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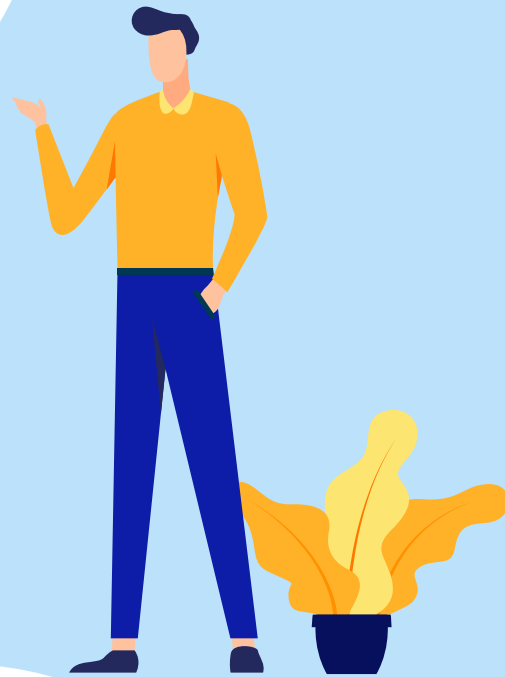
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01

Introduction

Introduction to the FGP loyalty program
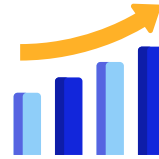
XICHEN

WHAT IS FGP?

XICHEN

Research Objective

MISSION

➢ Provide insights on expanding the loyalty program

➢ Satisfy interests of the three merchant members

OBJECTIVE

❖ To determine the direction of the expansion
❖ To estimate the value of a customer
❖ To predict customer churn
❖ To provide the possible solutions/suggestions

XICHEN

02

Problem Analysis

Research questions identified for the expansion of the FGP Program

XICHEN

Managerial Problem: How to estimate the value of a customer in the loyalty program, predict if a customer will churn, and manage the customers accordingly?

1. What are the performance of the three merchants, and which one should the manager target for expansion?

2. How to identify valuable customers in the FGP loyalty program?

3. How do we determine customer churn rate from the loyalty program?
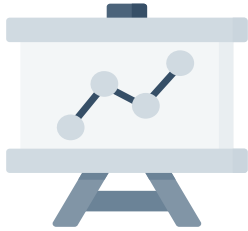
XICHEN

03

Methodologies

FAIYAM
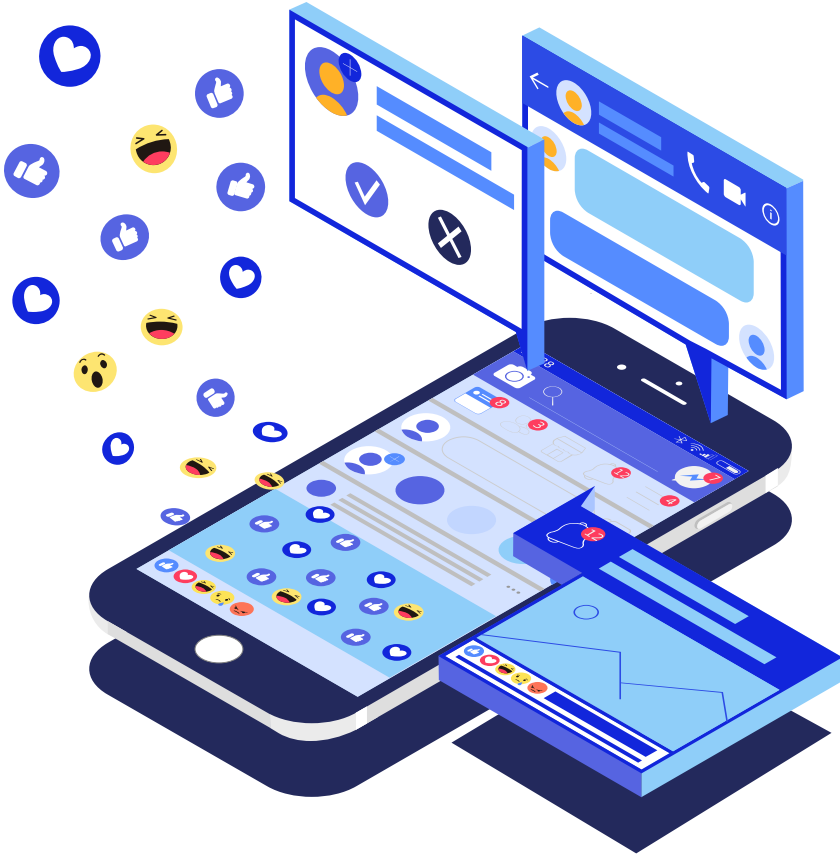
Data Exploration

- FGP Program consists of 1,995 customers
- Surveyed for initial data findings and exploration
- Situated in Asia
- Age between 19 and 84 inclusive
- Customers were asked to complete a survey as a prerequisite
- Redeem and purchase records were collected as well

FAIYAM

Data Analysis and Interpretation

Linear Regression

Conducted to determine ceteris paribus relationship between dependent variable and independent variables
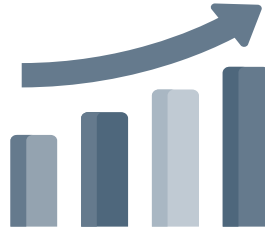
RFM and CLV

To investigate the most valuable customers based off the RFM scores CLV is used to analyse customer loyalty in the long-term
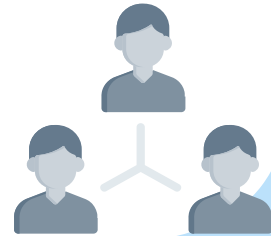
Cluster Analysis

Segments customers and indicates heterogeneity, allowing us to cluster group based on satisfaction with program

FAIYAM

04
Results

Answering the Managerial Problems that FGP is experiencing

FAIYAM

Research Question 1

What are the performances of the 3 merchants and which one should the manager target for expansion?

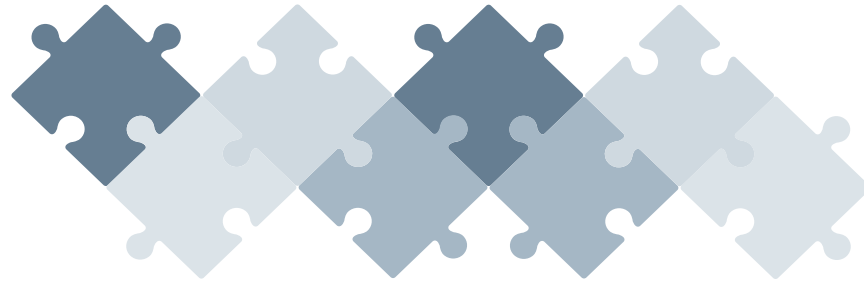FAIYAM

Multiple Linear Regression

Data Discoveries

Sat_Program vs Sat_Petrol + Sat_FastFood + Sat_Grocery:

Petrol chain - highest estimated coefficient of 0.73.

All variables had p-value < 0.05, hence statistically significant

R-squared value of 0.43. Hence, 43% variation explained by independent variables

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Binary Logistic Regression

Data Discoveries

Act_16 vs Sat_Program + Sat_Food + Sat_Petrol + Sat_Grocery + NetPromoter + Gender_F + Race1 + Race2 + Car + CCard + CityA + CityB + CityC + CityD + CityE + CityF:

Key findings:

- Sat_Program and Sat_FastFood were the only significant variables between the 3 merchants
- Once again, the petrol chain has the largest effect, this time on customer activeness in 2016
- Other noteworthy variables were NetPromoter and Gender_F
- In terms of customer's personal factors:
    - Need to target customers possessing a car and credit card
    - Focus on CityD more, compared to other demographics

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Research Question 2

How to identify valuable customers in the FGP loyalty program?

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Recency, Frequency, Monetary (RFM)

Recency

The time interval since the consumer's last purchase

Recency	R-Score
January-March, 2015	1
April-June, 2015	2
July-September, 2015	3
October-November, 2015	4
December, 2015	5

Frequency

Purchases number made by the consumer in a particular time period.

Frequency	F-Score
0-25	1
26-50	2
51-75	3
76-100	4
>100	5

Monetary

Total amount that the customer spent on the FGP Program in a certain period

Monetary	M-Score
0-100	1
101-200	2
200-1000	3
1000-2000	4
>2000	5

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Recency, Frequency, Monetary (RFM)

- The mean of RFM score is 7.76.
- The customer ID of 23 customers with the highest RFM scores (15)

MemberID	Total RFMScore
10172519455	15
10173159205	15
10173322855	15
10173998455	15
10176477805	15
11249539555	15
11250732655	15
11250866155	15
11253707905	15
11254145605	15
11263879405	15

MemberID	Total RFMScore
11267456755	15
11277927355	15
11278394155	15
11282767105	15
11286420355	15
11299664605	15
11313296605	15
11752046455	15
11752369255	15
11755510705	15
11761623205	15

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Customer Lifetime Value (CLV)

$$CLV = \frac{(1+r)}{(1+p+r)}(R-C) - A$$
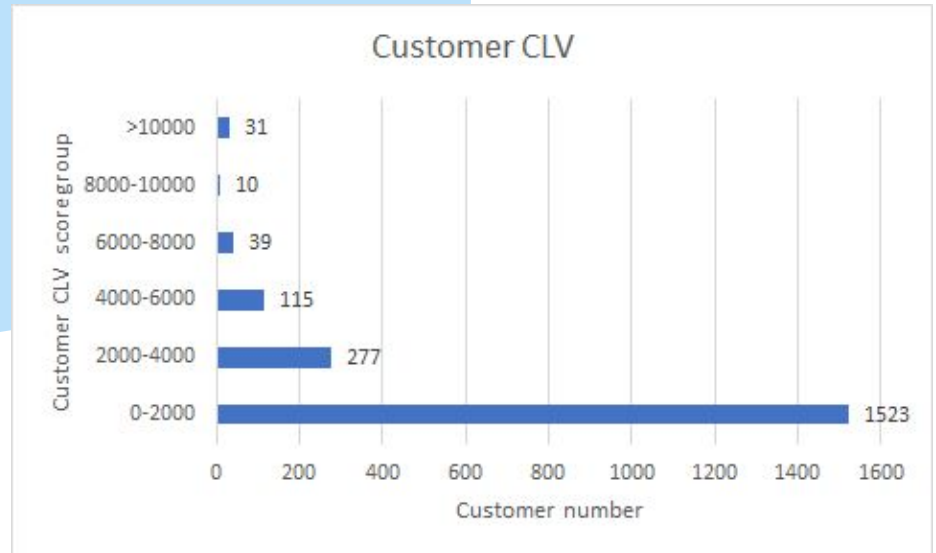
- **r =** discount rate, we assumed 15%

- **p =** retention rate, (1499/1995=0.75)

- **R =** revenue, we summary each customer spending amount

- **C =** cost, we assumed 0

- **A =** acquisition cost, we assumed 0

Customer Lifetime Value (CLV)

Key findings:

- **The mean of CLV score is is 1650.01**
- **The maximum CLV score is 81362.5 while the minimum score is 3.54**
- **31 customers with a CLV score of more than 10,000 and consider them as the most valuable customers**

Customer CLV

Customer CLV score group	Customer number
>10000	31
8000-10000	10
6000-8000	39
4000-6000	115
2000-4000	277
0-2000	1523

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Cluster Analysis

Key findings:

- **Customers aged 43-48 years old which account for around 67% of all segments.**
- **Customers of the four market segments mainly originate from CityA.**

Row Labels	Sum of CityA	Sum of CityB	Sum of CityC	Sum of CityD	Sum of CityE	Sum of CityF
Segment 1	236	55	84	47	28	29
Segment 2	138	60	58	57	51	46
Segment 3	104	60	37	50	31	26
Segment 4	36	40	16	33	38	31
Grand Total	514	215	195	187	148	132

- **Segment 4 has the highest satisfaction with the program (9.31) and is the most likely to recommend the program (8.63)**

| Row Labels	Average of Sat_Program	Average of Sat_FastFood	Average of Sat_Petrol	Average of Sat_Grocery	Average of NetPromoter
Segment 1	7.257142857	8.70075188	7.479699248	6.102255639	7.142857143
Segment 2	5.924920128	6.07028754	7.53514377	6.276357827	3.591054313
Segment 3	7.843902439	6.987804878	8.631707317	7.317073171	5.648780488
Segment 4	9.31292517	6.476190476	9.816326531	8.5	8.629251701
Grand Total	7.262656642	7.195488722	8.078195489	6.759899749	5.940350877

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Research Question 3

How do we determine customer churn rate from the loyalty program?

Customer Purchase Rate

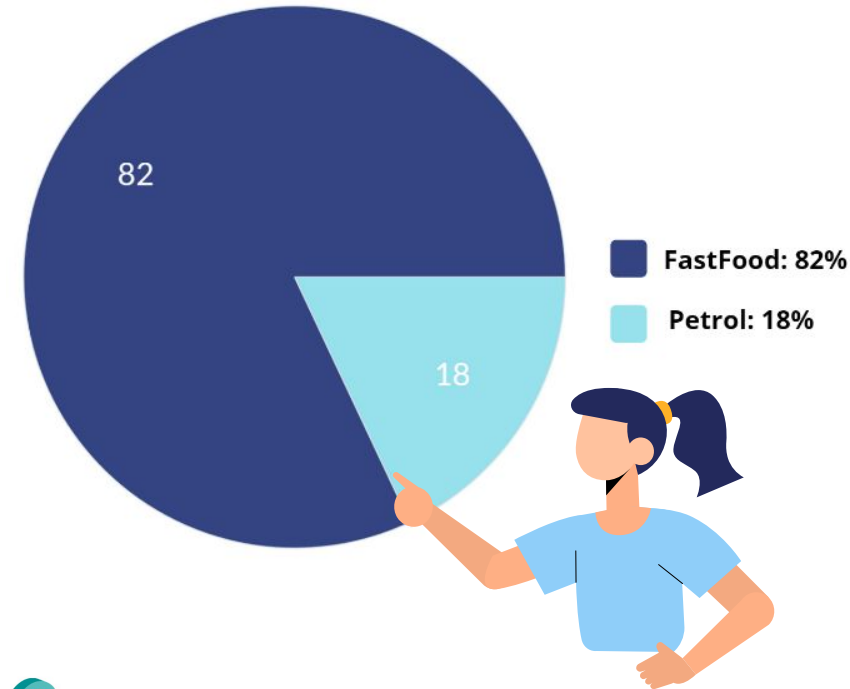Petrol: 78%

FastFood: 14%
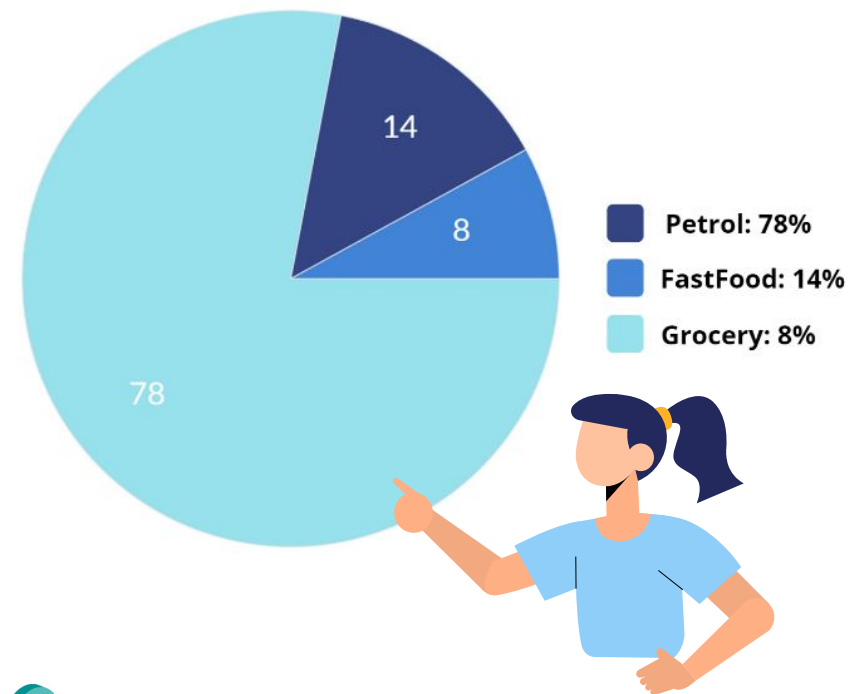
Grocery: 8%

After surveying the customers we have obtained data that shows:

- Petrol purchase rate of 78% (the highest)
- Fast food purchase rate of 14%
- Grocery purchase rate of 8%

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Customer Redemption Rate

82

18

- FastFood: 82%
- Petrol: 18%

Redemption records will give us a better understanding of the customers who remain loyal and others who churn:

- Fast food redemption rate of 82%
- Petrol redemption rate of 18%
- 0% for Grocery chain

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05 (1)
Recommendations

Recommendations for the promotion of the FGP program

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Managerial Recommendations

Customer Personalisation

Improving Customer Satisfaction through Personalisation

Customer Incentivisation

Incentivising Customers via reward based referral programs to promote WOM

Redistribution of Costs

Redistribute costs of the Loyalty Program to promote healthy internal competition

Customer centric strategies to improve brand loyalty, strategically expanding the loyalty program while reducing the churn rate

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05 (2)
Limitations

Limitations we encountered during our analysis of FGP

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Limitations of our Study

Small Data Sample Size
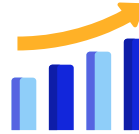
1995

Decreased Statistical Power

Time Frame

2015-16

Limited Understanding of Data

R-Squared Values

R-Squared

Potentially Misleading R-Squared Values

Missing Data

44 Null

Null Responses in BirthYear

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06

Conclusion

Overarching Approach to FGP's Loyalty Program Expansion

Target Petrol and Fast food Sales

Customers that own a Car, credit card and CityD least likely to Churn

43-48 Year Old Males from CityA should be targeted

3 Key areas of Focus for Jennifer to focus on when expanding the Customer Loyalty program

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Thank You for listening to our presentation!

4x Marketing Consultants

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