Project 3: Pricing Model

MKT-680: Marketing Analytics

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Introduction

ACSE supermarket offers a vast array of products and has a presence in more than 40 locations throughout Locouria. ACSE boasts a product portfolio that spans over 100,000 items across 100 categories. Customers of ACSE have the option to enroll in the ACSE Rewards program, which provides them with access to weekly sales and promotions. The company often collaborates with suppliers to finance promotions, which accounts for a significant portion of its sales. Although most of its promotional activities take place in-store, ACSE has recently begun collaborating with a few suppliers to test personalized promotions. To maximize the potential for increased sales and profits, personalized promotions require an extra level of analysis of customer transaction data to identify which customers are most inclined to buy a particular product that is being offered. This is where the effectiveness of personalized promotions lies.

Our primary task is to develop pricing models to aid ACSE's pricing strategy. Our pricing models will consider the factors such as list/regular price, promoted price, product affinity (substitutes and complements), and sales seasonality. We will deliver a list of 10 products with a proposed price reduction and 50 products with a proposed price increase.

Data Cleansing

Our very first step was to narrow the scope of the data in order to explore the truly *"valuable products."* That is, products with enough significant sales volume and sales ($). We decided to use the transactional data for the year 2019, which is the last year before the pandemic, as we believe it can better reflect the current market. Unlike 2020 which contains irregular sales spikes, especially in the month of March. We noticed that there were significant amounts of return and abnormal pricing history transactions in 2019, which may affect the

performance of our model. Therefore, we applied necessary data cleansing and filtering step with the following three criteria:

1) "Profitable products": Calculate the cumulative sales for each product and choose the products that were at the top 50th percentile
2) "Still on the shelf": Further filter the products to only those that have sales history in the latest 6 months (which excludes obsolete products)
3) Exclude the abnormal pricing history[1]

After the filtering process, we had a total of ~570m transaction records and ~3000 products. The cleansed dataset contained all the transaction history of the filtered products in 2019.

Methodology

Constant-Elasticity Response Function

The first step of developing the pricing strategy was to identify which products to increase or decrease the price for. The general approach that we come up with is to first look at the elasticity of each product. For instance, if the product has relatively high elasticity, the price increase will likely lead to a drop in its demand, and therefore ACSE might want to lower the product's price. On the other hand, if the product has a low elasticity (elasticity between 0 and -1) then ACSE could increase the price for that product. The demand for inelastic products would be relatively stable and the price increase is unlikely to result in a huge drop in demand. In this scenario, we decided to first assume the constant elasticity of the products to filter out 10 elastic products to decrease the price for and 50 inelastic products to increase the price for.

[1] By *prod_id* using z-score

We used the *log(demand)* function to calculate the elasticity for e*ach week* of all ~3000 products that we selected at the beginning.

$log(demand) = \alpha + \beta * log(price)$, for each week.

To conduct this regression, we aggregated the product price and demand at a weekly level.[2] Then we fed the data points to the model and took the coefficient of the $log(price)$ as elasticity for the product. For elasticity, our calculation aggregates the data for each week. With the count of weeks N, the formula for elasticity is:

$$Elasticity = \frac{N*\sum log(price)log(demand) - \sum log(price)\sum log(demand)}{N*\sum log(price)^2 - (\sum log(price))^2}$$

We decided to choose the top 50 products with elasticity scores between 0 and -1 (to apply price-increase strategy), and the top 10 products with elasticity scores smaller than -1 (to apply EDLP strategy). We would like to note that during the process of selecting products we got rid of products with extreme elasticity scores. Since we conducted a relatively strict filtering process at the beginning and cut off a large number of transactions, some of the products have a very cluttered price-demand point distribution. Within this context, a slight price change would lead to a huge drop in demand and thus result in extreme values in the elasticity score. These cases are abnormal and might not have a generally applicable feature, so we decided to get rid of them when selecting the products. Since the real scenario might be different from our assumption that all products have constant elasticity, We ended up choosing 200 inelastic products and 40 elastic products at this stage, with a goal of narrowing down to 50 inelastic products and 10 elastic products.

[2] There are 53 weeks in total in 2019, and each week has its corresponding price and demand for each product.

prod_id	Elasticity
21012469	-0.019430466
20909831	-0.030271153
20151283005	-0.046185342
20323751	-0.048994232
20850509	-0.064882075
20035618001	-0.073796015
20113797	-0.074519921
20680596001	-0.079665593
20971479	-0.08333654
20008233001	-0.091045803

Example: Top 10 inelastic product

prod_id	Elascity
20065214	-3.143009722
20603888003	-3.133962106
20548682002	-3.124117585
20770591	-3.11707662
20866813013	-3.116228284
20647435002	-3.114657188
20069661001	-3.112849933
20322468003	-3.108581308
20093631	-3.105185457
20600090	-3.103618922

Example: Top 10 elastic product

Logit Response Function for Price Adjustment

With the list of 240 products for the price adjustments from the previous section, we used the logit response function to find the optimal price for each of the products. We also introduced more variables into the response function to better capture the real situation that ACSE is facing. Instead of only using price, we also introduced controllable factors such as promotion discounts,[3] uncontrollable factor such as seasonality,[4] the average historical price of substitute products and complementary products, as well as the demand for the product over each store. In addition, we calculated the discount percentage of the price and input this value into our model for a more accurate representation. We defined substitute and complementary products in the following way: (1) we considered the products within the same subcategory as the substitute products and (2) the products within the same category but not in the same subcategory as the complementary products.

[3] For our controllable factor promotion percentage, we first find out the max price for each product, and we define if the price is less than 70% of the max price as promoted price.

[4] To be more specific, for the feature seasonality, we split the total 53 weeks into four seasons: the first 13 weeks would be considered the first season, and so forth. We then aggregate the sales amount for each season and calculate the variance based on these four numbers. In this way, we can introduce the effect of seasonality to our response model.

We would like to apply a response function as our pricing modeling approach. Since our objective is to find out the optimal price when elasticity = -1, it did not make sense to use the constant-elasticity model. Therefore, we chose to use the logit model to do the modeling calculations to find the optimal prices. With the transformed demand (in logarithm format) and all the features generated before, we ran logit regressions for each product with its weekly data points across stores, obtaining 240 regression models.

Afterwards, to find the optimal price for each product, After we got the resulting linear model from the regression, we kept the coefficients for each of the features in our response and took them as input to our pricing calculation formula:

$$\varepsilon = \frac{bp}{1+e^{-(a+bp+c*seasonality+d*promotion+e*substitute\ price+f*complement\ price+g)}}$$

Where p is the transformed price;

seasonality is the seasonality variance value;

promotion is the promotion percentage;

substitute price is the average price for all substitutes;

complement price is the average price for all complements;

To find the optimal price, we set elasticity = -1 (revenue maximizing point) for each model, and solved the function for each product. One note here is that p in our formula is equal to $\frac{p}{q}$ (as EDLP strategy requires this transformation). Therefore, after we got the optimal p in the formula, we had to multiply the average demand back to get the final price.

Result Summary & Interpretations

Overall price optimization across all stores

We began by running a price optimization model for all of our stores. Using an elasticity value infinitely close to -1 within the rational value range, we identified the optimal price that would maximize revenue. We then fed the model data on 200 inelastic products and 40 elastic products with constant elasticity, which allowed the model to perform additional selections and to determine the optimal price points for maximizing revenue.

We compare the optimal price, demand and revenue with the average historical data, finding that most optimal values fit our expectation - most of the expected optimal revenues are higher than the average revenues; for inelastic products, all optimal prices are higher than the average prices respectively, which verified the scientificity of our model. However, we noticed some pricing results in elastic products were overestimated. A larger scale of products may help us solve this problem.

As a result, the model recommended raising prices for 10 elastic products and 50 inelastic products (order by revenue increasing percentage), leading to an overall increase in revenue for the selected products by 16%, including an 18% increase in inelasticity products, and a 5% increase in elasticity products (full version of product & pricing strategy lists are shown in the Appendix).

prod_id	prod_desc	optimal_price	avg_price	rev_increase_perc
20353446	REGULAR KO	5.730392913	5.8314305	1.68%
20100728	NATIVE FORE	5.007590674	4.2844034	2.60%
20815563001	NATUREGG C	6.283261114	5.310403	2.41%
20025699	TETLEY ORGI	13.57114463	11.46305	3.01%
20314039	ACSE BABY A	6.408375533	5.3540116	5.73%
20974459001	GREEN VALLI	5.941042689	4.8000644	4.03%
20970982	ACSE MAX B	6.753269401	5.3826634	6.55%
20148240	ACSE LEAN I	15.59055954	11.879685	5.46%
20548682002	R&G STARBU	13.56629657	9.6153967	8.49%
20863698	SILK CASHEV	5.431457739	3.8479385	7.52%

Overview Screenshot: Reduce price for 10 elastic products

prod_id	prod_desc	optimal_price	avg_price	rev_increase_perc
20784073	KIND BAR DK C	11.08604186	6.34686802	52.99%
20183964001	SAN PELLEGRI	7.060927922	5.735539368	43.99%
20374621	PERRIER WATE	6.294024224	5.170920261	39.08%
20176607	ACSE BERRY BI	41.87187706	21.05159321	32.49%
20155709001	EGGPLANT PU	8.978040756	5.552849544	27.11%
21012469	SANPELLEGRI	4.400902204	3.684491625	26.74%
20829110008	VOGUE DS PER	47.78886349	40.39749177	26.62%
20426596001	ZUCCHINI GRE	9.171956148	5.371170835	26.18%
20299821	SCH JUMBO SL	57.78171652	31.03939507	25.24%
20133884001	LETTUCE GREE	5.796195821	2.952678352	22.99%

Overview Screenshot: Increase Price for 50 inelastic products (Top 10 Products)

Price Optimization for each store

We recognized that geological differences between the stores impact the elasticity of the products. To account for this, we adjusted our analysis to consider each store's unique influence on elasticity. Using a similar process to the previous step, we analyzed the 50 inelastic products and 10 elastic products we had selected and developed a plan to adjust prices for each product at each store. This plan resulted in a 36% increase in total revenue, including a 38% increase in inelasticity products, and an 8% increase in elasticity products. This significant improvement in revenue highlights the importance of factoring in geological features during the price optimization process.

prod_id	store_id	optimal_price	avg_price	max_price
20863698	1079	7.517308924	3.864134615	4.29
20863698	1212	4.829174191	3.883155058	4.29
20100728	1127	5.471326942	4.285706285	4.49
20974459001	1004	6.751514421	4.783913264	4.99
20974459001	1007	6.958520294	4.786971227	4.99
20314039	1007	6.793221187	5.347819459	5.49
20314039	1029	8.202319315	5.365951725	5.49
20314039	1212	6.34929839	5.350888145	5.49
20815563001	1011	7.115821045	5.301130285	5.49
20815563001	1032	6.818448941	5.298569545	5.49
20970982	1011	12.6949393	5.381171955	5.99
20970982	1027	12.8198623	5.362246154	5.99
20970982	1127	8.609085562	5.402371134	5.99

Overview Screenshot: Decrease price for 10 elastic products by store

prod_id	store_id	optimal_price	avg_price	max_price
20168304001	1000	5.24024958...	4.08174805...	5.75
20168304001	1004	4.45962757...	4.09923552...	5.75
20168304001	1029	6.97356068...	4.00169415...	5.5625
20168304001	1007	4.87101568...	4.17084757...	101.0
20168304001	1212	6.56410112...	4.21527453...	331.0
20168304001	1027	5.39226866...	4.07155044...	5.66666666...

Overview Screenshot:
Increase Price for inelastic products, by store (example results for 1 product)

Summary

To summarize, we successfully get the list of products respectively for price reduction strategy and price increase strategy, based on our logit regression models as well as revenue maximization results of the filtered products, leading to an expected total revenue increase of 16% for those products. Our pricing solution can be a robust pricing recommendation reference for ACSE to decide the pricing strategies for their business on the product level.

Appendix

Table 1. Products for Price Reduction Strategy, Product Level

prod_id	prod_desc	optimal_price	avg_price	rev_increase_perc
20353446	REGULAR KOLBASSA CHUBS	5.73	5.83	1.68%
20100728	NATIVE FOREST ORG COCONUT MILK	5.01	4.28	2.60%
20815563001	NATUREGG OMEGA 3 EGG LARGE, EA	6.28	5.31	2.41%
20025699	TETLEY ORGE PEKO BAGS 216	13.57	11.46	3.01%
20314039	ACSE BABY ARUGULA 142G	6.41	5.35	5.73%
20974459001	GREEN VALLEY LG OMEGA3	5.94	4.80	4.03%
20970982	ACSE MAX BT 12=24	6.75	5.38	6.55%
20148240	ACSE LEAN ITALIAN MEATBALLS	15.59	11.88	5.46%
20548682002	R&G STARBUCKS TRUE NORTH BLEND	13.57	9.62	8.49%
20863698	SILK CASHEW UNSWEETENED	5.43	3.85	7.52%

Table 2. Products for Price Increase Strategy, Product Level

prod_id	prod_desc	optimal_price	avg_price	rev_increase_perc
20784073	KIND BAR DK CHOC FLV SEA SALT	11.09	6.35	52.99%
20183964001	SAN PELLEGRINO WATER MINERAL	7.06	5.74	43.99%
20374621	PERRIER WATER	6.29	5.17	39.08%
20176607	ACSE BERRY BERRY LARGE	41.87	21.05	32.49%
20155709001	EGGPLANT PURPLE	8.98	5.55	27.11%
21012469	SANPELLEGRINO	4.40	3.68	26.74%
20829110008	VOGUE DS PERLE ROSE 90 20S-ON	47.79	40.40	26.62%
20426596001	ZUCCHINI GREEN	9.17	5.37	26.18%
20299821	SCH JUMBO SUMMER SAUSAGE SV	57.78	31.04	25.24%
20133884001	LETTUCE GREEN LEAF	5.80	2.95	22.99%

20019693005	DU MAURIER SIGNATURE 8X25-ON	29.41	24.38	22.89%
20415316	ROASTED CORN AND PEPPER QUINOA	25.92	18.36	22.52%
20305726001	LETTUCE RED LEAF	5.58	2.88	22.51%
20629220	ACSE SPLENDIDO BASIL PESTO	6.13	3.30	21.95%
20681175	CHICK PEA ARTCHKE + SNDRD TMTS	23.24	17.81	21.61%
20645558	MANNS SNAP PEA 425G	15.12	7.77	21.38%
20111926001	PLANTAIN	3.37	2.38	21.12%
20026161001	BROCCOLI CROWNS	12.07	7.40	20.91%
20521647	ACSE TUNA LT CHUNK WATER	3.03	1.55	20.78%
20316478001	PLUM BLACK	14.59	7.92	20.43%
20680596001	ACSE ORG AVOCADO BAG	13.37	6.99	19.83%
20788914	BROCCOLI CASHEW CRUNCH	24.02	17.94	19.68%
20425893001	PEPPERS GREEN SWEET	9.36	7.75	17.41%
20314880	ACSE MACARONI & CHEESE FAMILY	17.18	9.33	16.11%
20694522	COOK W SPINACH CLASSIC 454G	8.91	5.41	15.72%
20185659	ACSE BM TORTILLAS WG WW 10 INCH	4.81	3.11	14.63%
20119926001	GAYLEA SPRDABLE BUT BLND LIGHT	6.18	4.53	14.56%
20127917001	ACSE ORGANIC TOMATO ON THE VINE RED	10.02	9.01	14.52%
20135384	NEILSON BUTTERMILK CARTON	5.05	3.75	14.32%
20182857	ACSE TORTILLAS ORGINAL 10 INCH	5.11	3.14	13.43%
20779176001	ACSE TOMATO COCKTAIL SWEET 340G	7.02	4.52	13.39%
20025432002	NEILSON TRUTASTE LCTSE FREE 2%	4.94	3.95	12.73%
20975929	ACSE OVEN ROASTED TURKEY BREAST	55.50	38.04	12.58%
20135581001	GARLIC FRESH	16.83	13.52	12.37%
20771856	WONDER BREAD 100% WW PLS FIBRE	4.48	2.92	12.22%

20168304001	ONION YELLOW	5.06	4.16	11.47%
21124368001	ACSE NNNI LIMES 907G	8.00	5.07	11.32%
20136399	CARROT MATCH STIX 283G	4.17	2.57	11.27%
20300320	PPRF GF CHEDDAR	4.01	2.58	11.11%
20795534	OEP HNS TACO DNR KIT	6.49	4.27	10.62%
21097782001	ACSE TOMATO VARIETY 225G	6.41	4.36	10.43%
21093316	ACSE 9PC SPICY FRIED CHICKEN	15.88	9.96	10.03%
20083454001	ONION SWEET	5.78	5.02	9.79%
20059548	ACSE NC O/R TURKEY BRST SV	40.75	34.47	9.57%
20323798	WONDER SAND BREAD 100% WW TEXS	4.13	2.88	9.48%
20310940001	APPLE FUJI	8.05	5.50	9.31%
20426724001	POTATO RED	5.73	4.45	9.31%
20972512	ACSE ROMAINE SLD FAMILY SZ 1.18 KG	19.21	12.11	9.16%
20297188003	ACSE RICE CRACKERS ORIGINAL	2.61	1.84	8.89%
21004369	ACSE CHEWY CHO CHIP GRANOLA CP	13.78	8.89	8.84%

Table 3. Products for Price Reduction Strategy, Product & Store Level

prod_id	store_id	optimal_price	avg_price	max_price
20863698	1079	7.52	3.86	4.29
20863698	1212	4.83	3.88	4.29
20100728	1127	5.47	4.29	4.49
20974459001	1004	6.75	4.78	4.99
20974459001	1007	6.96	4.79	4.99
20314039	1007	6.79	5.35	5.49
20314039	1029	8.20	5.37	5.49
20314039	1212	6.35	5.35	5.49
20815563001	1011	7.12	5.30	5.49
20815563001	1032	6.82	5.30	5.49
20970982	1011	12.69	5.38	5.99
20970982	1027	12.82	5.36	5.99

20970982	1127	8.61	5.40	5.99

Table 2. Products for Price Increase Strategy, Product & Store Level

prod_id	store_id	optimal_price	avg_price	max_price
20300320	1050	4.10	2.58	3.22
20300320	1004	2.64	2.61	2.99
20300320	1011	3.34	2.53	2.99
20300320	1021	5.34	2.57	2.99
20300320	1022	3.22	2.56	2.99
20300320	1027	3.69	2.58	2.99
20300320	1028	5.71	2.52	2.99
20300320	1029	3.33	2.61	2.99
20300320	1032	5.06	2.55	2.99
20300320	1040	5.69	2.58	2.99
20300320	1066	3.51	2.57	2.99
20300320	1083	3.58	2.55	2.99
20300320	1092	3.14	2.58	2.99
20300320	1099	12.92	2.62	2.99
20300320	1114	3.39	2.57	2.99
20300320	1154	4.69	2.61	2.99
20300320	1170	14.57	2.58	2.99
20300320	1194	3.57	2.58	2.99
20300320	1212	5.62	2.58	2.99

20083454001	1010	6.11	4.97	5.75
20083454001	1212	6.39	5.01	195
20083454001	1027	7.10	5.06	5.8
20083454001	1099	7.06	4.99	5.8
20305726001	1007	7.01	2.63	4.49
20316478001	1000	84.09	8.19	10
20316478001	1212	248.33	8.16	458
20316478001	1050	22.27	7.99	9.375
20316478001	1011	144.82	8.08	16.61111111
20316478001	1066	100.05	8.37	414
20185659	1050	4.97	3.04	3.89
20185659	1066	5.75	3.06	3.89
20779176001	1004	7.09	4.56	6.99
20779176001	1019	14.06	4.37	6.99
20779176001	1066	6.83	4.55	6.99
20779176001	1155	11.92	4.32	6.99
20779176001	1212	5.50	4.65	6.99
20155709001	1050	9.64	5.53	7.9
20182857	1011	5.18	3.11	3.89
20182857	1022	4.67	3.12	3.89
20182857	1027	4.66	3.22	3.89
20182857	1040	5.19	3.15	3.89

20182857	1066	5.82	3.11	3.89
20182857	1188	9.53	3.03	3.89
20374621	1007	8.39	3.40	18.99
20374621	1050	17.08	4.57	18.99
20374621	1194	9.55	5.65	18.99
20374621	1029	5.97	4.14	18.99
20374621	1212	8.63	5.58	18.99
20310940001	1050	9.99	5.40	6.8125
20310940001	1212	7.91	5.64	218
20310940001	1027	90.39	5.56	6.777777778
20133884001	1000	6.49	2.64	4.49
20133884001	1007	5.34	2.69	4.49
20133884001	1010	6.14	2.69	4.49
20133884001	1014	5.45	3.37	4.49
20133884001	1020	5.72	2.64	4.49
20133884001	1021	3.93	2.65	4.49
20133884001	1027	4.84	3.41	4.49
20133884001	1032	5.62	2.68	4.49
20133884001	1035	5.84	3.38	4.49
20133884001	1066	4.43	2.74	4.49
20133884001	1095	4.61	3.45	4.49
20133884001	1212	5.74	2.72	4.49

20183964001	1000	7.05	2.79	18.99
20183964001	1011	13.50	5.27	18.99
20183964001	1014	8.44	5.91	18.99
20183964001	1021	9.69	6.92	18.99
20183964001	1029	8.77	5.25	18.99
20183964001	1032	10.29	6.54	18.99
20183964001	1066	9.93	6.55	18.99
20183964001	1095	9.68	3.68	18.99
20183964001	1099	10.63	7.84	18.99
20183964001	1154	10.01	6.11	18.99
20183964001	1174	127.15	6.22	18.99
20183964001	1194	9.62	5.92	18.99
20183964001	1003	13.62	5.81	18.99
20183964001	1155	9.90	6.86	18.99
20026161001	1090	10.40	7.36	12.5
20026161001	1212	11.94	6.66	145
20026161001	1032	10.21	6.62	11.625
20026161001	1027	13.99	8.84	12.25
20026161001	1050	18.33	7.61	12.25
20026161001	1154	23.05	6.67	12.25
20026161001	1001	15.72	8.97	11.41666667
20026161001	1035	15.31	8.58	11.41666667

20026161001	1194	9.21	6.82	11.41666667
20026161001	1021	11.96	6.82	11.35714286
20026161001	1142	20.53	6.46	16.78571429
20026161001	1007	22.73	6.71	11.5
20026161001	1010	13.48	6.77	11.5
20026161001	1019	11.97	6.77	11.5
21124368001	1051	12.02	5.27	6.99
20168304001	1000	5.24	4.08	5.75
20168304001	1004	4.46	4.10	5.75
20168304001	1029	6.97	4.00	5.5625
20168304001	1007	4.87	4.17	101
20168304001	1212	6.56	4.22	331
20168304001	1027	5.39	4.07	5.666666667
20425893001	1014	13.40	8.27	12.5
20425893001	1027	10.86	8.41	12.5
20425893001	1051	13.89	8.31	12.5
20425893001	1001	14.02	8.41	13.5
20425893001	1029	8.92	7.26	13.5
20425893001	1035	14.98	8.26	13.5
20425893001	1212	8.71	7.09	290
20425893001	1000	8.56	7.26	11.625
20425893001	1010	9.30	7.26	11.625

20425893001	1132	15.61	8.17	11.3125
20425893001	1040	12.30	8.17	11.41666667
20425893001	1050	11.61	8.01	11.41666667
20425893001	1095	18.91	8.39	11.35714286
20425893001	1011	12.05	7.19	39.6
20425893001	1007	10.30	7.21	30.8
20425893001	1004	8.64	5.31	11.27777778
20425893001	1079	9.82	7.21	11.27777778
20425893001	1170	15.16	8.11	11.27777778
20795534	1155	7.05	4.28	5.29
20795534	1174	6.45	4.29	5.29
20426724001	1212	5.96	4.44	6.36
20426596001	1004	6.59	4.62	8
20426596001	1029	6.58	5.22	9.0625
20426596001	1007	7.69	5.23	174.5
20426596001	1066	8.29	5.25	67.625
20426596001	1212	8.55	5.35	574
20426596001	1011	7.41	5.18	44.16666667
20426596001	1019	7.71	5.31	9.166666667
20426596001	1021	7.71	5.13	9.166666667
20426596001	1027	8.55	5.70	9.166666667
20426596001	1032	7.05	5.15	9.166666667

20426596001	1040	7.51	5.66	9.166666667
20426596001	1194	7.65	5.09	9.166666667
20426596001	1000	6.42	5.15	9.142857143
20426596001	1010	11.09	5.21	9.142857143
20426596001	1014	9.78	5.62	9.142857143
20426596001	1028	7.39	5.17	9.142857143
20426596001	1035	8.28	5.74	9.142857143
20426596001	1079	8.10	5.18	9.142857143
20426596001	1170	11.94	5.76	9.142857143
20297188003	1022	8.64	1.71	1.99
20297188003	1035	2.75	1.82	1.99
20297188003	1050	3.08	1.80	1.99
20297188003	1099	2.04	1.89	1.99
20297188003	1127	2.65	1.77	1.99
20297188003	1170	3.82	1.89	1.99
20521647	1000	1.82	1.55	1.79
20521647	1212	10.64	1.56	1.79
20645558	1004	10.95	7.10	8.99
20136399	1212	5.09	2.56	2.99
20629220	1066	7.14	3.03	3.99
21097782001	1029	5.81	4.37	5.49
21097782001	1194	5.56	4.41	5.49

21097782001	1212	5.39	4.38	5.49
20111926001	1200	6.12	2.42	2.916666667
21012469	1051	5.04	2.46	7.99
20694522	1007	10.69	5.38	5.99