**Selling in the new normal: How personalization, loyalty programs, and client lifetime value are changing business.**

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The explosive growth of e-commerce has changed the nature of what it means to be in a retail business. Retail e-commerce worldwide is expected to grow from 3.6 trillion dollars in 2019 to over 6.5 trillion by 2023. (Sabanoglu, 2020) Organizations must adapt to e-commerce and online sales as the new normal. Adapting means creating a personalization strategy, a client loyalty program, and looking at the business through the lens of customer lifetime value, instead of a transaction-based view.

To prove the value of these concepts, a hypothetical data set will be analyzed to show what can happen if personalization, loyalty programs and CLV are used.

**Understanding the terms**

In some respects, personalization is taking the place of the clerk who would walk up to you while you were shopping in a store, found out what you were interested in, and then brought out those items for you to choose from. For a company looking to increase online sales, a personalization strategy is replacing the clerk. Personalization is defined as using the data the company has already collected to create tailored, relevant, offers and promotions. Studies are showing that this level of personal touch is what online consumers want. Salesforce corporation surveyed 6700 businesses and consumers and found fifty nine percent of consumers want personalized engagement and feel it is very important to the company earning their business. (Salesforce, 2018 Pg 11) By adopting a personalization strategy, we are giving new customers want they are looking for, and giving existing customers what they expect from companies today. Having a good personalization strategy can lead to a thirty eight percent increase in the sales of a particular product (John et al, 2018 Sec on trust para 3) as well as increasing the return on marketing investment.

Coupling a strong personalization strategy to a loyalty or rewards program can help cement existing relationships as well as increase sales. In terms of sales increase, the average is between 12 and 18 percent annual revenue growth over nonmembers (Wollan et. Al, 2017 pg 3). Thirty nine percent of the time, members of loyalty programs will spend more, even when there are cheaper alternatives. (Bitran 2017 para 9) Loyalty programs can drive repeat business over time as well, with seventy nine percent of consumers saying that the program makes them more likely to continue to do business with the company. (Bond, 2019 pg 4) The link between personalization and loyalty programs is found in the loyalty study done by the Bond company. The study was comprised of 50,000 consumers reviewing 800 programs across 15 industrial sectors with 50 attributes common to rewards programs. The survey discovered that seventy one percent of respondents felt that loyalty programs were a meaningful part of the relationship they have with the brand. (Bond, 2018 pg 4)

The research shows that a program that is easy to use, does not require the downloading of an app or going to a website are all preferred by users. Options on how a reward can used is also important to users of loyalty programs. A well-designed program with a personalization strategy will help grow new and existing business over the long term.

The last term to discuss is the concept of customer lifetime value or CLV. There are two types of CLV, historical and predictive. Both have the same goal, which is to measure of the value of a customer in terms of total purchases over a given period. Historical CLV can be simple to calculate. Suppose a customer spends $1,000 a year, and has for the past ten years with a cost of service of $100 a year. This customer would have a CLV of $9,000 ($1,000 in sales - $100 in costs x 10 years).

Predictive CLV uses various data modeling programs and variables to determine the future value of a client. Predictive CLV can also measure the non-revenue impact of a particular customer, such as referrals and social media reviews. The biggest benefit to using either type of CLV is that it changes the view of the organization from one focused on transactions to one focused on relationships. The better job done personalizing the experience, the more involve on a relationship level the company can become, the better the CLV.

**Proving Personalization, Loyalty and CLV**

To prove the hypothesis that personalization, a customer loyalty program, and CLV can increase profits, a dataset was created. The hypothetical dataset is from an online clothing company and includes fifteen categories related to customer behavior, and fifteen related to product lines. The data includes 28,799 records, separated into demographic clusters. The goal of the project is to increase sales and profits by using more effective marketing, as well as find insights on how to best predict future sales.

The first step was to review the entire data set, and determine what was important and what was not. It was decided that the data on what was purchased was not important, because there is no real correlation between the product lines. The hypothesis is that *sales will increase*, not that sales *will increase in the various product lines.* The focus is on increasing overall sales and profits.

Certain variables were renamed for clarity. The variable FRE was renamed to PURCH\_VISITS. This helps clarify what the data is reporting. ARVG was renamed to SPEND\_PER\_VISIT, and MON was changed to CLV, since the variable is measuring the total spent over the period. Reviewing the results in figure 1, we can see that, based on the range, we have some high value clients in terms of CLV. The customer base has an average of 5 purchase visits spending between $26.61 and $200.57 per visit. Profit margins vary but on average the margin (GMP) is 52%

There are two major weak points with the data. First the lack of a normal distribution in any of the variables will make getting a solid predictive model difficult. Second, there is no time reference. If the data had a period, true predictive modeling could be done.

**Table 1**

*Descriptive Statistics for the Dataset*

| **Variable** | **N** | **Sum** | **Mean** | **Std Dev** | **Range** | **Minimum** | **Maximum** | **Skewness** | **Kurtosis** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CLV PURCH\_VISITS SPEND\_PER\_VISIT GMP CC\_CARD DAYS | 28799 28799 28799 28799 28799 28799 | 13628045.73 145119.00 3271229.96 14916.19 11031.00 12582749.00 | 473.21 5.04 113.59 0.52 0.38 436.92 | 659.33 6.35 86.98 0.17 0.49 192.97 | 24139.34 114.00 1919.39 7.45 1.00 716.00 | 0.99 1.00 0.49 -6.46 0.00 1.00 | 24140.33 115.00 1919.88 0.99 1.00 717.00 | 7.90 4.11 3.66 -5.90 0.48 -0.24 | 158.34 28.45 32.34 130.27 -1.77 -1.16 |

CC\_card is the variable that describes the way a customer pays. This is an important additional demographic variable that along with the cluster information, helps define the customer.

**Table 2**

*Descriptive statistics for non-credit card purchases*

| **Variable** | **N** | **Sum** | **Mean** | **Std Dev** | **Range** | **Maximum** | **Minimum** | **Skewness** | **Kurtosis** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Tot\_Spend Sales\_per\_Visit Number\_of\_Visits GMPCNT | 17768 17768 17768 17768 | 5210576.58 1943462.52 57424.00 9315.95 | 293.26 109.38 3.23 0.52 | 352.71 83.76 3.63 0.19 | 11229.07 1919.38 84.00 7.35 | 11230.06 1919.88 85.00 0.89 | 0.99 0.50 1.00 -6.46 | 6.24 3.99 5.39 -6.61 | 94.01 41.51 60.15 148.68 |

**Table 3**

*Descriptive statistics for non-credit card purchases*

| **Variable** | **N** | **Sum** | **Mean** | **Std Dev** | **Range** | **Maximum** | **Minimum** | **Skewness** | **Kurtosis** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Tot\_Spend Sales\_per\_Visit Number\_of\_Visits GMPCNT | 11031 11031 11031 11031 | 8417469.15 1327861.70 87695.00 5600.24 | 763.07 120.38 7.95 0.51 | 893.53 91.53 8.38 0.15 | 24135.33 1561.20 114.00 2.98 | 24140.33 1564.51 115.00 0.99 | 5.00 3.31 1.00 -1.99 | 6.82 3.25 3.09 -3.37 | 109.06 21.87 15.94 30.20 |

The data proves that credit card users are a major factor in the business. The picture that emerges is of a customer who is between 35-60, has above average income, a college degree, and children. When the customer uses a credit card, they spend significantly more.

To determine the best approach for a loyalty program several factors were considered, and finally the number of purchase visits was chosen. A study by Yotpo of 2000 consumers pointed out that customers feel loyal to a product or brand after 3 visits. (Yotpo, 2019 para 14) Based on the that information, the data was then divided into two sets- loyalty program, and non-loyalty. The non-loyalty group is made up of customer records where there are less than 3 visits. The loyalty group is made up of customers with over 3 visits.

**Table 4**

*Descriptive statistics for non-loyalty program*

| **Variable** | **N** | **Sum** | **Mean** | **Std Dev** | **Range** | **Minimum** | **Maximum** | **Skewness** | **Kurtosis** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CLV PURCH\_VISITS SPEND\_PER\_VISIT GMP CC\_CARD DAYS | 12903 12903 12903 12903 12903 12903 | 2378349.33 18263.00 1778229.27 6943.22 2593.00 4530201.00 | 184.33 1.42 137.82 0.54 0.20 351.10 | 142.80 0.49 104.42 0.19 0.40 184.92 | 2662.90 1.00 1919.39 7.45 1.00 716.00 | 0.99 1.00 0.49 -6.46 0.00 1.00 | 2663.89 2.00 1919.88 0.99 1.00 717.00 | 3.36 0.34 3.49 -7.53 1.49 0.27 | 22.94 -1.88 26.84 172.53 0.23 -0.95 |

**Table 5**

*Descriptive statistics for Loyalty program*

| **Variable** | **N** | **Sum** | **Mean** | **Std Dev** | **Range** | **Minimum** | **Maximum** | **Skewness** | **Kurtosis** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CLV PURCH\_VISITS SPEND\_PER\_VISIT GMP CC\_CARD DAYS | 15896 15896 15896 15896 15896 15896 | 11249696.40 126856.00 1493000.69 7972.97 8438.00 8052548.00 | 707.71 7.98 93.92 0.50 0.53 506.58 | 805.18 7.32 63.20 0.15 0.50 169.93 | 24133.83 112.00 1562.35 2.64 1.00 683.00 | 6.50 3.00 2.16 -1.86 0.00 19.00 | 24140.33 115.00 1564.51 0.78 1.00 702.00 | 7.01 3.70 2.91 -3.16 -0.12 -0.65 | 119.74 22.32 27.79 23.17 -1.98 -0.72 |

In the two groups, the use of credit cards is still a major driver for sales. In terms of personalization, the organization needs to make sure that the ability to pay by credit card is easy and secure. By putting customer’s minds at ease regarding data security, there should be an increase in credit card use. A breakdown of the two groups shows the impact of credit cards on sales.

**Table 6**

*Breakdown of credit card use in the loyalty group*

| **CC\_CARD** | **Variable** | **N** | **Sum** | **Mean** | **Std Dev** | **Range** | **Minimum** | **Maximum** | **Skewness** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | CLV PURCH\_VISITS SPEND\_PER\_VISIT GMP CC\_CARD DAYS | 7458 7458 7458 7458 7458 7458 | 3480424.47 43033.00 623521.31 3756.04 0.00 3546350.00 | 466.67 5.77 83.60 0.50 0.00 475.51 | 473.11 4.47 56.72 0.16 0.00 165.02 | 11223.56 82.00 813.87 2.64 0.00 672.00 | 6.50 3.00 2.16 -1.86 0.00 30.00 | 11230.06 85.00 816.03 0.78 0.00 702.00 | 5.03 5.11 2.39 -3.21 . -0.36 |
| 1 | CLV PURCH\_VISITS SPEND\_PER\_VISIT GMP CC\_CARD DAYS | 8438 8438 8438 8438 8438 8438 | 7769271.93 83823.00 869479.38 4216.93 8438.00 4506198.00 | 920.75 9.93 103.04 0.50 1.00 534.04 | 962.71 8.66 67.11 0.14 0.00 169.49 | 24130.41 112.00 1561.21 2.24 0.00 683.00 | 9.92 3.00 3.30 -1.51 1.00 19.00 | 24140.33 115.00 1564.51 0.73 1.00 702.00 | 6.70 3.09 3.18 -2.99 . -0.97 |

**Table 7**

*Breakdown of credit card use in the non-loyalty group*

| **CC\_CARD** | **Variable** | **N** | **Sum** | **Mean** | **Std Dev** | **Range** | **Minimum** | **Maximum** | **Skewness** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | CLV PURCH\_VISITS SPEND\_PER\_VISIT GMP CC\_CARD DAYS | 10310 10310 10310 10310 10310 10310 | 1730152.11 14391.00 1319891.21 5559.91 0.00 3560203.00 | 167.81 1.40 128.02 0.54 0.00 345.32 | 122.49 0.49 94.53 0.20 0.00 176.53 | 1918.89 1.00 1919.39 7.35 0.00 716.00 | 0.99 1.00 0.49 -6.46 0.00 1.00 | 1919.88 2.00 1919.88 0.89 0.00 717.00 | 3.32 0.43 4.03 -8.09 . 0.34 |
| 1 | CLV PURCH\_VISITS SPEND\_PER\_VISIT GMP CC\_CARD DAYS | 2593 2593 2593 2593 2593 2593 | 648197.22 3872.00 458338.06 1383.31 2593.00 969998.00 | 249.98 1.49 176.76 0.53 1.00 374.08 | 190.88 0.50 129.74 0.17 0.00 213.56 | 2658.89 1.00 1326.94 2.98 0.00 699.00 | 5.00 1.00 5.00 -1.99 1.00 3.00 | 2663.89 2.00 1331.94 0.99 1.00 702.00 | 2.87 0.03 2.40 -4.09 . -0.01 |

To see the financial impact of the recommended changes, the following assumptions were made:

1. A 25% response rate to the loyalty program request generates 3,974 new members in the loyalty group.
2. A 20% response rate to the loyalty program campaign generates new 2,580 new members in the non-loyalty group.
3. The new members are divided by credit card use, to account for the differences in spending when a credit card is used.
4. New sales amount is calculated by multiplying the spend per visit by the response rate. That figure is then multiplied by the number of sales.
5. The difference in response rate is due to the larger number of already loyal customers in the loyalty group.

**Table 8**

*Financial impact of Loyalty, Personalization and CLV*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Loyalty Program | Total | .25 positive response rate | Spend per Visit | 1 new average sale | 2 new sales | New CLV 1 sale | New CLV 2 sales |
| Credit Card Users | 8,438.00 | 2,109.50 | $ 103.04 | $ 217,362.88 | $ 434,725.76 | $ 7,986,634.11 | $ 8,203,997.69 |
| Non Credit Card Users | 7,458.00 | 1,864.50 | $ 83.60 | $ 155,872.20 | $ 311,744.40 | $ 3,636,296.67 | $ 3,792,168.87 |
| TOTAL | 15,896.00 | 3,974.00 |  | $ 373,235.08 | $ 746,470.16 | $ 11,622,931.48 | $ 11,996,166.56 |
|  |  |  |  |  |  |  |  |
| Non Loyalty Program | Total | .20 positive response rate | Spend per visit | 1 new average sale | 2 new sales | New CLV 1 sale | New CLV 2 sales |
| Credit card users | 2,593.00 | 518.60 | $ 176.76 | $ 91,667.74 | $ 183,335.47 | $ 739,864.96 | $ 831,532.69 |
| Non credit card users | 10,310.00 | 2,062.00 | $ 128.02 | $ 263,977.24 | $ 527,954.48 | $ 1,994,129.35 | $ 2,258,106.59 |
| Total | 12,903.00 | 2,580.60 |  | $ 355,644.98 | $ 711,289.95 | $ 2,733,994.31 | $ 3,089,639.28 |

Using the three programs can lead to a huge impact on the bottom line. Personalization and the loyalty program will work together and help retain customers as well as increase sales over time. In terms of other improvements, adding a time element to the data would be a great upgrade and allow for predictive modeling to be used. In this way the company could forecast demand, and better track all aspects of the operation.

Adding a co-branded credit card to increase sales, and create a new source of data would be useful. By partnering with a financial institution like Capitol One, the company would be able to see where the customer is shopping and where they are shopping. Adding an Amazon style recommendation engine is an excellent way to increase personalization and further increase sales. Lastly, getting a software platform that can handle sentiment analysis so that on line reviews and posts are read and reacted to in near real time to make sure that the company looks responsive would be an excellent way to further sharpen the personalization and user experience.

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