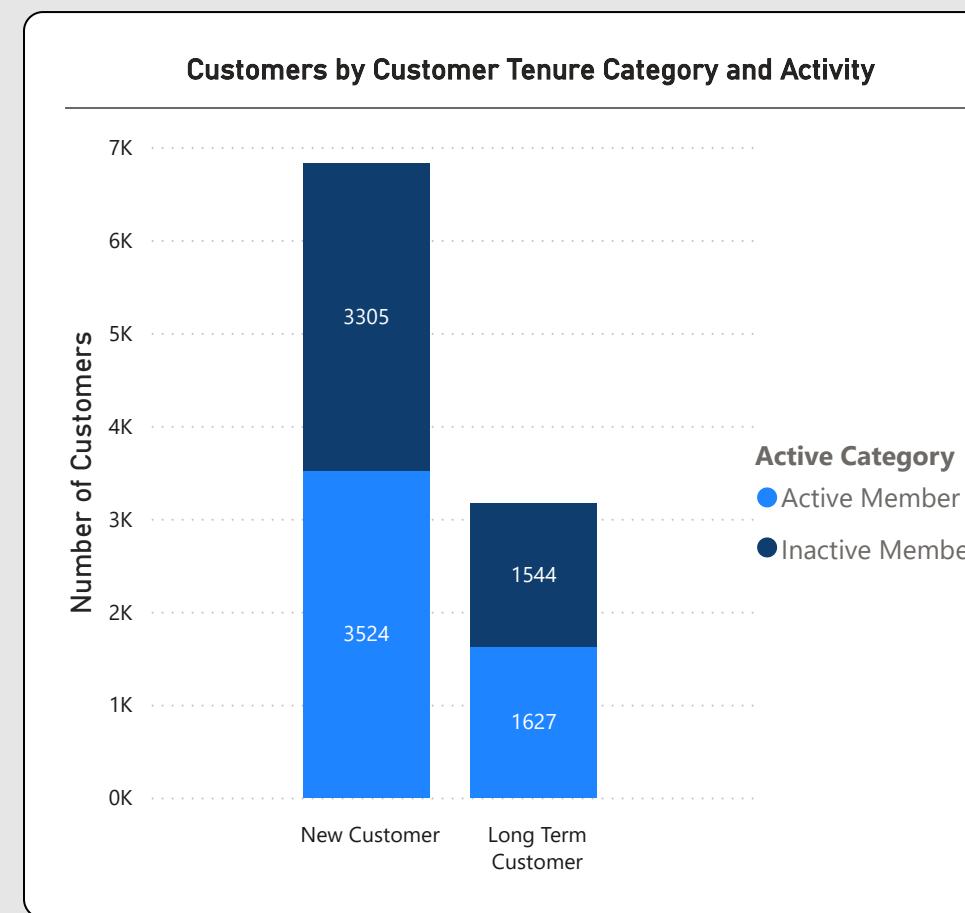
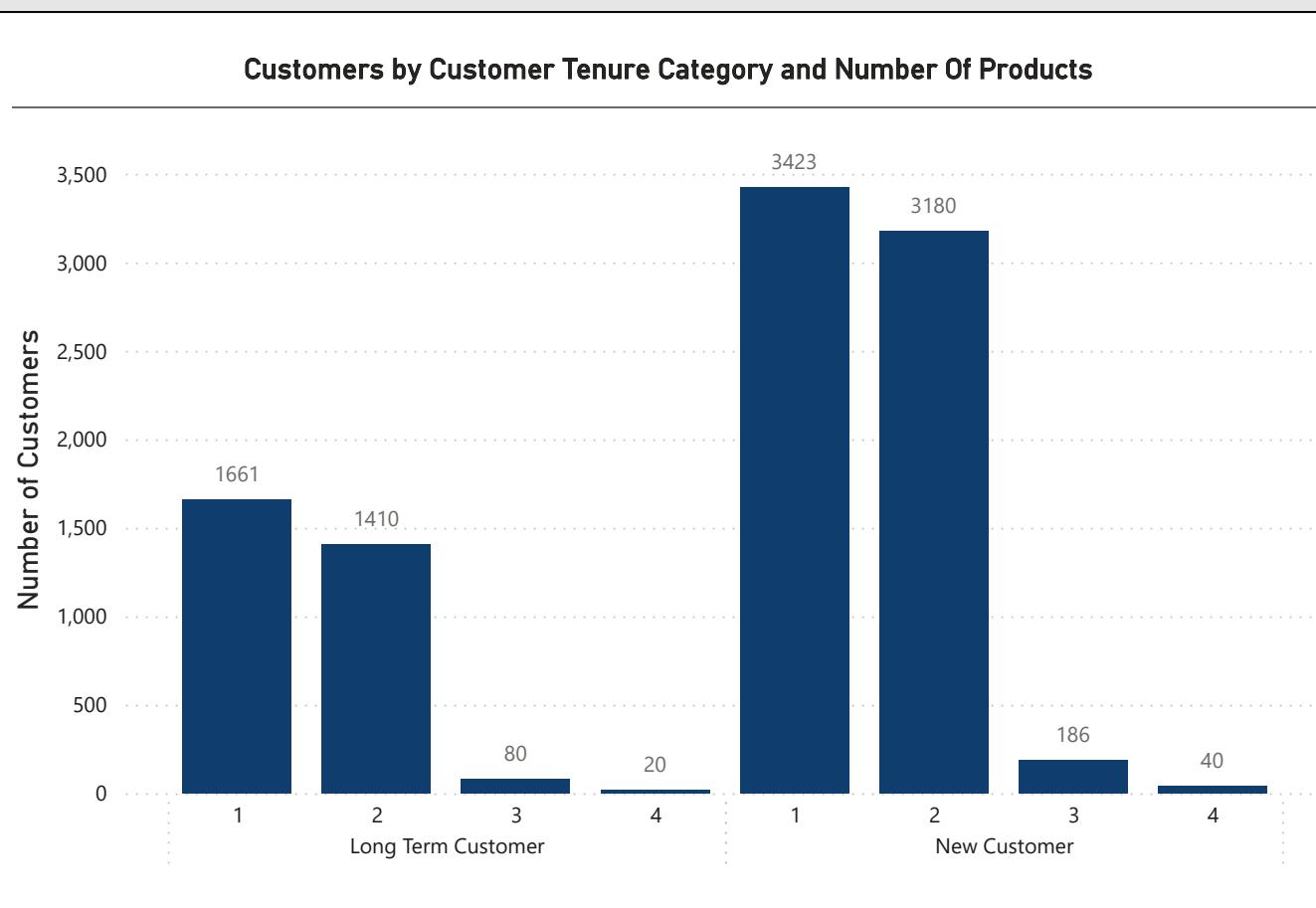
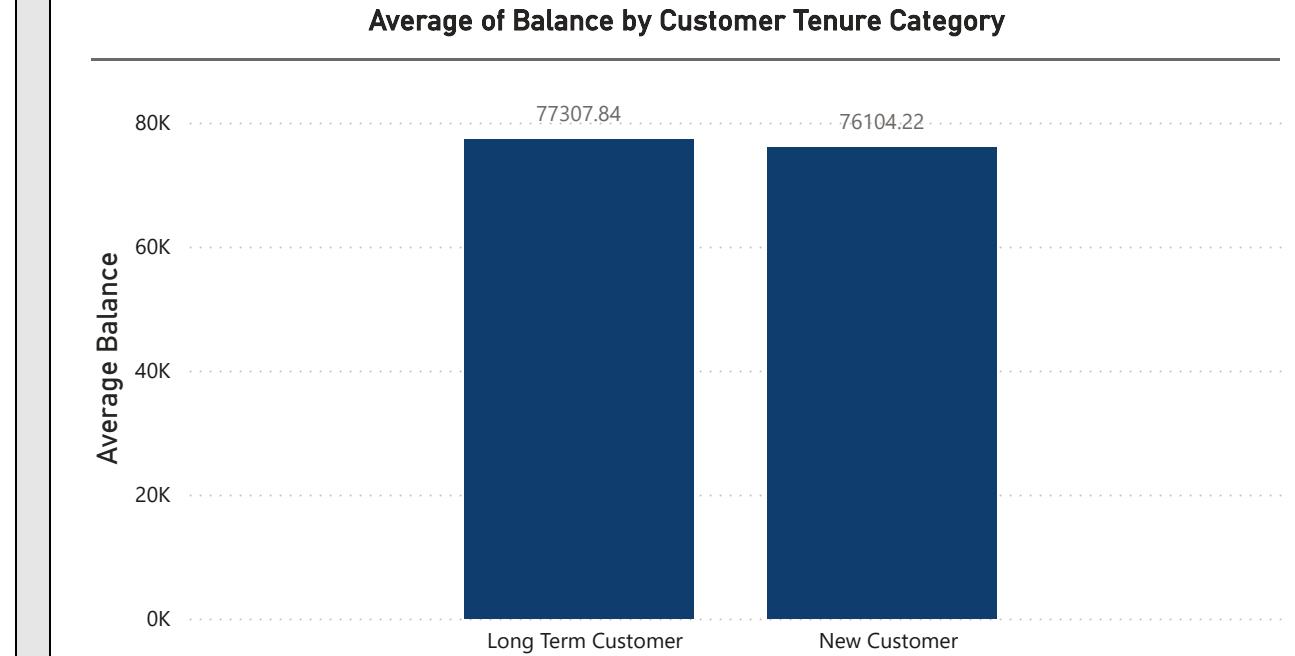
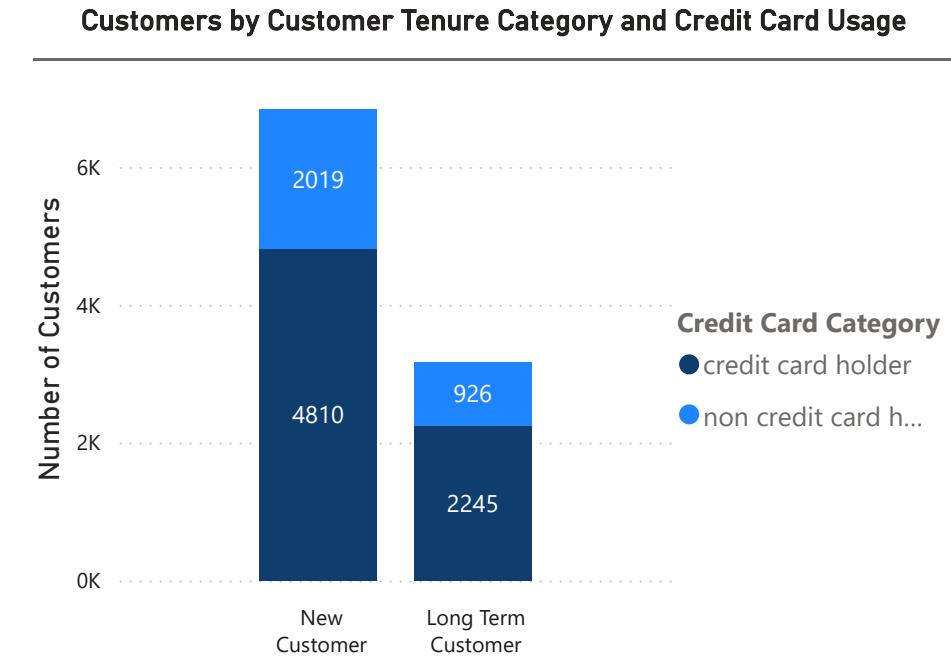
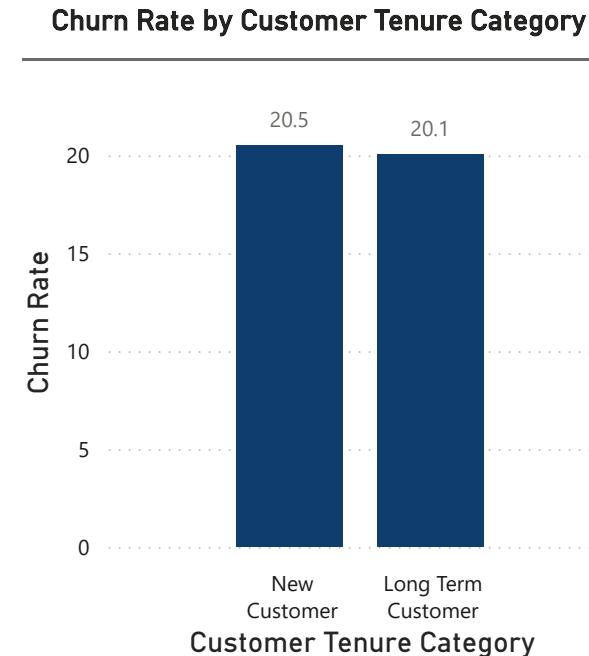


Spending Patterns Across Customer Tenure: New vs. Long-term

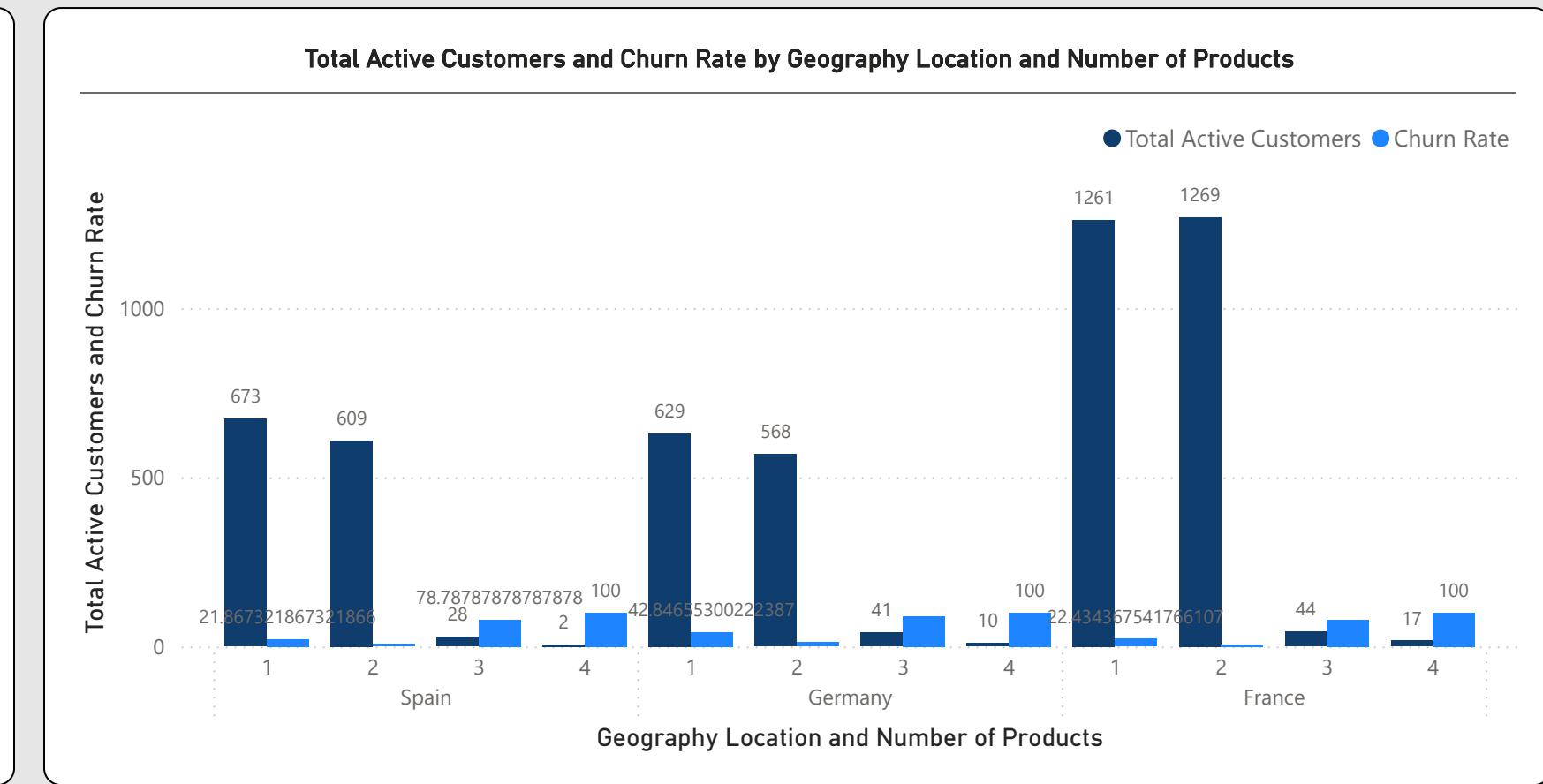
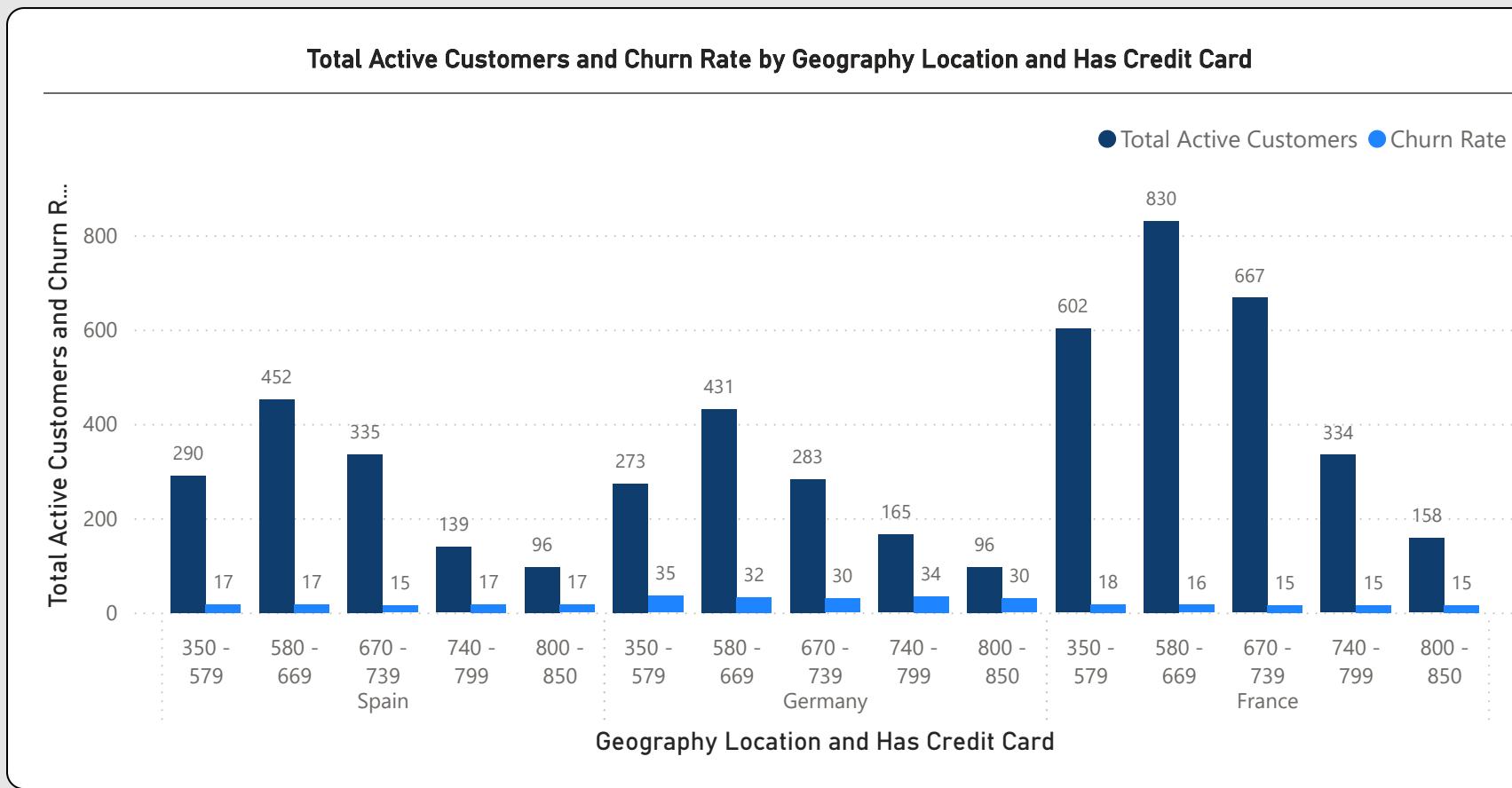
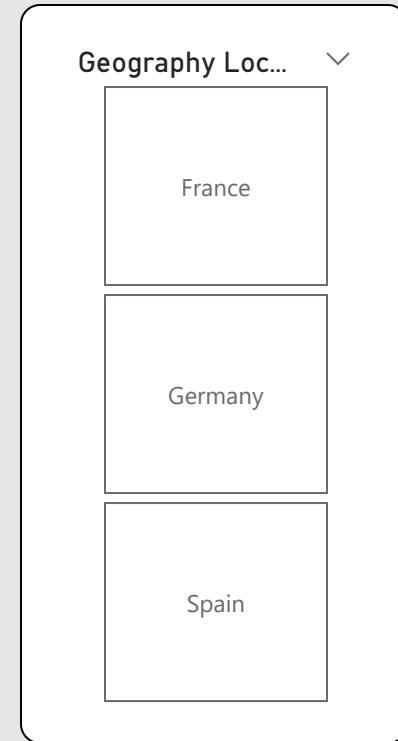
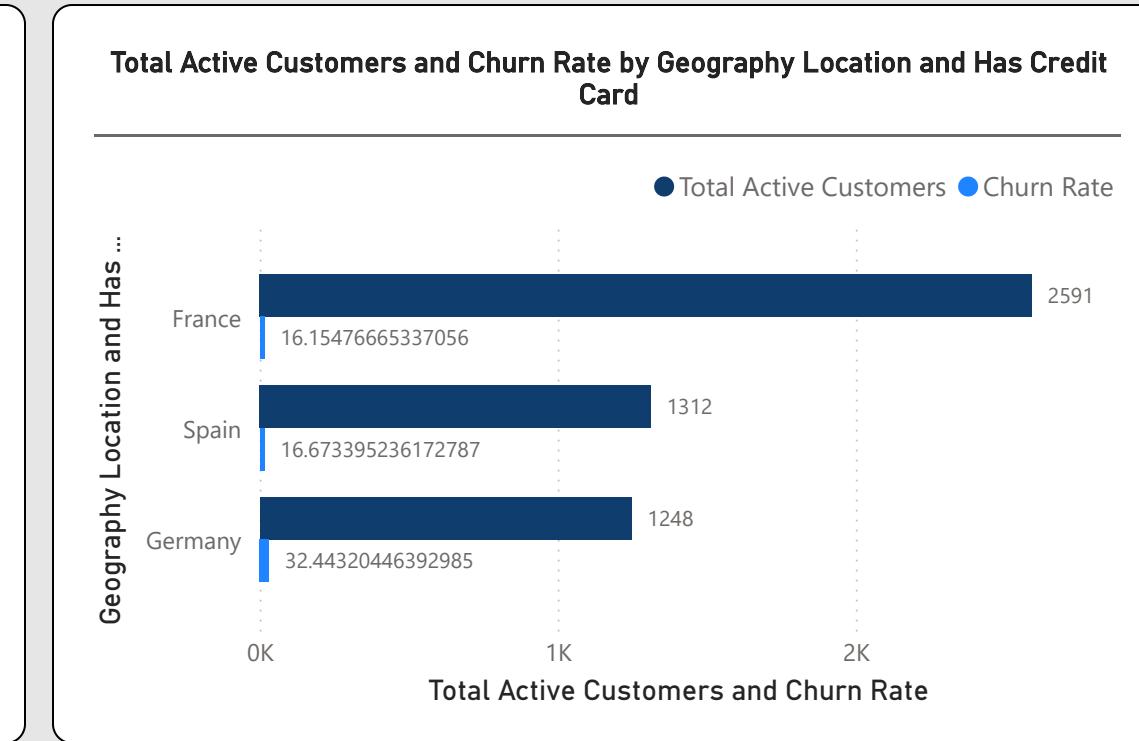
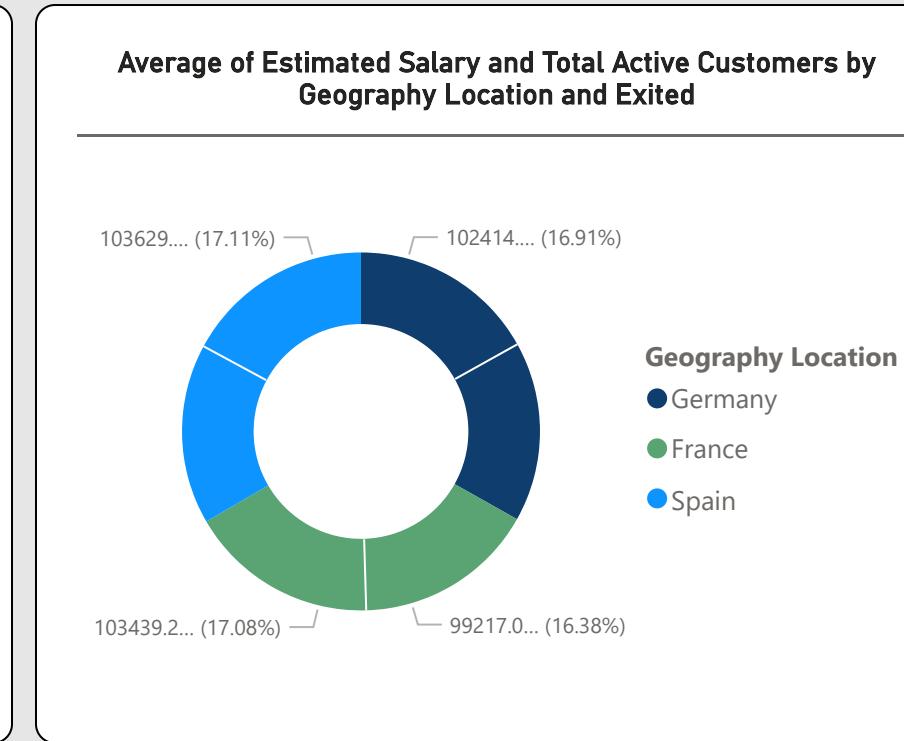
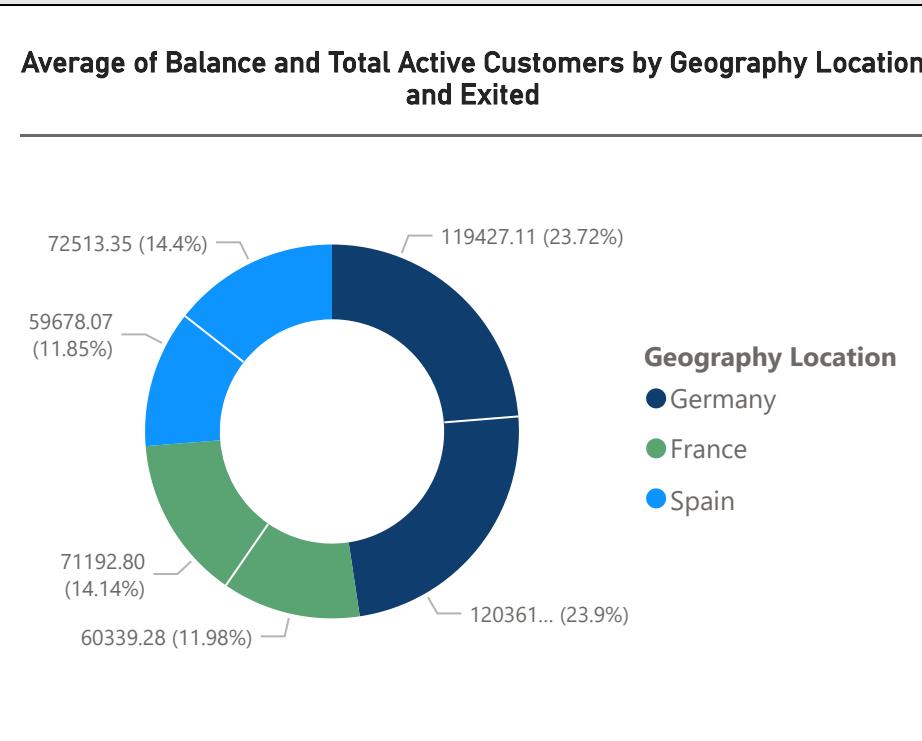
Customer Tenure Category

- Long Term Customer
- New Customer

Churn Rate
20.37



Geographic Analysis of Economic Indicators, Active Accounts, and Churn Rates



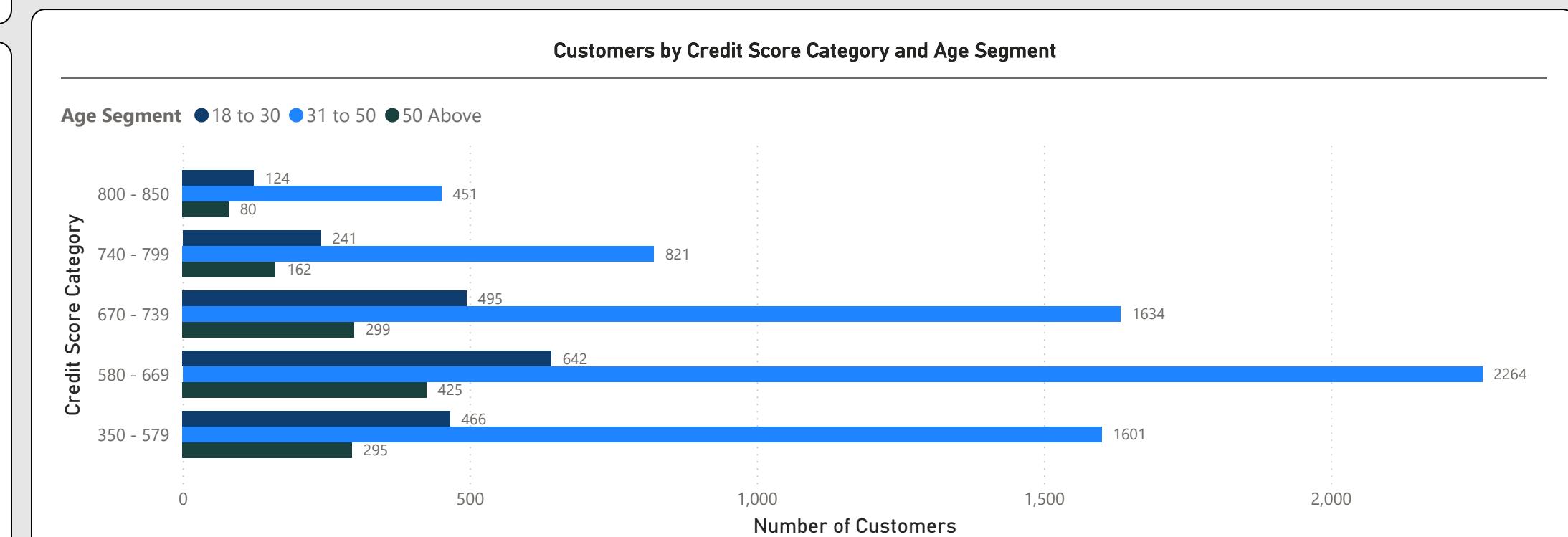
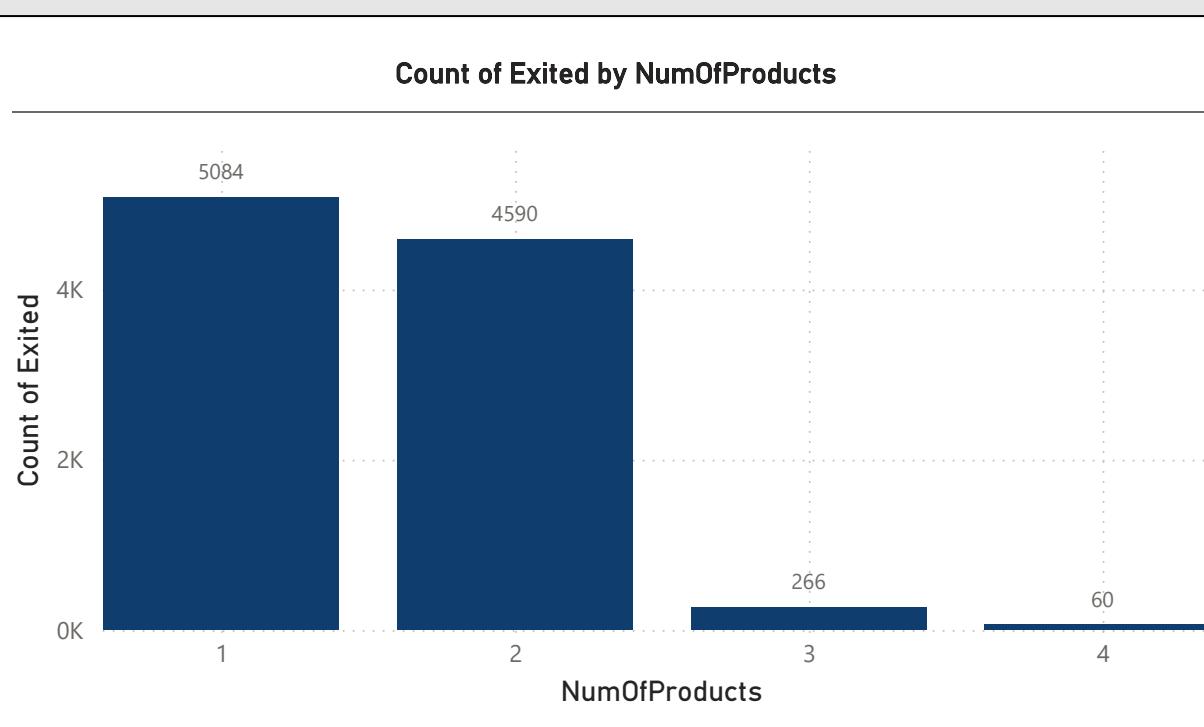
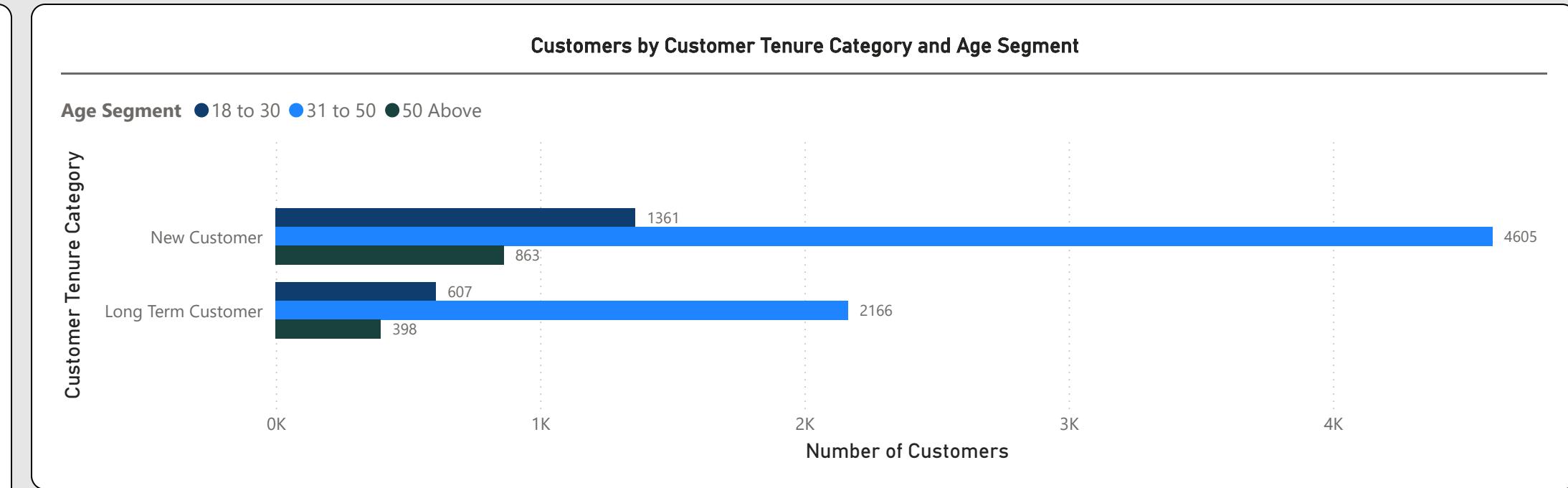
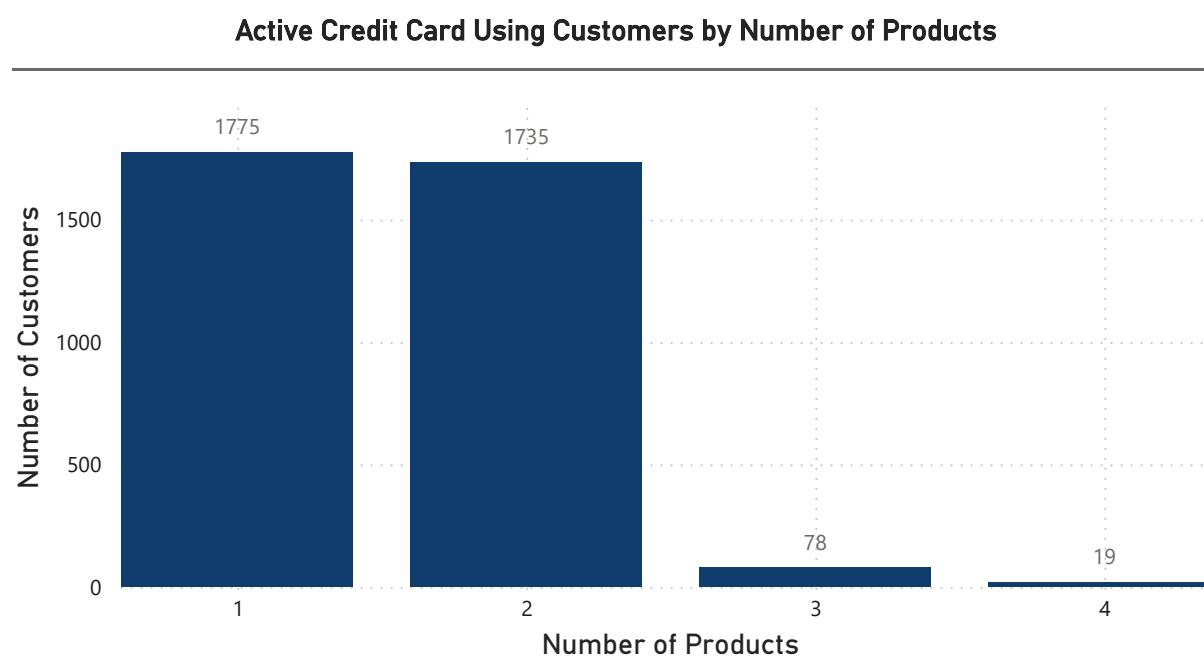
Product Affinity Study & Risk Management Assessment

Average of Balance
76485.89

Average of Estimated Salary
1,00,090.24

Customers with Estimated Salary less than Average
Estimated Salary
4993

Customers with Balance less than Average
Balance
4081



Marketing Campaign Effectiveness & Customer Exit Reasons Exploration

Churn Rate

20.37

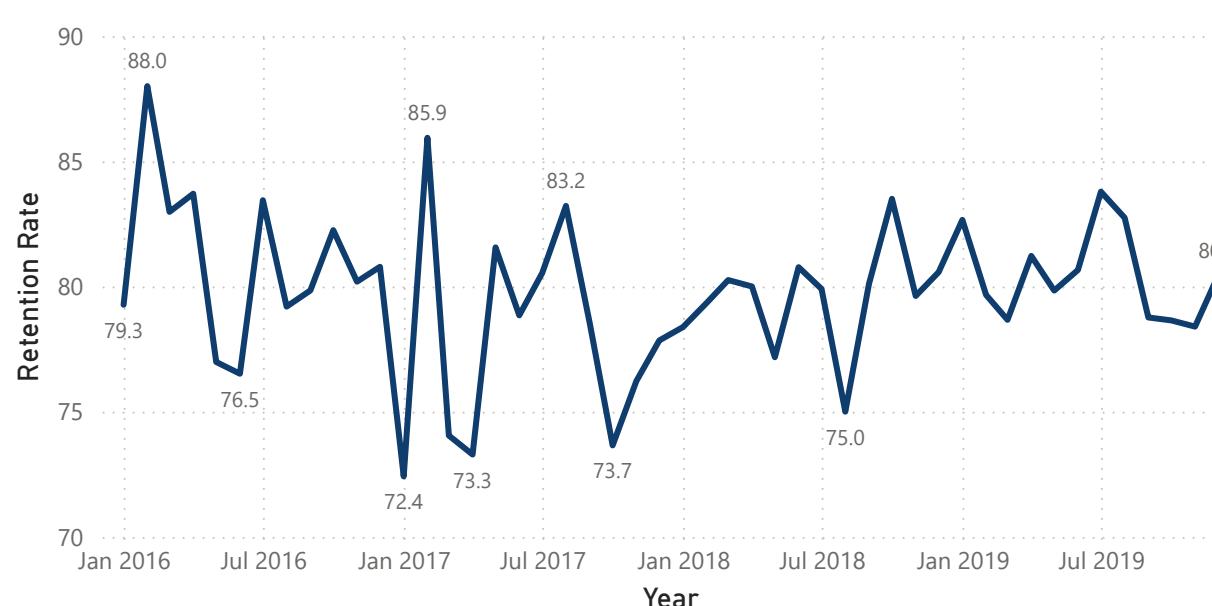
Retention Rate

79.63

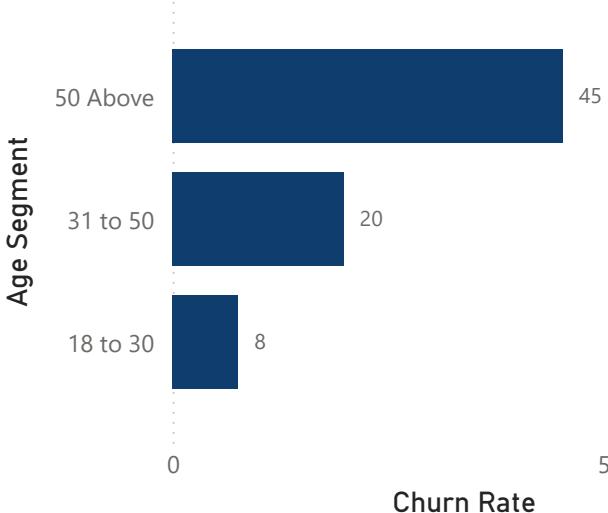
Acquisition Rate

0.68

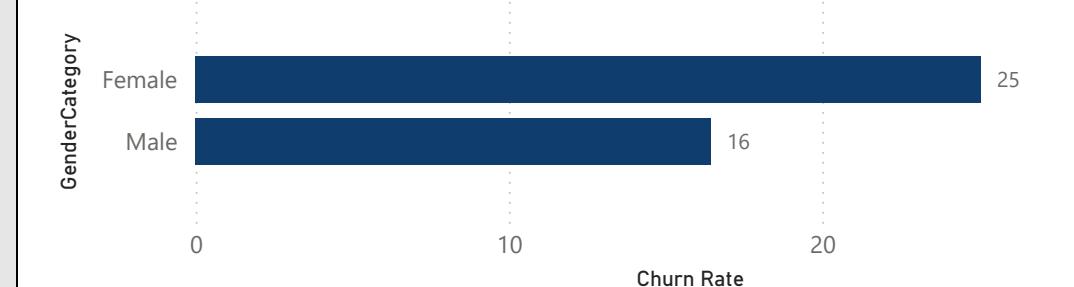
Retention Rate by Year, Quarter and Month



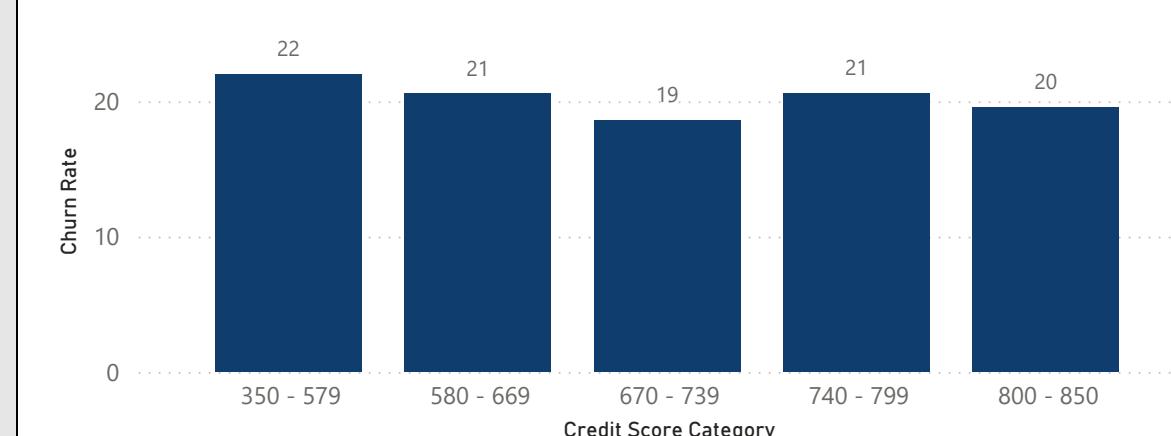
Churn Rate by Age Segment



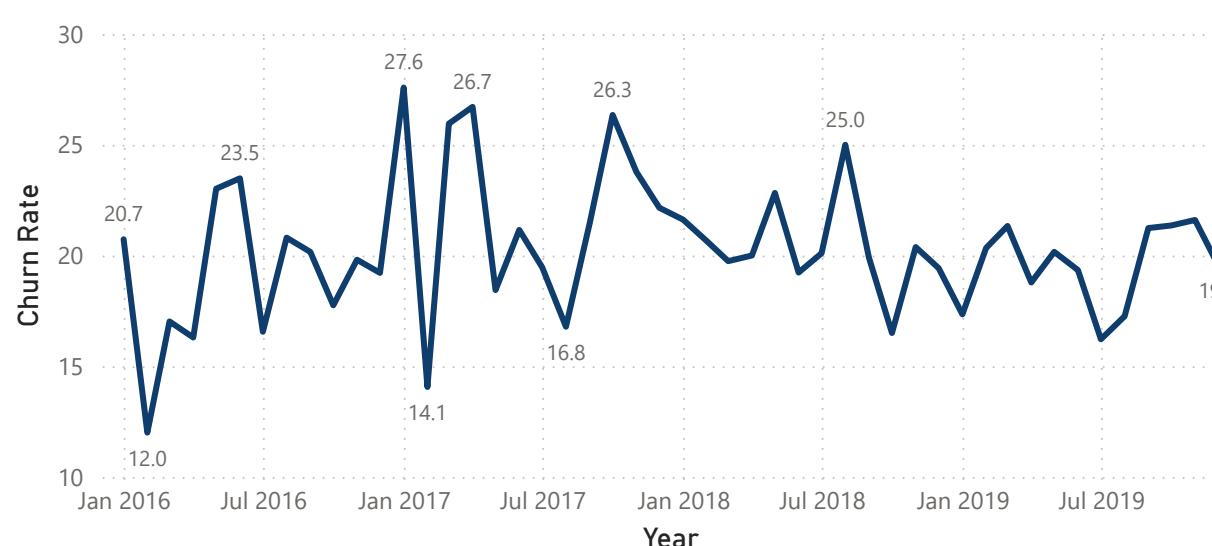
Churn Rate by Gender Category



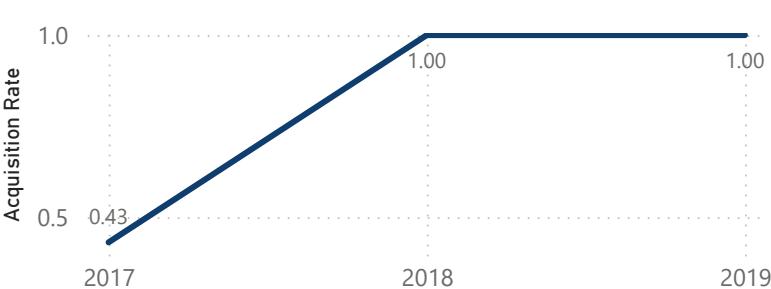
Churn Rate by Credit Score Category



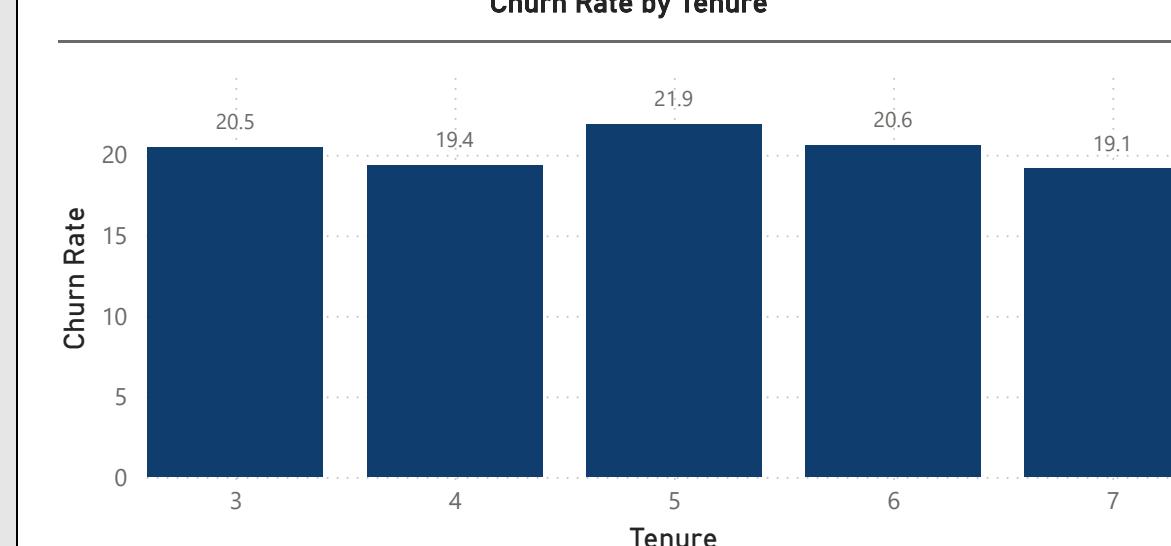
Churn Rate by Year, Quarter and Month



Acquisition Rate by Year



Churn Rate by Tenure



Objective Questions' Answers

Customers by Year and Month

| Date | Number of Customers |
|----------|---------------------|
| Jan 2016 | 82 |
| Jul 2016 | 50 |
| Jan 2017 | 313 |
| Jul 2017 | 178 |
| Jan 2018 | 92 |
| Jul 2018 | 334 |
| Jan 2019 | 118 |
| Jul 2019 | 367, 368, 452, 470 |

Churn Rate by Gender Category for Most Recent Year

| Gender Category | Churn Rate |
|-----------------|------------|
| Female | 25.05 |
| Male | 15.37 |

Churn Rate by Credit Card Category

| Category | Percentage |
|------------|------------|
| credit ... | ~75% |
| non cr... | ~25% |

Potential outliers in terms of balance among customers who have remained with the bank

| CustomerId | Balance | Is_Outlier | ExitCat |
|------------|-----------|------------|---------|
| 15565701 | 161993.89 | Yes | Retain |
| 15565714 | 64430.06 | No | Retain |
| 15565779 | 57809.32 | No | Retain |
| 15565796 | 96048.55 | No | Retain |
| 15565806 | 0.00 | Yes | Retain |
| 15565878 | 0.00 | Yes | Retain |
| 15565879 | 0.00 | Yes | Retain |
| 15565891 | 0.00 | Yes | Retain |
| 15565996 | 0.00 | Yes | Retain |
| 15566091 | 0.00 | Yes | Retain |
| 15566111 | 0.00 | Yes | Retain |
| 15566139 | 53573.18 | No | Retain |
| 15566156 | 71497.79 | No | Retain |
| 15566269 | 0.00 | Yes | Retain |
| 15566292 | 0.00 | Yes | Retain |
| 15566295 | 138053.79 | Yes | Retain |
| 15566380 | 66948.67 | No | Retain |
| 15566467 | 138171.10 | Yes | Retain |
| 15566494 | 0.00 | Yes | Retain |
| 15566543 | 0.00 | Yes | Retain |
| 15566594 | 0.00 | Yes | Retain |
| 15566633 | 155059.10 | Yes | Retain |
| 15566660 | 0.00 | Yes | Retain |
| 15566689 | 0.00 | Yes | Retain |
| 15566735 | 108913.84 | No | Retain |

Total Customers, Average Balance, Max of Balance, Min of Balance and Standard deviation of Balance by Geography Location

● Customer Count ● Average Balance ● Max of Balance ● Min of Balance ● Standard deviation of Bal...

| Geography Location | Customer Count | Average Balance | Max of Balance | Min of Balance | Standard deviation of Balance |
|--------------------|----------------|-----------------|----------------|----------------|-------------------------------|
| France | 5014 | 62092.64 | 238387.56 | 0.00 | 64127.17 |
| Germany | 2509 | 119730.12 | 214346.96 | 27288.43 | 27016.62 |
| Spain | 2477 | 61818.15 | 250898.09 | 0.00 | 64222.59 |

Average Balance by Number Of Products and Exit Category

| Number of Products | Average Balance |
|--------------------|-----------------|
| 1 | 92028.82 |
| 2 | 90252.36 |
| 3 | 85853.09 |
| 4 | 93733.14 |

Customers by Number Of Products and Exit Category

| Number of Products and Exit Category | Exit C... | Retain |
|--------------------------------------|-----------|--------|
| 2 | 1409 | 3675 |
| 3 | 348 | 4242 |
| 4 | 1409 | 1409 |

Objective & Subjective Questions' Answers

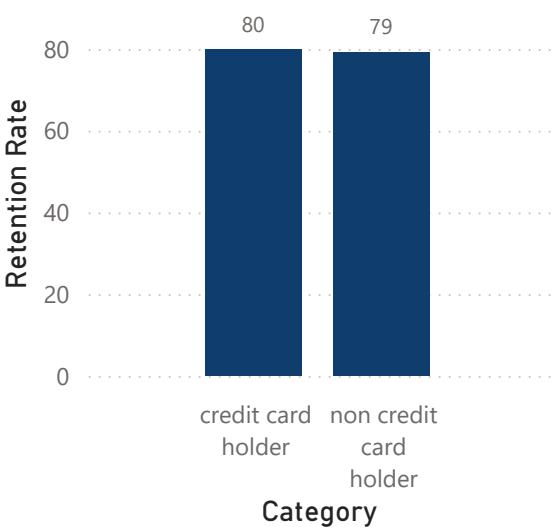
Correlation between Estimated and Credit Score

-0.001

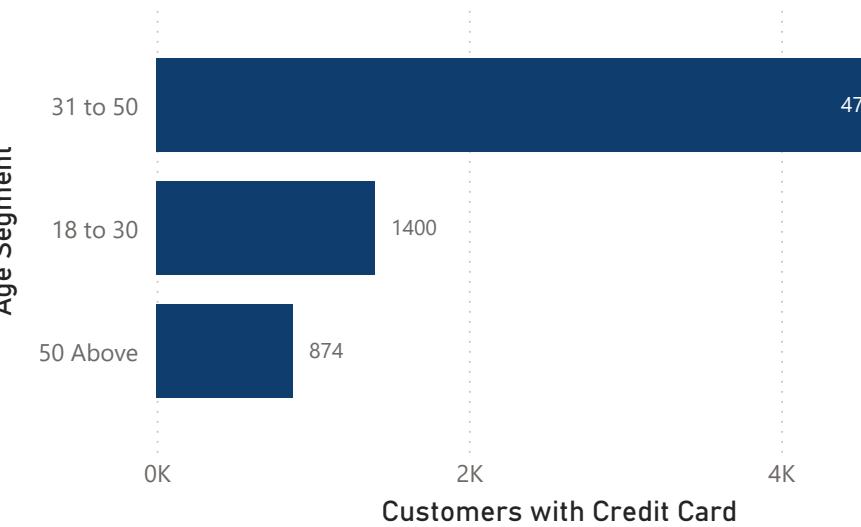
Correlation between Balance and Estimated Salary

0.013

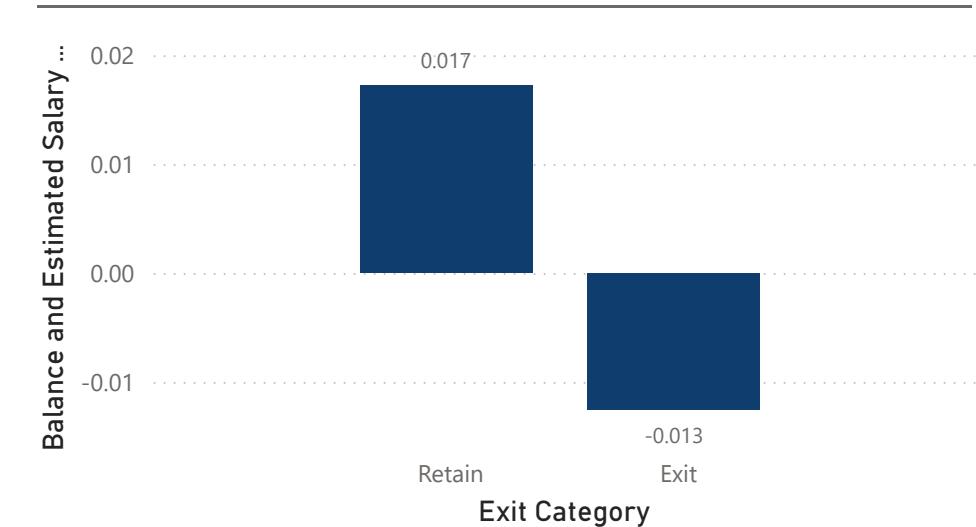
Retention Rate by Credit Card Category



Customers with Credit Card by Age Segment



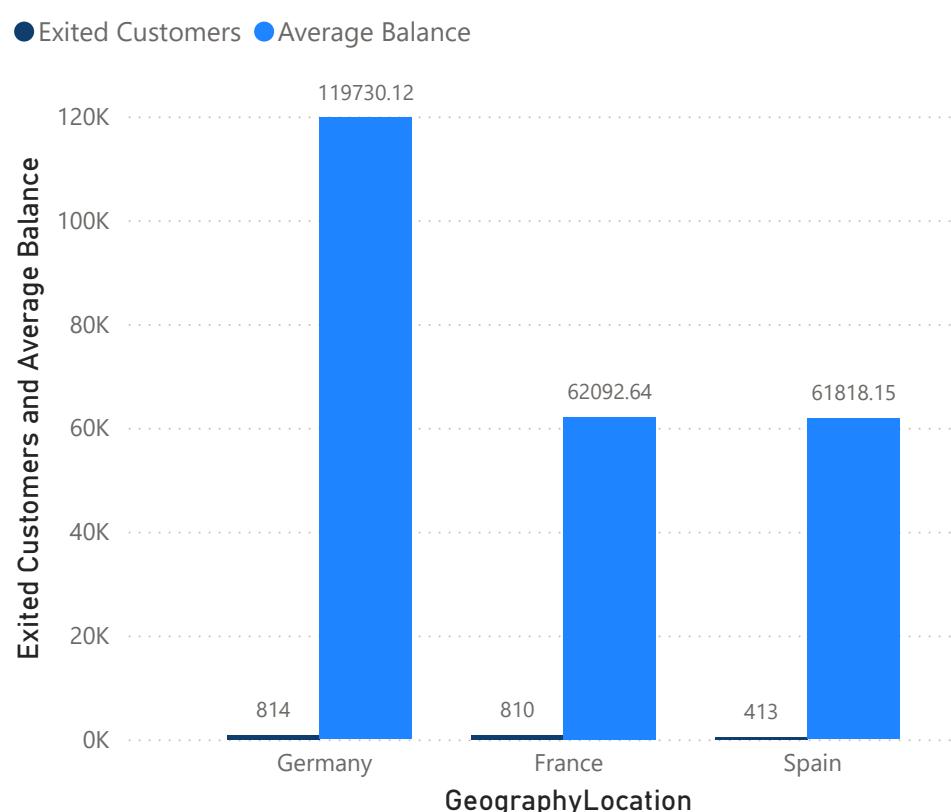
Balance and Estimated Salary Correlation for Customers by Exit Category



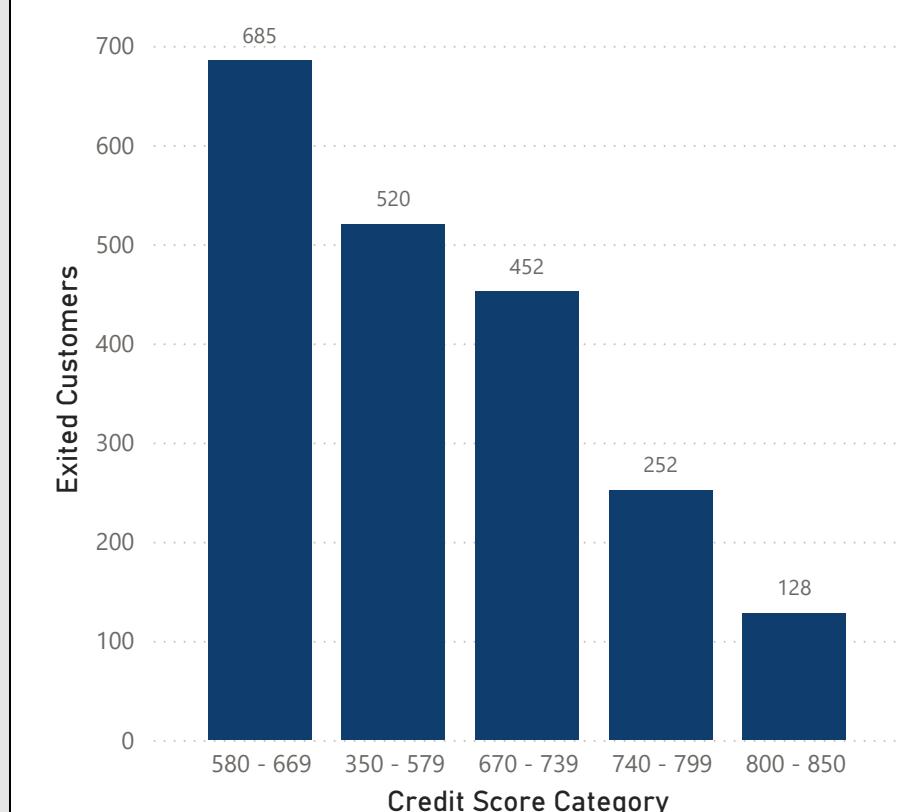
CustomerID Balance EstimatedSalary CreditScore NumOfProducts Tenure Age ActiveCategory

| CustomerID | Balance | EstimatedSalary | CreditScore | NumOfProducts | Tenure | Age | ActiveCategory |
|------------|-----------|-----------------|-------------|---------------|--------|-----|-----------------|
| 15815690 | 113348.50 | 77,789.01 | 614 | 1 | 6 | 40 | Active Member |
| 15815660 | 154139.45 | 60,728.89 | 758 | 1 | 3 | 34 | Active Member |
| 15815656 | 100116.67 | 1,99,808.10 | 541 | 1 | 6 | 39 | Active Member |
| 15815645 | 152303.66 | 1,75,082.20 | 481 | 2 | 5 | 37 | Active Member |
| 15815628 | 113899.92 | 80,215.20 | 711 | 1 | 5 | 37 | Inactive Member |
| 15815626 | 68432.45 | 1,12,503.24 | 640 | 2 | 3 | 63 | Active Member |
| 15815615 | 141952.07 | 1,85,144.08 | 681 | 1 | 5 | 36 | Active Member |
| 15815560 | 105102.50 | 46,172.47 | 666 | 1 | 6 | 74 | Active Member |
| 15815552 | 112333.63 | 65,706.86 | 670 | 1 | 6 | 42 | Active Member |
| 15815534 | 134006.39 | 93,736.69 | 505 | 1 | 6 | 37 | Active Member |
| 15815530 | 75497.51 | 1,49,682.78 | 612 | 1 | 4 | 42 | Inactive Member |
| 15815490 | 164948.98 | 1,77,028.00 | 670 | 3 | 6 | 40 | Inactive Member |
| 15815443 | 131414.76 | 54,947.51 | 527 | 1 | 3 | 46 | Inactive Member |
| 15815428 | 105057.33 | 9,217.92 | 823 | 1 | 5 | 34 | Inactive Member |
| 15815420 | 139196.00 | 74,028.36 | 808 | 1 | 6 | 47 | Active Member |
| 15815364 | 0.00 | 1,17,431.10 | 736 | 2 | 6 | 28 | Active Member |
| 15815316 | 76817.00 | 1,96,371.13 | 644 | 4 | 4 | 50 | Inactive Member |
| 15815295 | 96479.81 | 1,20,259.41 | 662 | 1 | 4 | 38 | Inactive Member |
| 15815271 | 165048.50 | 16,929.41 | 755 | 3 | 6 | 43 | Inactive Member |
| 15815259 | 0.00 | 39,820.13 | 835 | 2 | 3 | 56 | Active Member |

Exited Customers and Average Balance by GeographyLocation



Exited Customers by Credit Score Category



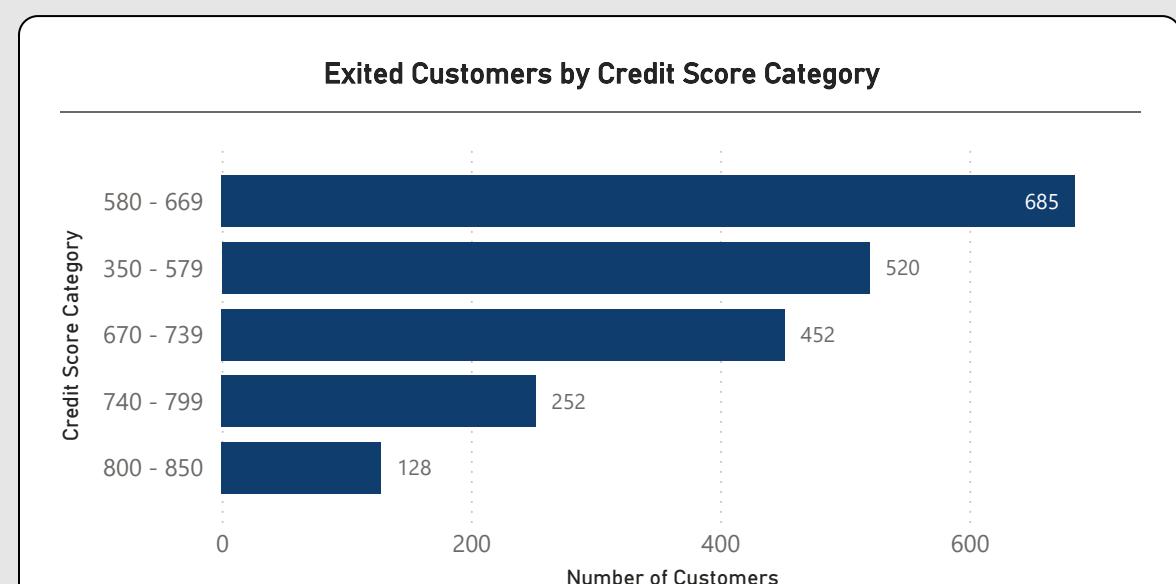
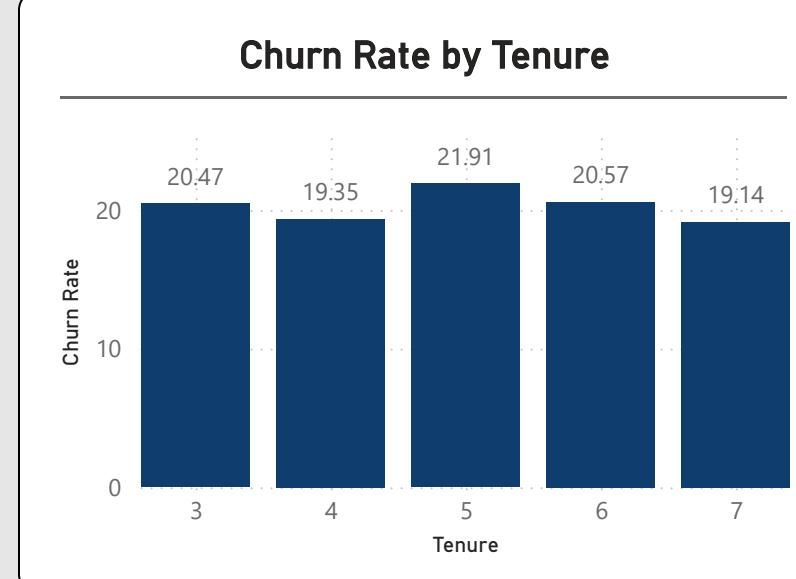
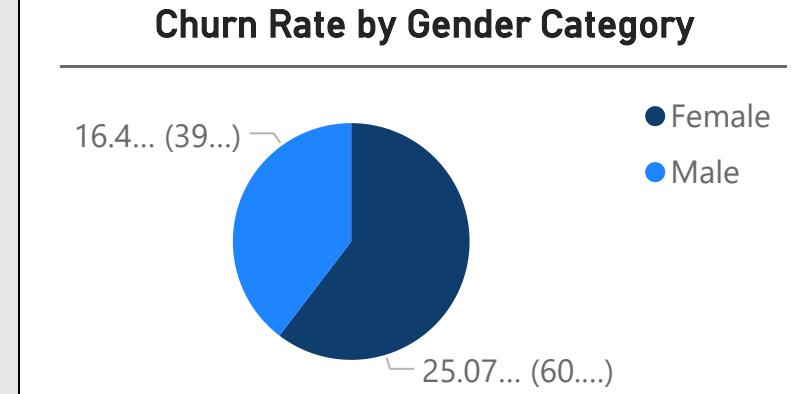
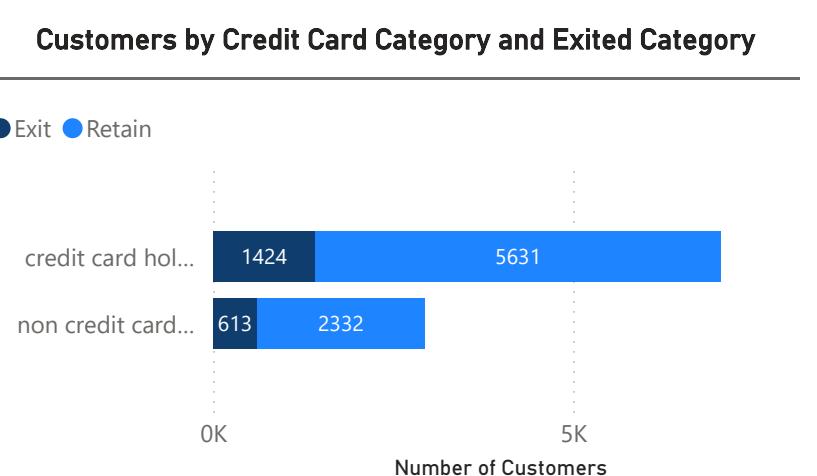
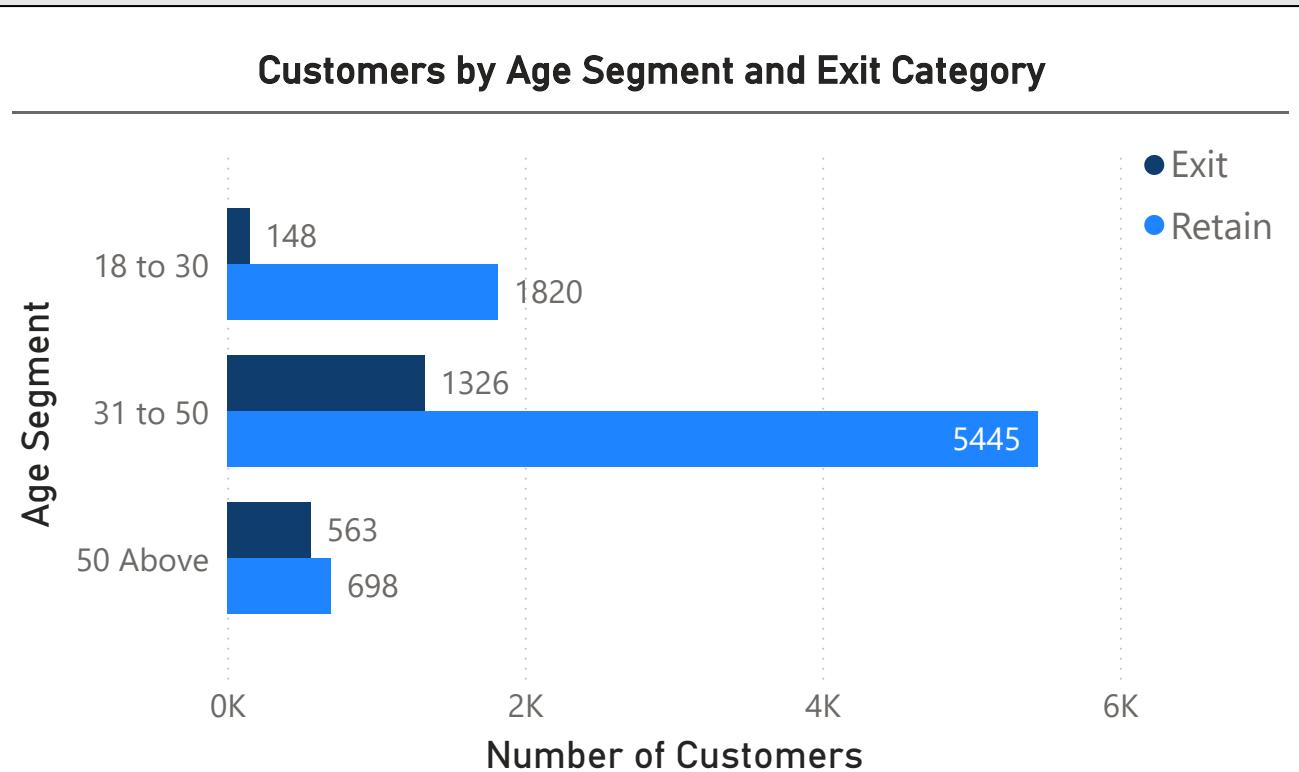
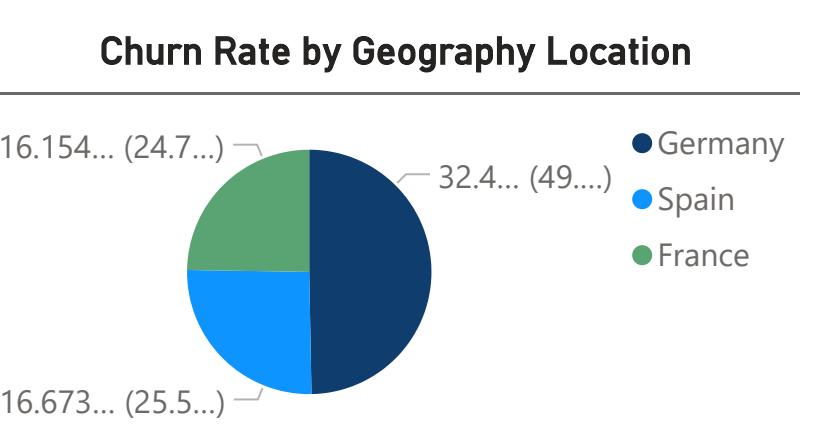
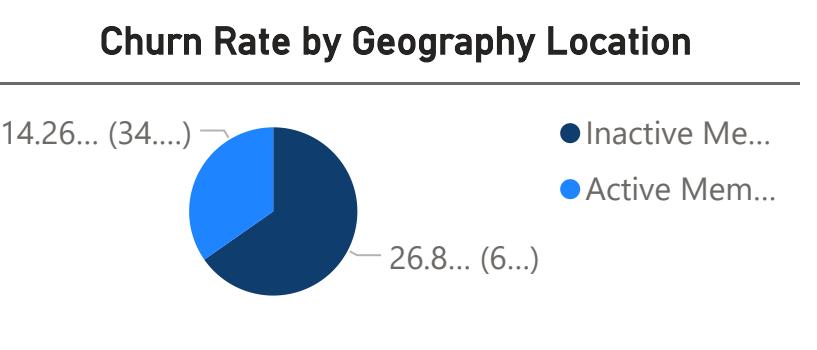
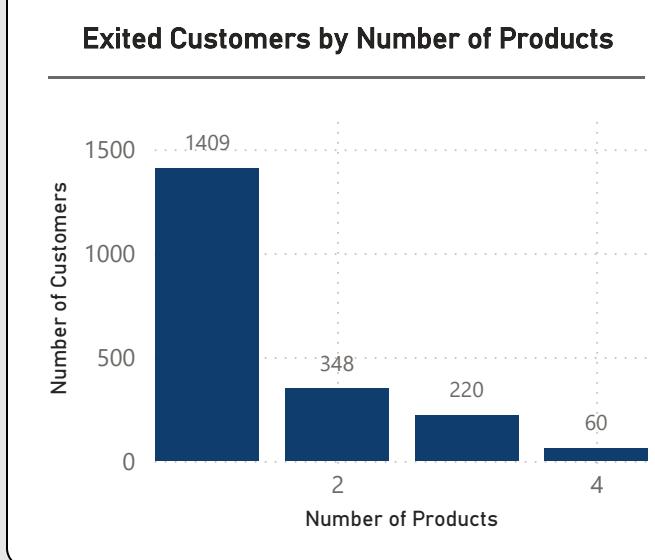
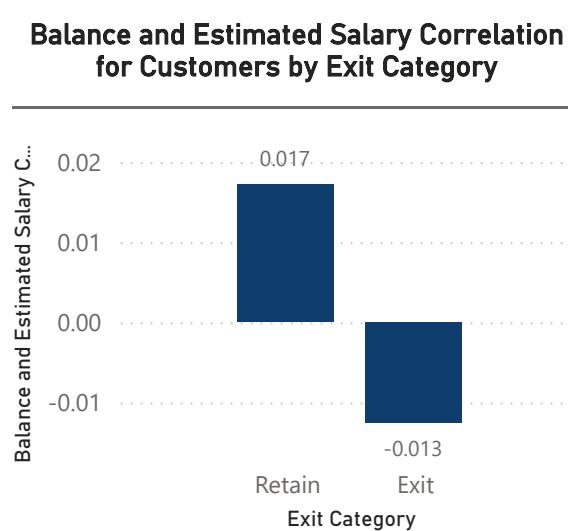
Bank Customer Churn Analysis and Demographics

Churn Rate
20.37

Average of Balance
76485.89

Average of Estimated Salary
1,00,090.24

Correlation between Balance and Estimated Salary
0.013



Geograph...
France
Germany
Spain

Tenure
3
4
5
6
7

Age Segm...
18 to 30
31 to 50
50 Above