

Profit Projection

We focused our 2-year (24 months) projection on our main product line, the lyrics-to-melodies converter. We provide a subscription plan to both regular users and professional users. The plan includes options of one-month, three-month, and one-year subscription, which can be renewed monthly, quarterly, and annually. Our analysis includes calculation of customer conversion rate, cohort size, churn rate and we also took interest and inflation into consideration and thus get our customer acquisition cost and long term value. We made some assumptions to support our profit projection.

**Customer Conversion Rate:** Assuming we only conducted one major marketing campaign at the beginning, we simulated the customer conversion rate using a normal distribution with an expected value of 0.0001 and a standard deviation of 0.00005. According to our conservative assumption, 10000 ad impressions through channels like Facebook and Google will attract one user for our products. A floor is set to the distribution so that we do not get negative numbers of the conversion. In the beginning stage, we plan to spend 50000 dollars on the major marketing campaign. Assuming each 1000 ad impressions would cost us 2 dollars, we simulated the distribution of users converted using a binomial distribution with the n variable representing the number of ad impressions conducted and p illustrating the conversion rate of those ad impressions. The n variable is equal to (50000/2)\*1000 and the p variable is equal to the number generated from the normal distribution with an expected value of 0.0001 and a standard deviation of 0.00005.

**Cohort Size:** Next, we made assumptions about the cohort size (the number of users attracted by our first major campaign) of our monthly, quarterly, and annual subscription plans. In our assumption, 60% of the cohort will start the monthly plan, 25% of the users will start the quarterly plan, and 15% of the users will join the annual plan. Table

table p-1

	Regular	Pro
Monthly	0.8	0.2
Quarterly	0.75	0.25
Annual	0.7	0.3

table p-1

	Subscription Price		Retention Fee	
	Regular	Professional	Regular	Professional
Monthly	10	15	5	5
Quarterly	20	30	8	12
Annual	60	90	20	25

table p-2

p-1 gives you a distribution of our professional and regular users. In table p-2, you can find detailed subscription price and retention fee assumptions.

**Churn Rate:** We also set a constant churn rate of 0.3 for both regular and professional users across our monthly, quarterly, and annual plans. At the end of each month, each quarter, and each year, there is an approximately 30% chance the users in that group will leave our platform. Because we only have one marketing campaign, there will only be new users at the beginning of our projection period. At the same time, we assumed a return rate of 10% for our monthly, quarterly, and annual subscribers. At the end of each month, quarter, and year after the first churn, approximately 10% of those churned subscribers will come back to our platform. Here we assumed that quarterly subscribers will only return in each quarter and annual subscribers will only return in each year after the first churn. (In the appendix, you can find the detailed projections of the number of existing users, returning users, and quitting users.) As a result, the cohort size for each subscription plan, and each user category will continue to be modified in each month. In general, it will have a decreasing trend. The value generated by the users is calculated by multiplying the number of users in the subscription plan by the spread between subscription revenue and retention cost we spent to keep the user stay active on our platform. By adding the results of our monthly, quarterly, and annual plan, we can obtain a clear picture of how much value the cohort of users can bring us.

**Time Value of Money:** Finally, we also take a monthly interest rate and inflation into consideration. In our assumption, we used a monthly discount rate of 0.015. As a result, we calculated the present values of our inflows after our first marketing campaign. The table p-3 summarizes the present values of our inflows across the two years. The present values are decreasing as time goes because of the churning cohort and the discount rate. The trend is illustrated in the histograms below.

**Conclusion:** According to our analysis, the total cohort value generated in the two years is \$359996.39, the total profit calculated by deducting \$50000 marketing expense from the total cohort value is \$309996.39. The cohort size is 2146, the Customer Acquisition Cost is \$23, the Lifetime Value for each customer is \$167, and the Customer Lifetime Value - Customer Acquisition Cost Spread is \$144. This is a conservative projection. We will continue to monitor the effect of our first marketing campaign and discuss the necessity of conducting additional campaigns on top of that. After performing 1000 simulations, the CLTV - CAC spread shows a distribution with expected value at \$169.96 and a standard deviation of \$265.92.

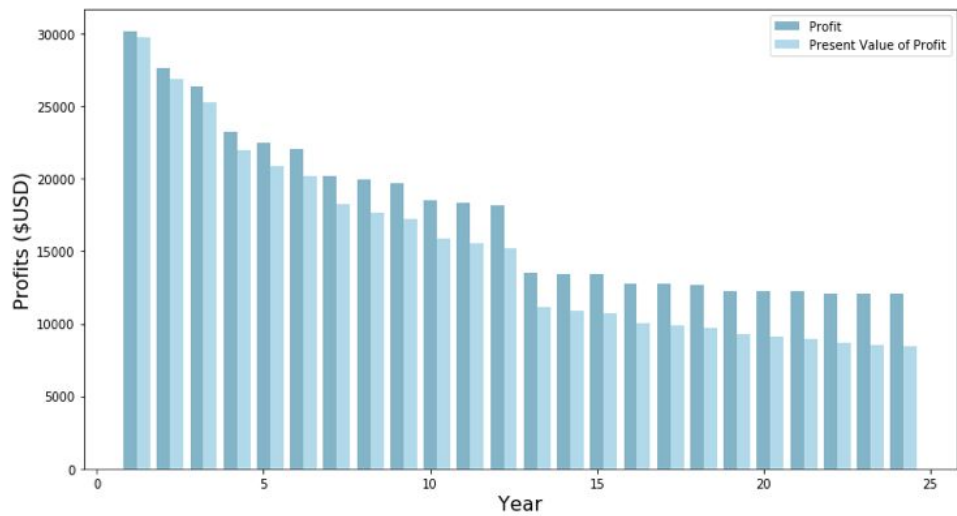


table p-3

month	1	2	3	4	5	6
PV (\$)	29705.4	26854.32	25247.72	21931.22	20887.71	20158.33
	7	8	9	10	11	12
	18209.75	17696.52	17238.21	15913.27	15538.02	15212.21
	13	14	15	16	17	18
	11141.66	10903.94	10714.81	10030.05	9881.83	9720.49
	19	20	21	22	23	24
	9257.31	9109.36	8978.40	8690.05	8558.07	8417.61