

1. Database

| member_number | membership_type | family_name | year_joined | total_members | total_spending | total_visits | promo1 | promo2 | dining_total_spendi... | dining_total_visi... | golf_total_spendi... | golf_total_visits | c |
|---------------|-----------------|-------------|-------------|---------------|----------------|--------------|--------|--------|------------------------|----------------------|----------------------|-------------------|---|
| 102365 | Family | Hancock | 2006 | 3 | 8735.51 | 53 | 0 | 1 | 3312.05 | 23 | NULL | NULL | 2 |
| 105078 | Family | Spears | 2002 | 2 | 8071.73 | 43 | 1 | 0 | 4728.73 | 32 | NULL | NULL | 1 |
| 106225 | Family | Foster | 1995 | 6 | 1239.06 | 8 | 0 | 0 | 1239.06 | 8 | NULL | NULL | 1 |
| 109320 | Individual | Williamson | 1992 | 1 | 5424.58 | 32 | 1 | 0 | 5424.58 | 32 | NULL | NULL | 1 |
| 112823 | Family | Deleon | 2010 | 4 | 12171.35 | 31 | 0 | 1 | 1421.67 | 10 | NULL | NULL | 4 |
| 116919 | Individual | Wiggins | 2001 | 1 | 10057.66 | 64 | 0 | 0 | 2111.90 | 17 | 5335.76 | 20 | 1 |
| 120189 | Family | Anderson | 1988 | 2 | 1866.45 | 24 | 0 | 0 | 281.45 | 3 | NULL | NULL | 1 |
| 121621 | Couple | Spears | 2008 | 2 | 15939.50 | 95 | 1 | 0 | 6266.41 | 43 | 6013.09 | 17 | 1 |
| 124368 | Individual | Golden | 1996 | 1 | 8283.54 | 57 | 1 | 0 | 5550.13 | 37 | 2145.71 | 18 | 5 |
| 126871 | Individual | Melton | 1991 | 1 | 11096.54 | 67 | 1 | 0 | 6076.54 | 43 | 5020.00 | 24 | 1 |
| 129169 | Couple | Carroll | 2016 | 2 | 7322.16 | 52 | 0 | 0 | 4285.46 | 30 | 1978.70 | 17 | 1 |
| 131644 | Family | Sims | 2008 | 2 | 13585.50 | 78 | 0 | 0 | 4290.76 | 28 | 2244.74 | 19 | 1 |
| 133532 | Family | Lawson | 2002 | 4 | 10437.30 | 60 | 0 | 1 | 2622.69 | 19 | NULL | NULL | 4 |
| 134985 | Family | Mills | 1988 | 4 | 9563.78 | 59 | 1 | 1 | 3927.30 | 25 | NULL | NULL | 3 |
| 138347 | Family | Sutton | 1992 | 4 | 1696.05 | 11 | 0 | 0 | 577.26 | 5 | NULL | NULL | 1 |
| 142270 | Family | Atkinson | 1996 | 3 | 500.00 | 2 | 0 | 0 | NULL | NULL | NULL | NULL | 1 |
| 146287 | Family | Sullivan | 1989 | 5 | 3294.60 | 19 | 0 | 0 | 2461.60 | 16 | NULL | NULL | 1 |
| 148621 | Family | McLaughlin | 1988 | 4 | 5841.85 | 36 | 1 | 0 | 5841.85 | 36 | NULL | NULL | 1 |
| 152014 | Family | Burns | 1996 | 5 | 9094.12 | 18 | 0 | 1 | 1909.71 | 13 | NULL | NULL | 3 |
| 155249 | Individual | Arnold | 1995 | 1 | 7168.16 | 41 | 0 | 0 | 1665.66 | 14 | 4965.75 | 22 | 5 |
| 159968 | Retiree | Serrano | 1990 | 2 | 9439.81 | 61 | 1 | 0 | 3370.48 | 24 | 3951.11 | 34 | 2 |
| 161738 | Couple | Dickson | 2011 | 2 | 6313.49 | 40 | 0 | 0 | 2761.49 | 19 | NULL | NULL | 1 |
| 162946 | Retiree | Mercado | 1998 | 1 | 9544.48 | 73 | 1 | 0 | 3014.57 | 20 | 2793.14 | 24 | 2 |
| 165724 | Family | Robbins | 1996 | 3 | 4386.44 | 29 | 1 | 0 | 4386.44 | 29 | NULL | NULL | 1 |
| 167379 | Family | Summers | 2016 | 5 | 11348.95 | 42 | 0 | 1 | 2968.84 | 20 | NULL | NULL | 1 |

| ... | golf_total_spendi... | golf_total_visits | other_total_spendi... | other_total_visits | pool_total_spendi... | pool_total_visits | total_sepcial_attend... | tennis_total_spendi... | tennis_total_visits |
|---------|----------------------|-------------------|-----------------------|--------------------|----------------------|-------------------|-------------------------|------------------------|---------------------|
| NULL | NULL | 2152.46 | 12 | 3271 | 18 | 2 | NULL | NULL | |
| NULL | NULL | NULL | NULL | 3343 | 11 | 1 | NULL | NULL | |
| NULL | NULL | NULL | NULL | NULL | NULL | 2 | NULL | NULL | |
| NULL | NULL | NULL | NULL | NULL | NULL | 1 | NULL | NULL | |
| NULL | NULL | 4661.68 | 7 | 6088 | 14 | 1 | NULL | NULL | |
| 5335.76 | 20 | NULL | NULL | 1100 | 8 | NULL | 1510 | 19 | |
| NULL | NULL | NULL | NULL | NULL | NULL | 1 | 1585 | 21 | |
| 6013.09 | 17 | NULL | NULL | 1780 | 12 | 2 | 1880 | 23 | |
| 2145.71 | 18 | 587.70 | 2 | NULL | NULL | 3 | NULL | NULL | |
| 5020.00 | 24 | NULL | NULL | NULL | NULL | 3 | NULL | NULL | |
| 1978.70 | 17 | NULL | NULL | 1058 | 5 | NULL | NULL | NULL | |
| 2244.74 | 19 | NULL | NULL | 5280 | 8 | 4 | 1770 | 23 | |
| NULL | NULL | 4057.61 | 7 | 1992 | 12 | 3 | 1765 | 22 | |
| NULL | NULL | 3866.48 | 10 | NULL | NULL | 2 | 1770 | 24 | |
| NULL | NULL | 1118.79 | 6 | NULL | NULL | 2 | NULL | NULL | |
| NULL | NULL | NULL | NULL | 500 | 2 | 4 | NULL | NULL | |
| NULL | NULL | NULL | NULL | 833 | 3 | 4 | NULL | NULL | |
| NULL | NULL | NULL | NULL | NULL | NULL | NULL | NULL | NULL | |
| NULL | NULL | 3084.41 | 3 | 4100 | 2 | 1 | NULL | NULL | |
| 4965.75 | 22 | 536.75 | 5 | NULL | NULL | 1 | NULL | NULL | |
| 3951.11 | 34 | 2118.22 | 3 | NULL | NULL | 1 | NULL | NULL | |
| NULL | NULL | NULL | NULL | 3552 | 21 | 3 | NULL | NULL | |
| 2793.14 | 24 | 2126.77 | 11 | NULL | NULL | 1 | 1610 | 18 | |
| NULL | NULL | NULL | NULL | NULL | NULL | 3 | NULL | NULL | |
| NULL | NULL | 1872.11 | 10 | 6508 | 12 | 3 | NULL | NULL | |

2. Analytical Queries

#potential promotion design

```
select membership_type, dining_total_spending/dining_total_visits as dining_SpendPerVisit,
golf_total_spending/golf_total_visits as golf_SpendPerVisit,
other_total_spending/other_total_visits as other_SpendPerVisit,
pool_total_spending/pool_total_visits as pool_SpendPerVisit,
tennis_total_spending/tennis_total_visits as tennis_SpendPerVisit
from club_membership_summary
where promo1 = 0 and promo2 = 0 #customers who did not sign up for promo1 or promo2
group by membership_type;
```

#assume that promo2 is targeting miscellaneous activities

| membership_type | dining_SpendPerVisit | golf_SpendPerVisit | other_SpendPerVisit | pool_SpendPerVisit | tennis_SpendPerVisit |
|-----------------|----------------------|--------------------|---------------------|--------------------|----------------------|
| Family | 154.882500 | NULL | NULL | NULL | NULL |
| Individual | 124.229412 | 266.788000 | NULL | 137.5000 | 79.4737 |
| Couple | 142.848667 | 116.394118 | NULL | 211.6000 | NULL |
| Retiree | 157.561250 | 244.029677 | NULL | NULL | 76.0000 |

Finding:

design a promotion to target the tennis customer since it has the lowest spend per visit

design a promotion to attract family-type member to visit golf course

#Summarize the characteristic of each membership type

```
SELECT membership_type, COUNT(*) AS number_in_each_type,
AVG(total_spending) AS average_purchasing_power, SUM(total_spending) AS total_purchasing_power,
AVG(total_visits) AS average_visit, SUM(total_visits) AS total_visit
FROM club_membership_summary
GROUP BY membership_type;
```

| | membership_type | number_in_each_type | average_purchasing_power | total_purchasing_power | average_visit | total_visit |
|---|-----------------|---------------------|--------------------------|------------------------|---------------|-------------|
| ► | Family | 600 | 6968.206267 | 4180923.76 | 38.1133 | 22868 |
| | Individual | 298 | 7704.574732 | 2295963.27 | 54.3255 | 16189 |
| | Couple | 221 | 10376.879819 | 2293290.44 | 71.5747 | 15818 |
| | Retiree | 90 | 8006.539111 | 720588.52 | 54.6111 | 4915 |

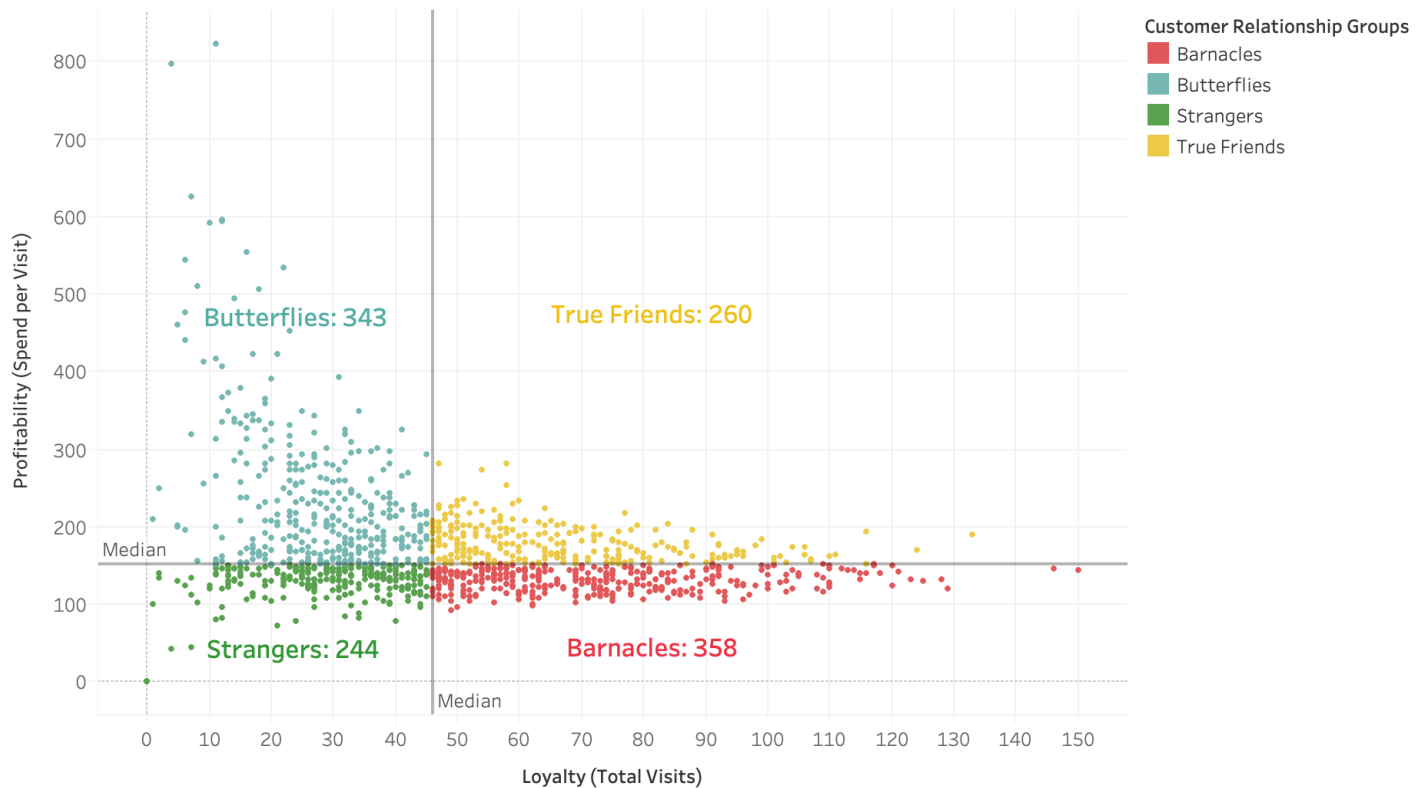
Finding:

Family is the largest group, but couples are the group which has the largest purchasing power.

For existing customers, we could try to do some activity to motivate and increase family's spending. For potential customers, we would try to attract more couples.

3. Visualizations Based on Data Warehouse with Tableau

Customer Relationship Groups (True Friends, Butterflies, Barnacles, Strangers)

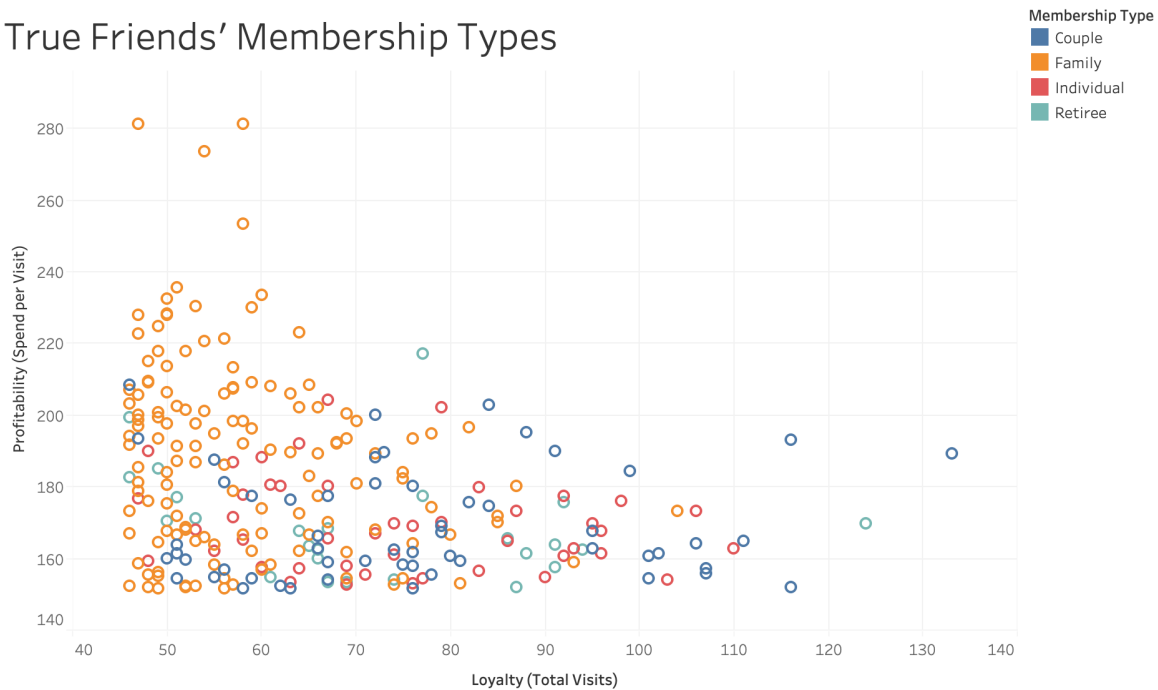


The club manager can classify customers into 4 groups based on their potential profitability (In this database, we only have revenue but no cost so it is difficult for us to know the profit, but we still can use the revenue to somehow predict it) and manage their relationships accordingly.

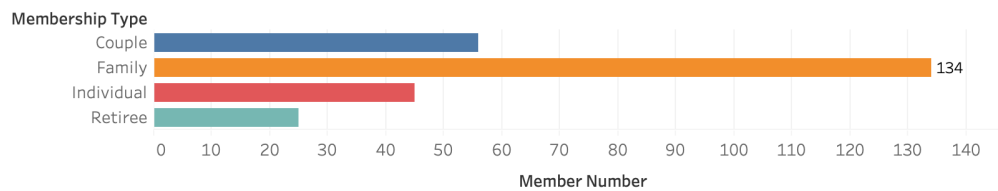
For example, true friends are customers who are highly profitable (spend per visit ≥ 151.5) and also very loyal (total visit ≥ 46). The club should treat them well and retain the relationship with them.

There are also butterflies, which are highly profitable but relatively low loyal; Barnacles stands for lower profitable but loyal customers; At last, strangers are those lower profitable and low loyal customers.

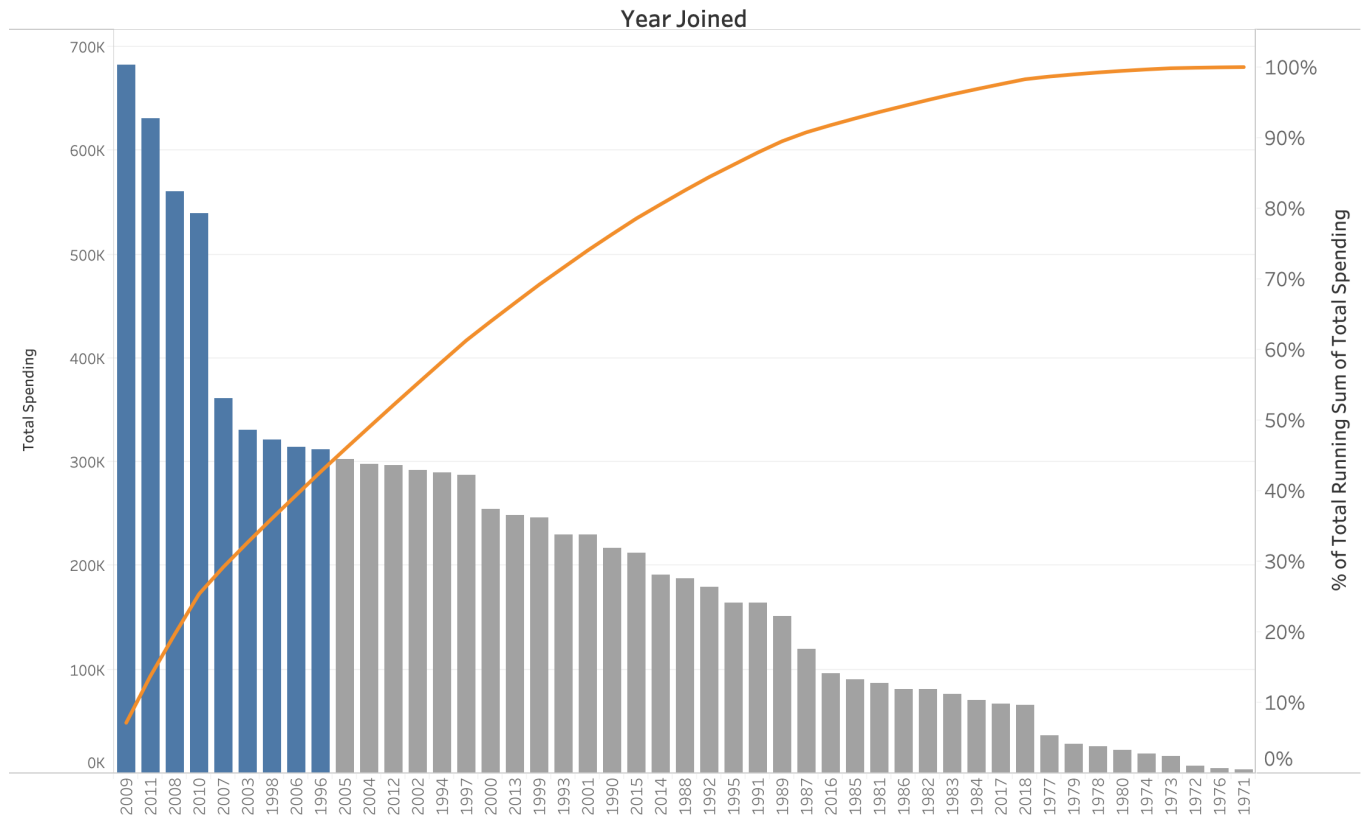
True Friends' Membership Types



True Friends' Membership Count

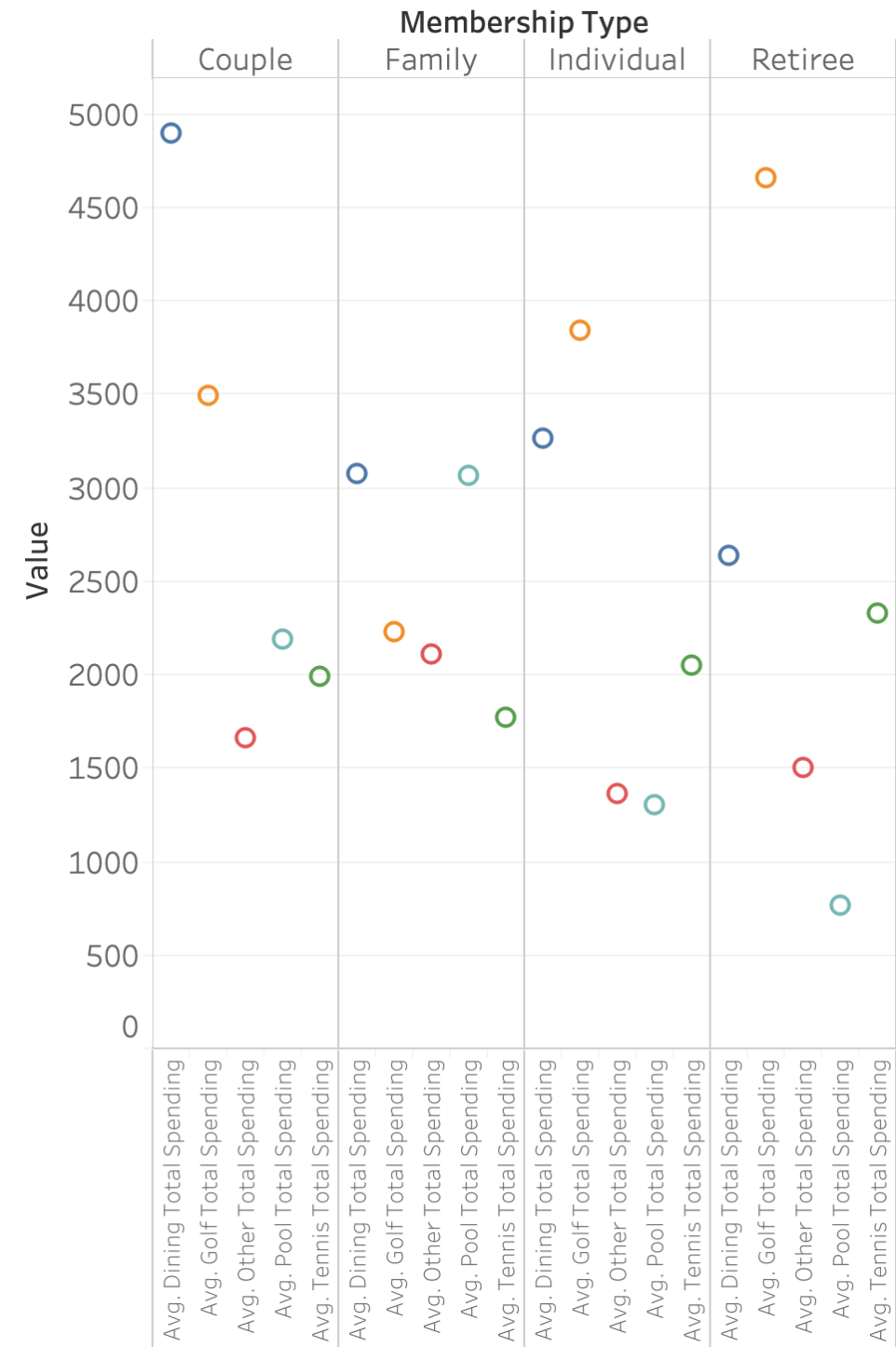


As we dive more into the true friends' segment, we find out that family members have the largest portion, which is over 50%. So, interns of the result, the club should delight those family members and maintain a good relationship with them.



From the above **Pareto Chart**, we can see that country club's most valuable (from the top to lower) customers groups are customers who joined in 2009, 2011, 2008, 2010, 2007, 2003, 1998, 2006, 1996, which contribute 42.71% of the entire total spending.

4. Recommendations for potential marketing targets.



Recommandation#1: Based on the graph above, family members who spend a lot of money on pool are most likely to also spend money on dining and other events (ski_club, education_series, etc.) instead of non-family activities.

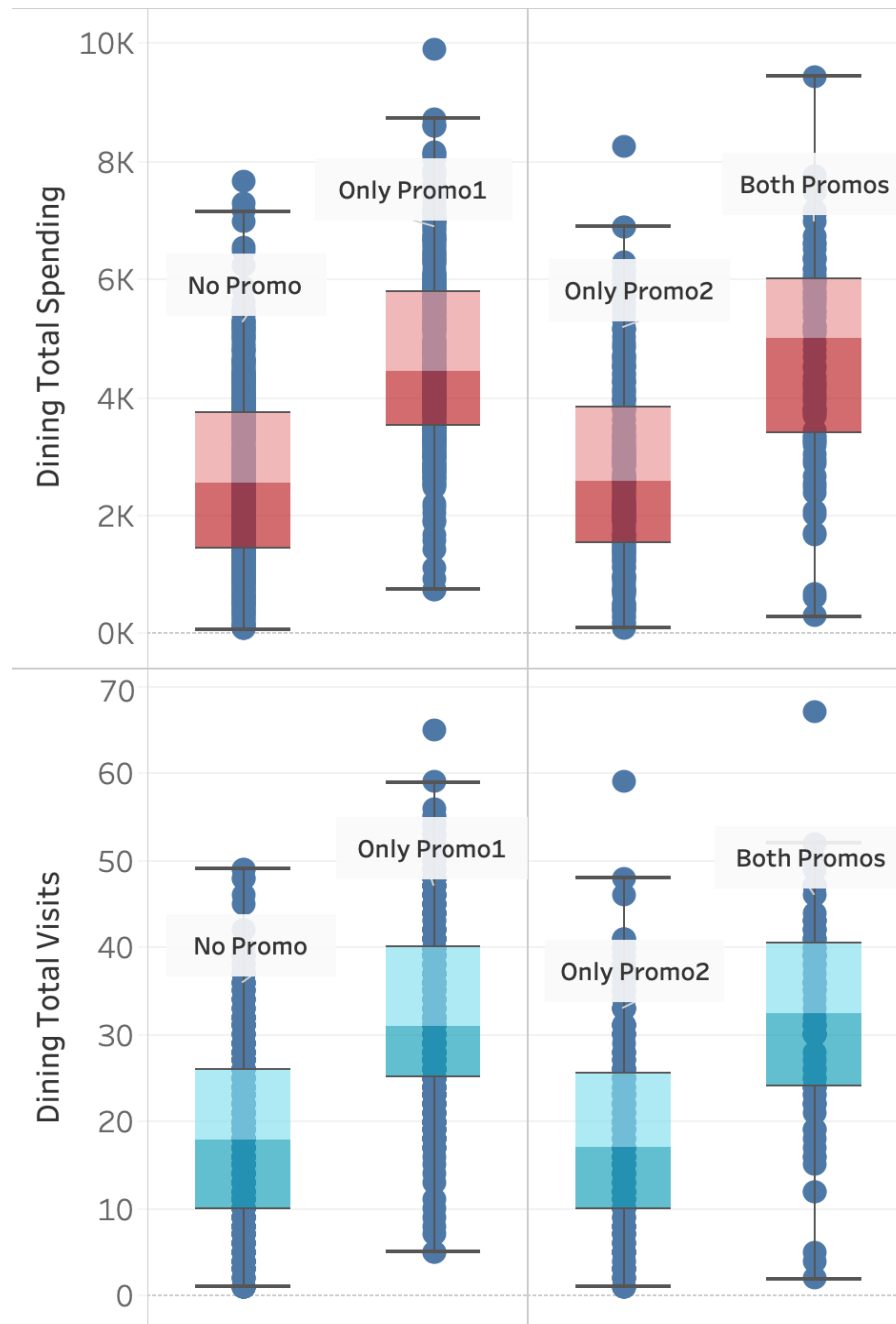
Description#1: Family members tend to join events (pool, ski_club, eating) in which all family members can participate together. So Blue Hill CC can consider provide more promotions on pool for family members

Recommandation#2: Based on the same graph above, members (Individual, Couple and Retiree) who do not have children to take care of, are most likely to spend on Golf.

Description#2: Adults more tend to Golf. However, young children prefer pools instead of Golf. So Blue Hill CC can consider provide more promotion on Golf for Individual, Couple and Retiree members

5. The nature of Promo1 and Promo2

Promo 1 is related to dining. It increases the total dining revenue and total dining visits.



Promo 2 is related to “other” (miscellaneous activities). It increases the total miscellaneous activities revenue and total miscellaneous activities visits.

