

# Marketing Analytics for FGP Customer Loyalty Program: Brief

## Background

The FGP customer loyalty program<sup>①</sup> is a program run in an Asian country. It consists of three merchant members, a fast food chain (F), a grocery store chain (G), and a petrol station chain (P). The three merchant members are independent firms, but they form a league via this customer loyalty program. That is, a customer who joins the FGP loyalty program will be rewarded 1 point for each dollar she spends at any of the three firms, and each reward point is worth \$0.01 and can be redeemed from any of the three firms. The three firms believe this program can create more value for their customers and therefore the customers will become more loyal.

The three firms hired a third party to run the program for them, and the FGP program has run well in the past 8 years. Jennifer, the loyalty program manager, is ambitious and is considering expanding the loyalty program to attract more customers and additional merchant members. But she also needs to deal with some complaint from the existing merchant members. For example, her assistant told her that one merchant member manager thought his firm is a lot more important to customers than the other two firms; therefore the other two firms should compensate by sharing more costs of the loyalty program operations.

Although the potential problems have not become serious issues yet, Jennifer knows that it is critical to pre-empt these problems. At the same time, she needs insights to guide her expansion plan and evidence to persuade the current three merchant members (that they will benefit more from the loyalty program with the expansion). Therefore, Jennifer hired your team to study the data from the past operations and find out insights and evidence for her. Based on Songting's suggestion, Jennifer has also conducted a survey and studied customers' satisfaction towards the FGP loyalty program and its merchant members, and their willingness to recommend the FGP loyalty program to their friends or colleagues. This set of survey data has also been provided to you.

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<sup>①</sup> This project is based on real business context, but the nature of the program and merchant members has been disguised and the dataset has been re-generated to remove any private or sensitive information.

## Manager's Questions

To address her managerial needs, Jennifer believes the answers to the following two questions will be very helpful.

- How to estimate the value of a customer in the loyalty program, predict if a customer will churn, and manage the customers accordingly?
- How to estimate and justify the value of the loyalty program to each merchant member?

Obviously, both questions are based on a thorough understanding and analysis of the customers' behaviour embedded in the dataset. However, due to the length of the report, your team is expected to focus on ONE question and provide analytical insights to help managers make informed decisions.

- If you focus on the first question, you will likely direct your effort to understand customer behaviour at the individual level, find out the heterogeneity among them, and make justified suggestions based on these insights.
- If you focus on the second question, you will likely direct your effort to analyse customer behaviour at the aggregate level, study the performance of the three merchants from different aspects, and develop reasoned measures to help with the justification.

Alternatively, if your team has another angle which can also help with Jennifer's managerial needs, you are more than welcome to do this project focusing on that angle.

## Dataset Description

The dataset provided to you consists of 1,995 customers. There are 3 worksheets in the Excel data file, and the data items are described below.

### Sheet "customers"

This sheet has the data on customer characteristics and their opinions learnt from the survey. The data items include:

- MemberID (a unique ID for each customer)
- Gender ("F"=Female, "M"=Male)
- Race ("RACE1", "RACE2", "OTHER")
- OwnCar ("Y"=Yes, "N"=No)
- OwnCreditCard ("Y"=Yes, "N"=No)
- HomeCity ("CityA" ~ "CityG")
- BirthYear (the year of birth)
- RegisterDate (registration date)

- Active2015 (whether this customer is active in 2015, “Y”=Active, “N”=Not active)
- Active2016 (whether this customer is active in 2016, “Y”=Active, “N”=Not active)
- Sat\_Program (survey question: “How satisfied are you with this loyalty program?” Rating: 1 ~ 10, where 1 means “very unsatisfied”, and 10 means “very satisfied”)
- Sat\_FastFood (survey question: “How satisfied are you with this fast food chain?” Rating: 1 ~ 10, where 1 means “very unsatisfied”, and 10 means “very satisfied”)
- Sat\_Grocery (survey question: “How satisfied are you with this grocery store chain?” Rating: 1 ~ 10, where 1 means “very unsatisfied”, and 10 means “very satisfied”)
- Sat\_Petrol (survey question: “How satisfied are you with this petrol station chain?” Rating: 1 ~ 10, where 1 means “very unsatisfied”, and 10 means “very satisfied”)
- NetPromoter (survey question: “How likely is it that you would recommend this loyalty program to a friend or a colleague?” Rating: 0 ~ 10, where 0 means “not at all likely”, and 10 means “extremely likely”. Tip: check how net promoter score is calculated and utilized in practices.)

#### Sheet “purchase records”

This sheet has the customers’ purchase records, and each record has the following items:

- SalesID (a unique ID for each sales record)
- MemberID (the customer who made this purchase; it matches MemberID in the “customers” sheet)
- SalesAmt (sales amount in dollar value)
- PointReward (points rewarded. \$1 spending leads to 1 point reward.)
- SalesFirm (the firm where the purchase was made)
- SalesDate (sales date)

#### Sheet “redeem records”

This sheet has the customers’ point-redemption records, and each record has the following items:

- RedeemID (a unique ID for each point-redemption record)
- MemberID (the customer who made this redemption; it matches MemberID in the “customers” sheet)
- RedeemFirm (the firm where the redemption is made)
- RedeemPoint (number of points redeemed; each 1 point is worth \$0.01)
- RedeemDate (redeem date)