Part 1.

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| --- | --- | --- |
| Losing Interest |  |  |
|  | 10% discount | 20% discount |
| Who purchased games | 20.39% | 48.63% |
| Still playing eight weeks later | 19.23% | 21.54% |
| Total games bought (8 weeks) | 12.89% | 26.21% |
| Total hours played | 11.45% | 17.92% |
| Profit | 19.23% | 16.74% |

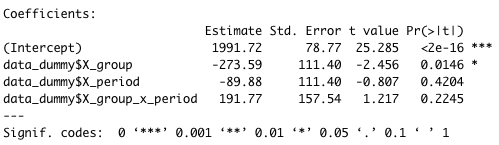
For the segment of customer that is losing interest, I would recommend the 20% discount. There are 28.63% more additional people purchased the game. Most games will have better user experience when it’s more popular. There is 2.21% more people who received 20% discount are still playing eight weeks later. Since there are more than double that of people who received 20% discount bought the games, 2.21% increase in retention rate is significant. The people who receive 20% discount bought more than twice as much game as the people who received a 10% discount. The 20% discounted segment also spent significantly more hours playing. Therefore, it’s obvious that the 20% discount are more effective in stimulating interest for the user who were previously losing interest to the platform. Even though the 20% discount program is slightly less profitable, I will recommend the 20% discount program.

|  |  |  |
| --- | --- | --- |
| Inactive |  |  |
|  | 10% | 20% |
| Who purchased games | -3.48% | 63.07% |
| Still playing eight weeks later | -4.07% | 4.65% |
| Total games bought (8 weeks) | -0.25% | 51.99% |
| Total hours played | -5.73% | 95.90% |
| Profit | -1.84% | -1.05% |

The 10% discount program is obviously not effective - it performed worse than the control group in all respects by small margin. The 20% discount perform significantly better than the control group with the cost of a small loss in profit. I will recommend the 20% discount program since it’s obviously effective in bringing users back to the platform.

Part2

Unit Sales



From the regression analysis, it looks when there is promotion, the unit sales will goes down by 273.59 units. Also, based on this regression analysis, we cannot draw a conclusion on the relationship between unit sales vs period variable and unit sales vs promotion during the treatment period.

Then, I included more independent variables and found the following variables have statistically significant relationships with unit sales:

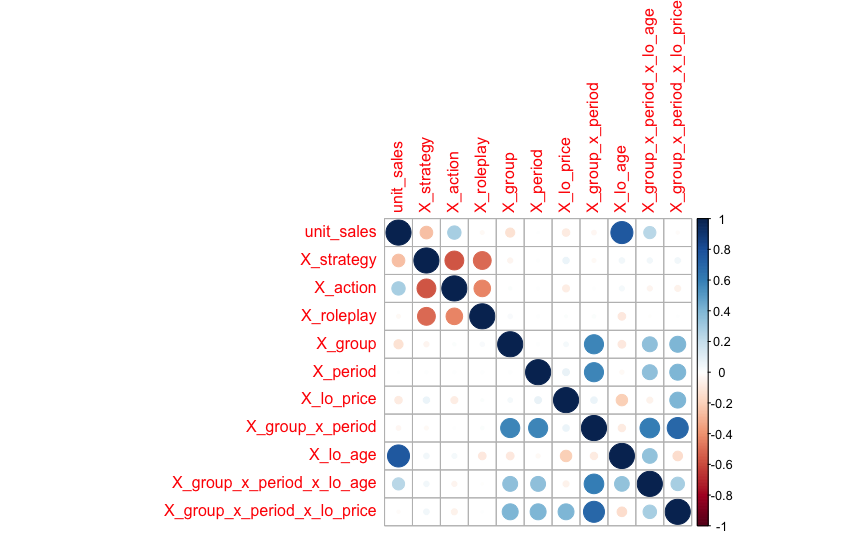
Whether game is strategy or not;

Whether game is action or not;

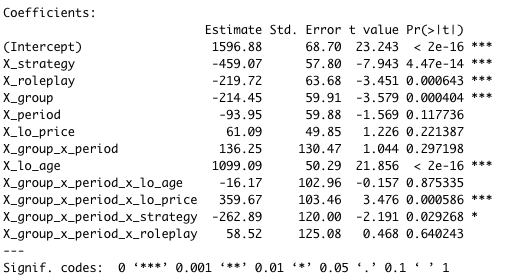
Whether the games have been released for less than 14 (median age\_week from the data) months or not;

Whether the game is cheaper than $22.99 (median price from the data) or not;

Also, from the correlation plot below, we found that the action genre is strongly correlated with the strategy genre. Therefore, we drop the action dummy from our analysis.



Then, I re-run the regression analysis with these variables.



I found that for the group that received a promotion and during the treatment period, the games under $22.99 will have a 359.67 unit increase in sales.

If we consider the price only when everything else are fixed, the when the price is under $22.99, we will only have a 61.09 unit increase in sales. This means the promotion is especially effective for the lower price games.

Even though the shelf time has shown a strong correlation with the unit sales when all else are fixed, it does not seem to have statistically significant correlation with sales in treatment group and during the treatment period.

The strategy genre shown negative correlation with sales. That remain the same in the treatment group and during the treatment period.

Therefore, I will recommend steam to focus on sending promotion email for games that are lower in price.