Provide Insights to the Product Strategy Team of Mitron Bank

CODE BASICS Resume Project # 8

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AGENDA

1. Project Description

Problem Statement, Key Objectives & Questions, Understanding Data and Key Metric

2. Report Showcase

Understanding the key metrics and factors, uncovering trends and pattern, analysing the spend behaviour and identifying key customer segments.

3. Key Insights

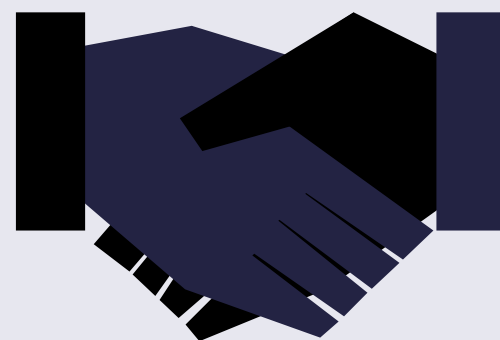*Highlight key findings along with actionable recommendations to the product strategy team.*

PROJECT
DESCRIPTION

PROBLEM STATEMENT

Mitron Bank aims to introduce a new line of credit cards, intending to expand its product offerings and market reach.

Mr. Bashnir Rover, the strategy director has provided sample data and requested a pilot project from **AtliQ Data Services**.

"Peter Pandey" is tasked with presenting data-driven insights to Mitron Bank's **product strategy team** and **top-level management.**

Link to Challenge: https://codebasics.io/challenge/codebasics-resume-project-challenge

KEY OBJECTIVES

The primary objective of this report is to impress Mr. Bashnir and earn the full-scale project for **AtliQ Data Services**. This report is expected to guide them in aligning credit cards to the specific needs of different customer segments and current market trend.

- Developing KPI Dashboard
- Analyzing trends and spend behavior
- Customer segmentation
- Data-driven Recommendations
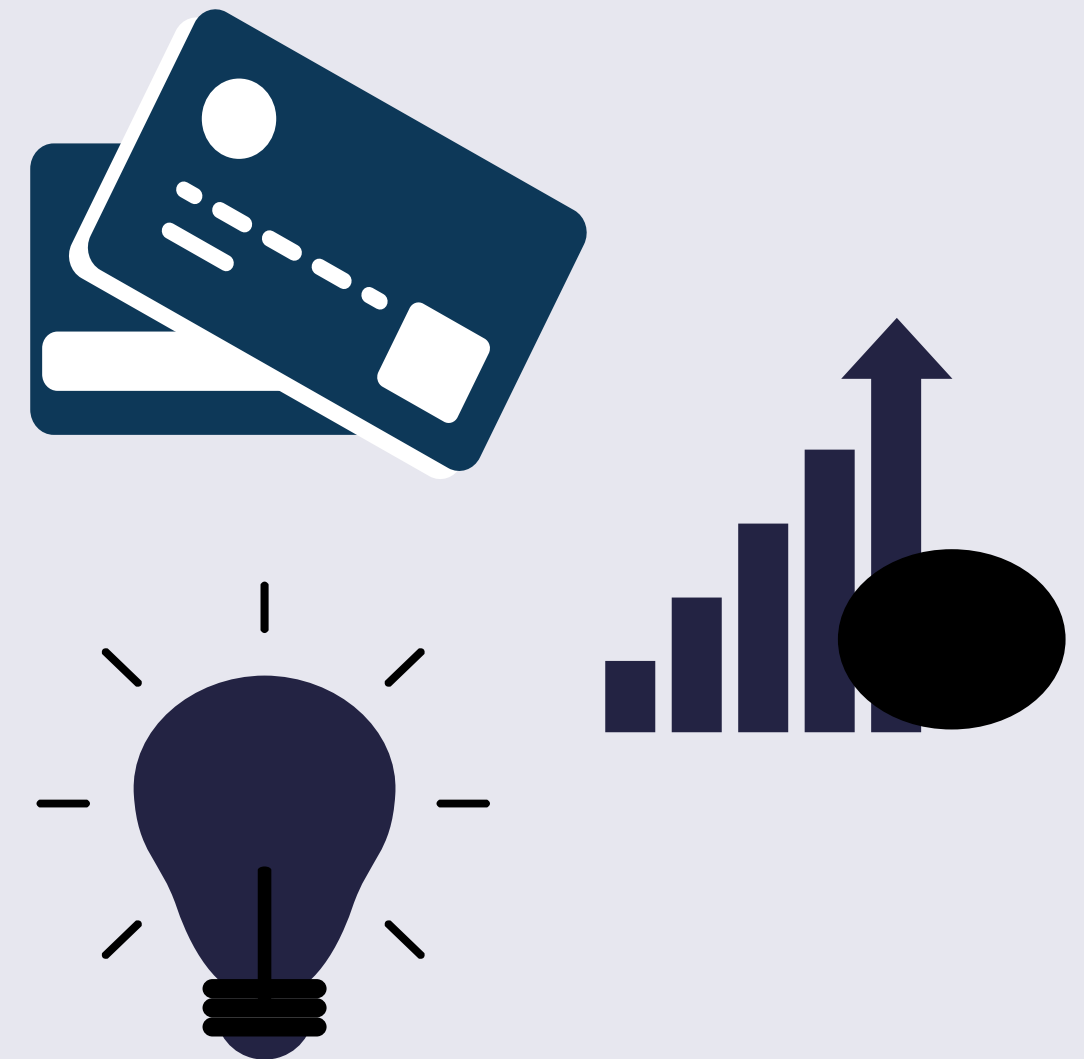
UNDERSTANDING DATA

We've been given two csv files – dim_customers and fact_spends.

- dim_customers table contains demographic details of each of the 4000 customers
- fact_spends records individual spends (transactions) along with some other details such as spend category and payment method of these customers over a period of 6 months (May to October).

NOTE:

No calendar table or date column has been provided, so I have extracted a dimension table and added a month_id column to sort the months.
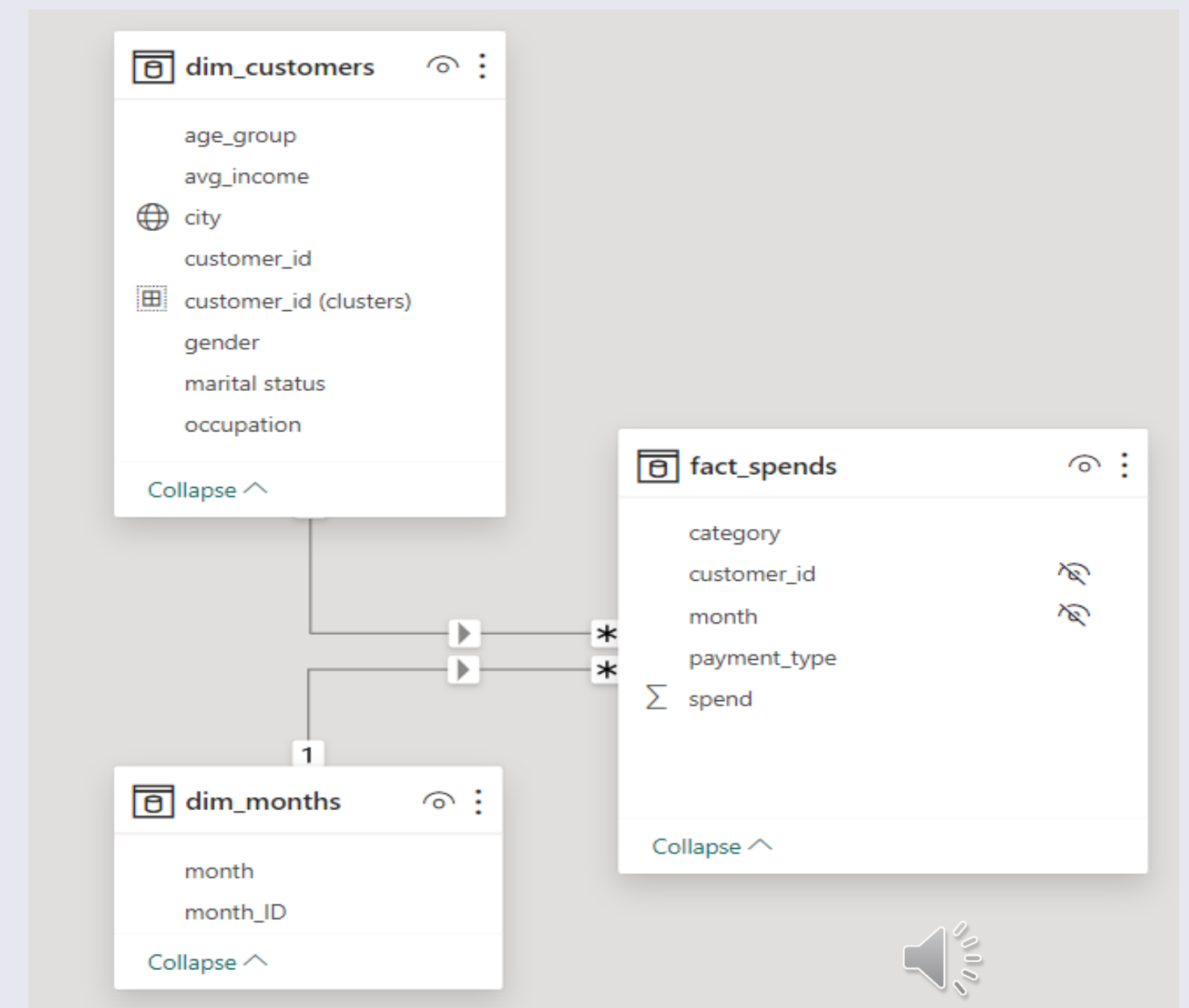
UNDERSTANDING KEY METRICS

```
Income_Ut = // Avg Monthly Utilization (p.c.)
DIVIDE(
    [Avg Monthly Spend (p.c.)],
    [Avg Monthly Income (p.c.)],
    "-"
)
// It measures what proportion of his/her average monthly income
// a customer is spending in a month over a given period (here, over 6 months).
```

```
CC_Ut = // CreditCard_Utilization
CALCULATE(
    [Income_Ut],
    KEEPFILTERS(
        fact_spends[payment_type] = "Credit Card"
    )
)
// It is the income utilization specifically for 'Credit Card' payment_type.
```

INTERPRETATION:

"The higher the CC_Utilization of a customer, the more is the likelihood of using credit card."

NOTE:

Avg Spend = Average Monthly Spend (p.c.)

Avg Income = Average Monthly Income (p.c.)

KEY QUESTIONS

- Are there any significant seasonal trends that the bank should consider leveraging?

- Which cities or customer segments has potential for increased credit card usage and which are risky?

- What strategic moves can help the bank improve its offerings and achieve its goals?

- What features or benefits should be prioritized in the new credit card offerings?

REPORT SHOWCASE

- Overview
- The Dashboard
- Segmentation Report

OVERVIEW

-> Correlation doesn't imply Causation!
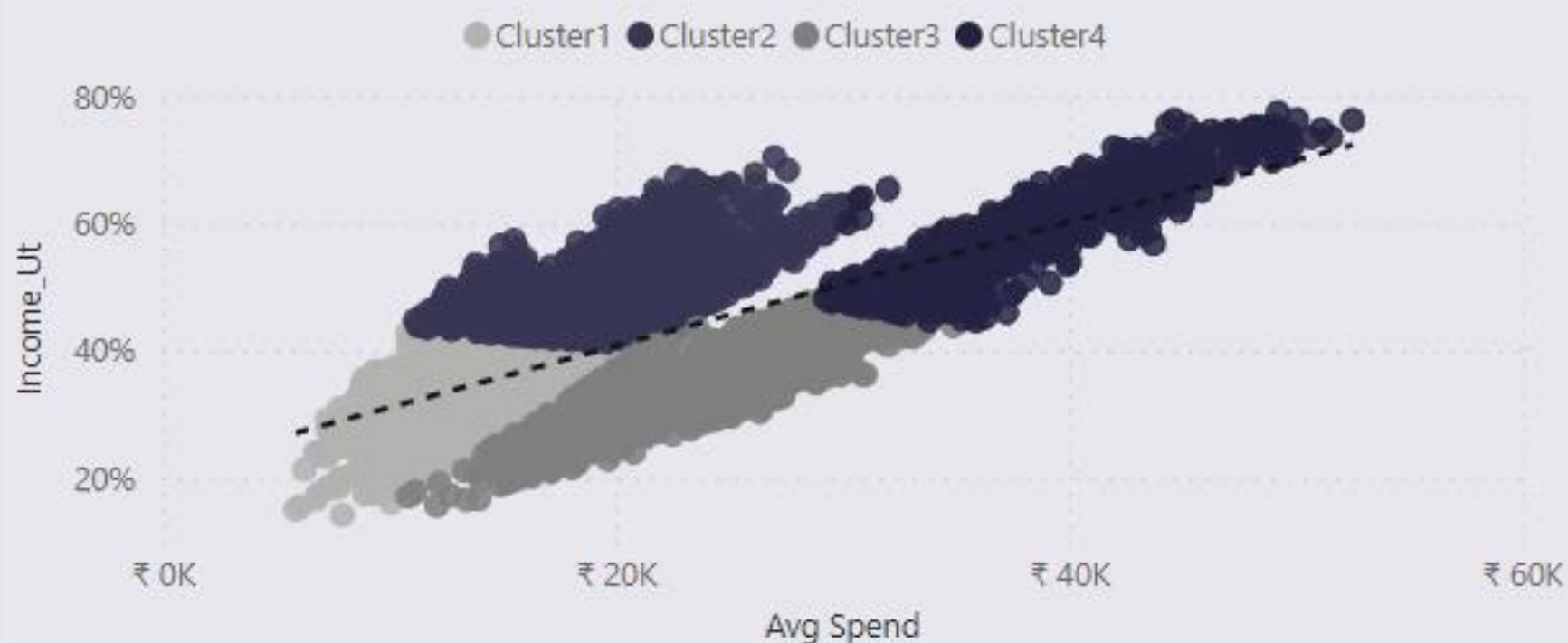*-> **CIty**, **Occupation**, and **Age-Group** are some of the most influential factors*

Bengaluru	Chennai	Delhi NCR	Hyderabad	Mumbai

R = 0.72 indicates Strong Positive Correlation

Cluster1 ● Cluster2 ● Cluster3 ● Cluster4

Clusters	Avg Spend	Avg Income	Income_Ut	Customers	CC_Ut
Cluster4	₹ 38,040	₹ 64,953	58.6%	690	25.2%
Cluster2	₹ 20,031	₹ 39,133	51.2%	1,119	19.5%
Cluster3	₹ 23,930	₹ 68,406	35.0%	982	14.6%
Cluster1	₹ 13,500	₹ 42,056	32.1%	1,209	12.7%
Overall	**₹ 22,121**	**₹ 51,657**	**42.8%**	**4,000**	**17.4%**

Key influencers

What influences CC_Ut to [Decrease ▾] ?

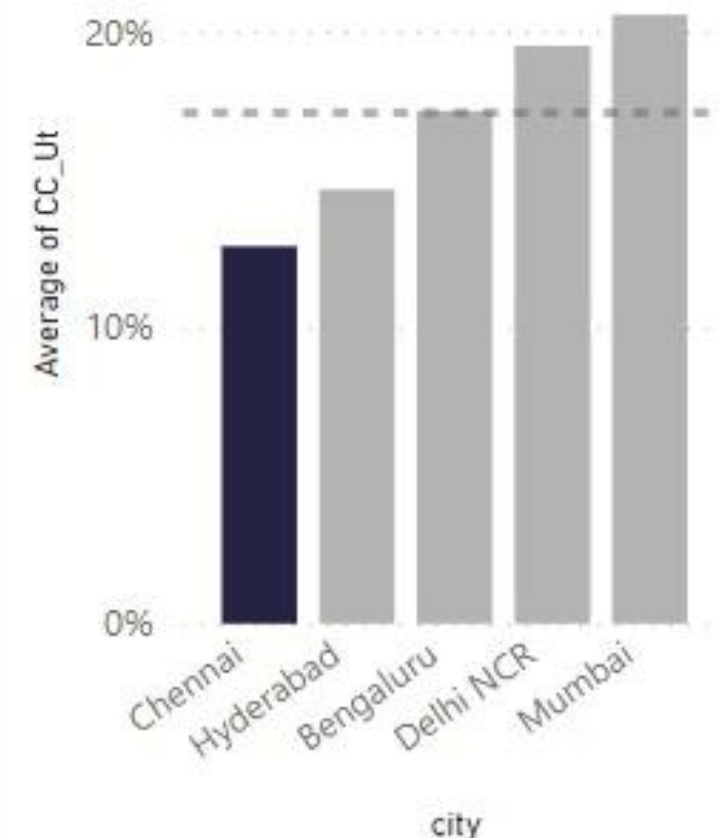| When...	....the average of CC_Ut decreases by
city is Chennai	5.7%
age_group is 45+	5.59%
occupation is Government Employees	5.21%
avg_income is ₹ 31,651 or less	4.85%
age_group is 21-24	4.5%
occupation is Business Owners	4.35%

Sort by: Impact   Count

← CC_Ut is more likely to decrease when city is Chennai than otherwise (on average).

☐ Only show values that are influencers

CC_Ut	Income_Ut	Avg Spend	Avg Income	Total Customers
17.4%	**42.8%**	**₹ 22.1K**	**₹ 51.7K**	**4,000**
±△PM : Sel. Month	±△PM : Sel. Month	±△PM : Sel. Month		

Bengaluru	Chennai	Delhi NCR	Hyderabad	Mumbai

Credit Card Usage of Customers

Legend:
- C1: Low-Value
- C2: Active
- C3: At Risk
- C4: High-Value

X-axis: May, June, July, August, September, October
Y-axis (CC_Ut): 0%, 10%, 20%, 30%

On average, top 3 categories constitute 51.0% of a cutomer's monthly spend.

Category	Value
Bills	₹ 4.4K
Groceries	₹ 3.6K
Electronics	₹ 3.3K
Health & Wellness	₹ 2.7K
Travel	₹ 2.5K
Food	₹ 1.8K
Entertainment	₹ 1.7K
Apparel	₹ 1.4K
Others	

Customer Count	CC_Ut	Income_Ut	Avg Spend	Avg Income

Female 1K
Male 3K

Occupation	Count
Salaried IT Employees	1,294
Salaried Other Employees	893
Freelancers	784
Business Owners	630
Government Employees	399

Age	Count
25-34	1,498
35-45	1,273
21-24	691
45+	538
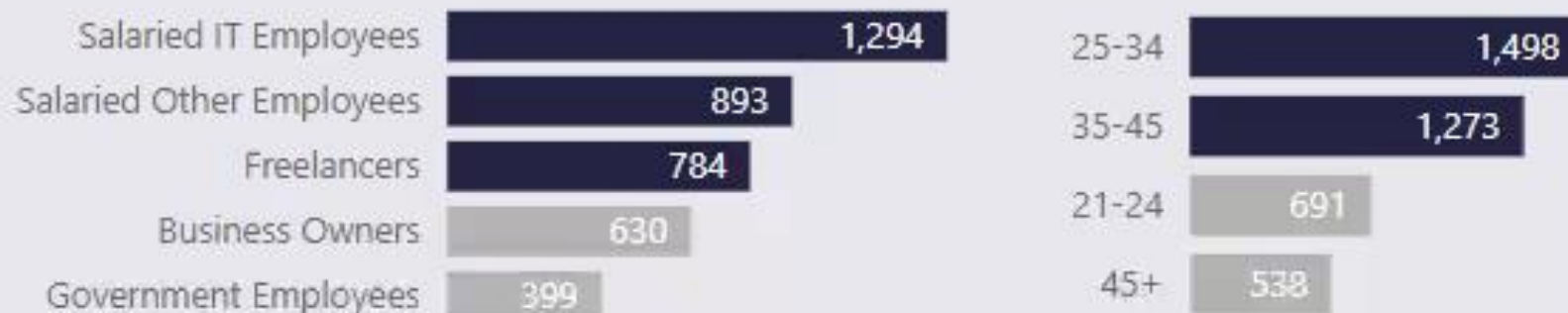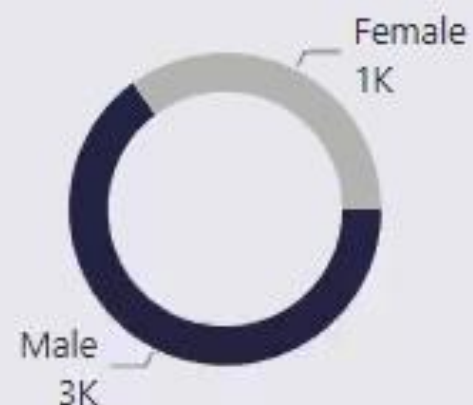
payment_type	Spend (p.t.)	Avg Spend	Income_ut
Credit Card	₹ 1,001	₹ 9,013	17.4%
UPI	₹ 652	₹ 5,868	11.4%
Debit Card	₹ 554	₹ 4,982	9.6%
Net Banking	₹ 251	₹ 2,259	4.4%
Total	**₹ 614**	**₹ 22,121**	**42.8%**

C1: Low-Value   C2: Active   C3: At Risk   C4: High-Value

Customer Count & CC_Utilization % by Occupation and Age-Groups:

age_group   occupation
25-34

city	Avg Spend	Avg Income	Income_Ut	Customers	CC_Ut
Mumbai	₹ 26,598	₹ 51,720	51.4%	1,078	20.8%
Delhi NCR	₹ 24,966	₹ 51,983	48.0%	744	19.8%
Bengaluru	₹ 22,197	₹ 51,073	43.5%	751	17.5%
Hyderabad	₹ 18,977	₹ 52,345	36.3%	593	14.8%
Chennai	₹ 15,962	₹ 51,321	31.1%	834	12.9%
Total	**₹ 22,121**	**₹ 51,657**	**42.8%**	**4,000**	**17.4%**

Total Customers
4,000

25-34
1,498

35-45
1,273

21-24
691

45+
538

Salaried IT Employees
460

Salaried Other Employees
324

Freelancers
281

Business Owners
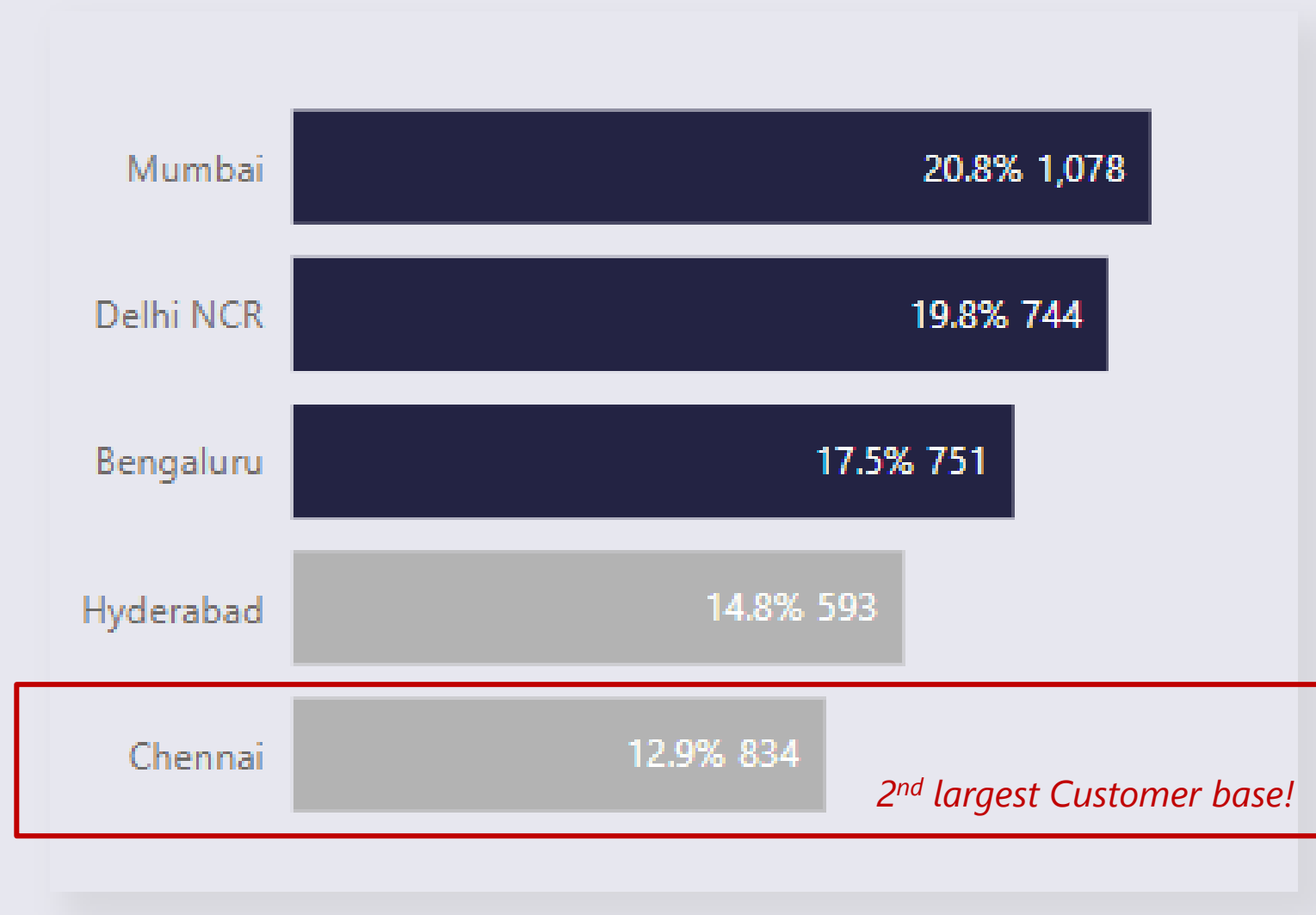239

Government Employees
194

INSIGHTS

City-Level Insights

*Customers based in **Hyderabad** and **Chennai** are **less likely to use credit cards** as compared to others, and this is despite **decent average income**! This represents their **conservative spending habits.***
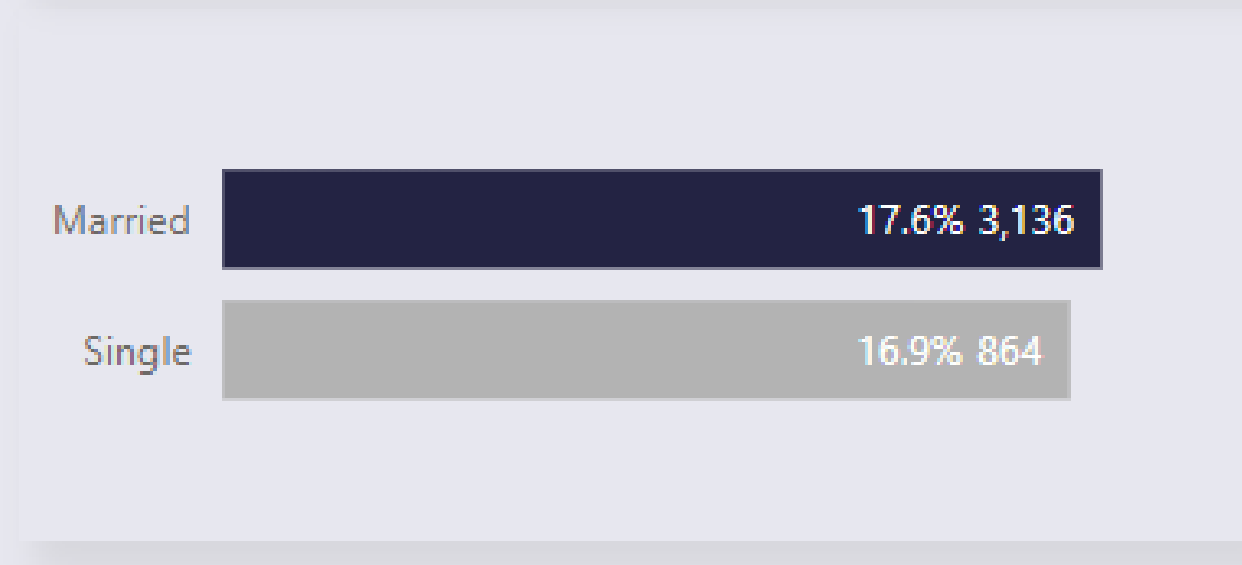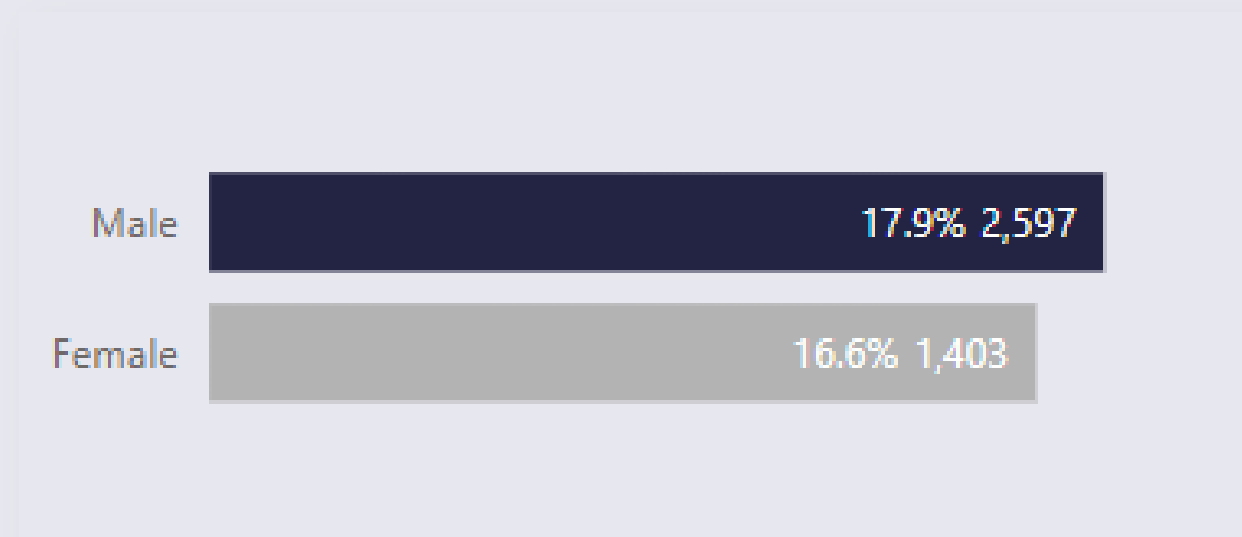

The focus of product strategy team should be to come up with a card that can serve the basic needs of these customers while encouraging them to use credit cards for general spendings.
Offering a credit card with low interest rates and no hidden charges, or extended EMI plans could help attract them

Gender & Marital Status

Male	17.9% 2,597
Female	16.6% 1,403

TOP 3 SPEND CATEGORIES

Bills, Groceries, and Electronics (58.1%)

Health & Wellness, Bills, and Travel (47.9%)

Married	17.6% 3,136
Single	16.9% 864

Electronics, Bills, and Entertainment (44.7%)

Bills, Groceries, and Electronics (52.5%)

*We can clearly conclude that most of our customers are **male** and are mostly **married**. But despite large differences in customer count, females and singles are not much behind in terms of Credit Card Usage. Thus, the product strategy should consider addressing the needs of all these four groups.*
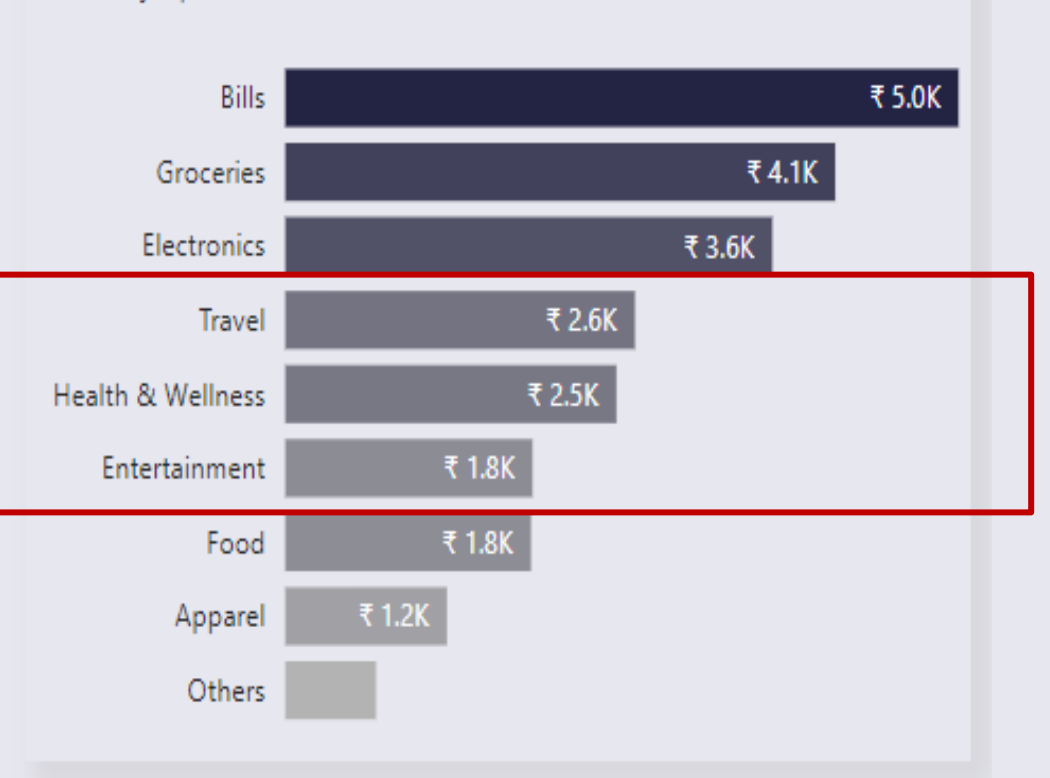
Occupation Groups

*Although there isn't much significant differences in the spend behavior of different Occupation groups, but still **Business Owners** have a slightly different spending habits.*

occupation	Customers	Income_Ut	CC_Ut
Salaried IT Employees	1,294	51.0%	21.2%
Salaried Other Employees	893	42.1%	17.9%
Freelancers	784	45.8%	15.8%
Business Owners	630	33.2%	13.6%
Government Employees	399	29.0%	12.6%
Total	**4,000**	**42.8%**	**17.4%**

On average, top 3 categories constitute 54.5% of a cutomer's monthly spend.

Category	Spend
Bills	₹ 5.0K
Groceries	₹ 4.1K
Electronics	₹ 3.6K
Travel	₹ 2.6K
Health & Wellness	₹ 2.5K
Entertainment	₹ 1.8K
Food	₹ 1.8K
Apparel	₹ 1.2K
Others	

Incorporate features like **travel and health insurance**, tie-up with **Entertainment partners** like multiplex houses or online streaming-partners to provide rewards and cashbacks. The bank also look to offer them higher **credit limits**.

Age-Group Insights

*We can clearly **notice differences in spending of different age-groups**, and the product strategy can use this information to accordingly device the credit card strategy. The middle-age groups are more likely to use credit cards.*

age_group	Customers	Income_Ut	CC_Ut	TOP 3 SPEND CATEGORIES
25-34	1,498	43.7%	20.4%	Bills, Groceries, and Health & Wellness (54.5%)
35-45	1,273	46.7%	18.1%	Bills, Groceries, and Electronics (56.3%)
21-24	691	40.6%	13.7%	Entertainment, Electronics, and Apparel (54.9%)
45+	538	34.7%	12.4%	Bills, Groceries, and Health & Wellness (54.7%)
Total	**4,000**	**42.8%**	**17.4%**	

- Bills and Groceries are the top 2 spend categories across different demographic groups, as they cover daily household-expenses, and therefore the product strategy team might look for partnering with **payment gateways** or **online grocery stores**.

- Also, since customers in younger age-groups spend more towards **apparel, electronics, and entertainment**, adding reward points or cashbacks on these kind of transactions could help cater the needs of these age-groups.

RECOMMENDATIONS

Credit Card Type	Features	Target Audience
Premium	High Credit Limit, Exclusive Benefits (travel perks, emergency medical insurance, no forex fees).	Loyal customers with high income and spend
Elite	Moderate Credit Limit, Airport Lounge-Access, Health & Wellness benefits.	Customers with moderately high income, and those who travel more and also spend more towards health and Wellness.
Standard	Low Credit Limit, Less charges and interest, extended EMI plans, cashbacks or reward points on daily purchase, enhanced customer support.	Lower segment who generally uses credit cards for paying bills or buying electronic devices.

Which clusters impact the Bank's Business the most?

C4: High-Value *segment, as the name suggests was the* **top contributor** *in the increase and decrease between August and October, followed by* **C2, C3, and C1**.
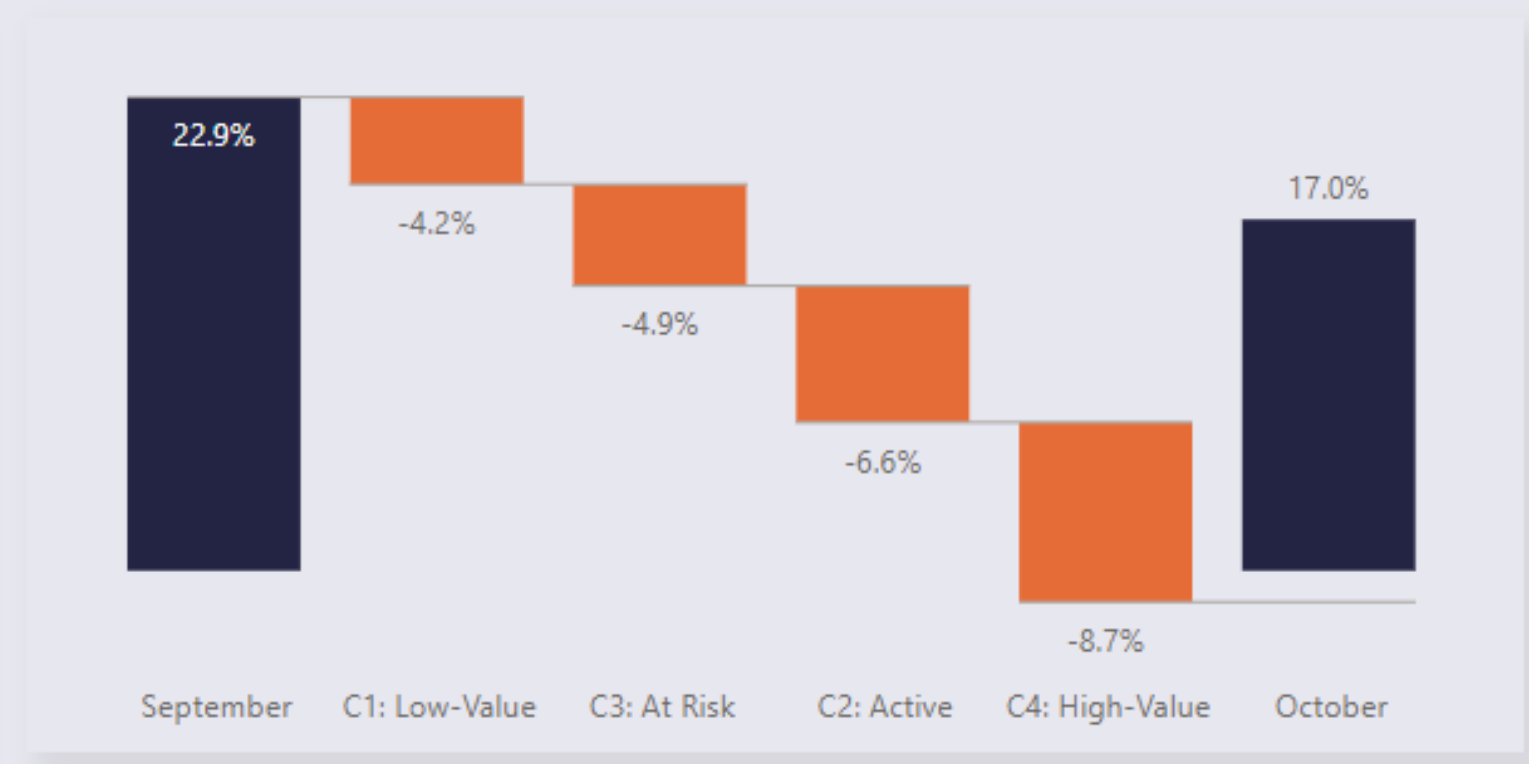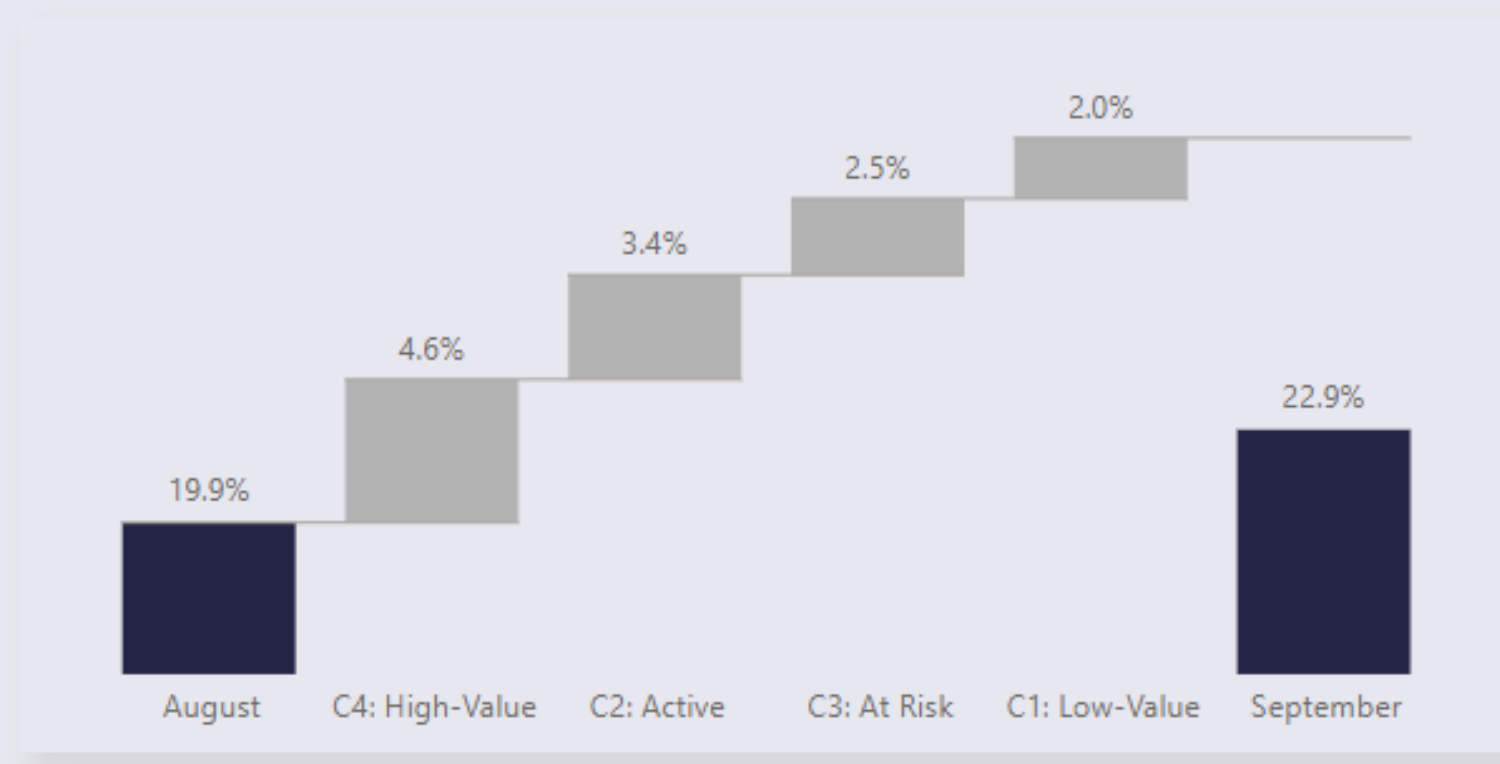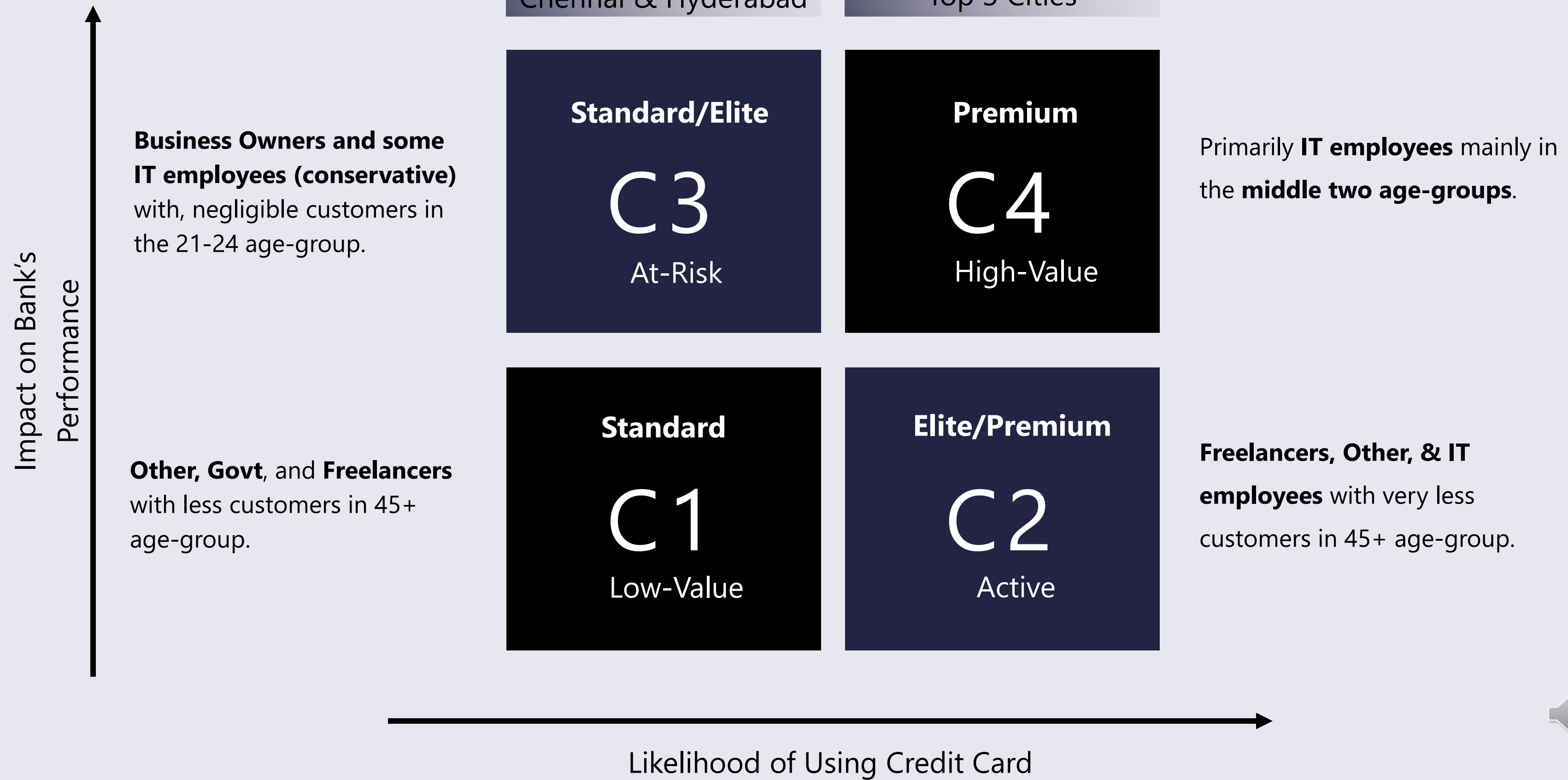
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Thank you!

Feel free to drop you feedbacks below in the comments or reach out to me on the below LinkedIn ID.

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