The Family Guy Game Analysis

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Agenda

Part1:

Introduction and Executive Summary

Game Analysis: Revenue

- How and why does the game generate revenue
- What factors influence revenue generation: Inside and Outside
- Features enticing players to pay or make players stop playing

Additional Comments For The Game

Part2:

Metrics: Selection, Explanation, Statistical Test

Introduction and Executive Summary

Overall, It is a good mobile game.

As a city-building game based on famous animated series Family Guy, it is more acceptable for people and attractive for Family Guy Fans.

Furthermore, it contains all the required factors - Varied Characters, Great Graphics, Updated Themed Events, and reasonable In-game purchasing Price, etc.

However, some factors are a double-edged sword sometimes and affect the game. In this report, I will go into details and evaluate the game from the business perspective

How the game generate revenue

There are two main ways for the game to generate revenue: **In-game Purchasing** and **Advertisement**

- In-game Purchasing: this game provide game currency (clams and coins) for purchase. The game currency can be used in many ways:
    1. Unlock Character, Buildings, Items, Space, Themed Event
    2. Reduce the time to complete the quests

    These game currency can also be collected without purchasing but will take more time. Many players are willing to pay for it to save the time to speed up the game

- Advertisement: The player could choose to watch a 25s-30s advertisement to reduce 2 hours to complete a quest

    Obviously, those advertisements are not free. Other companies need to pay for them

Factors influence revenue generation

In the real-world, there are many factors could influence revenue generation. Both from inside and outside

Inside: quality, game currency price, mode, sociality

- The quality of the game - Graphics, Music, Story Growth, Design of the character and gaming items:

  The quality of the game is the most important part. It will determine whether players are willing to **spend time on this game**. If players don't want to spend time on this game, they will not pay for it.

  The Family Guy game did a good job in this part. The graphics, music, and story growth of this game are pretty good. There are also a lot of characters and gaming items which could stir up customers' desire for purchasing. What's more, since Its IP advantage, it could attract lots of Family Guy Fans. These fans are more likely to pay

- The game currency price

  Whether the game currency price is reasonable will affect the purchase rate directly. For the majority, they don't want to waste too much money in one game

  In this game, the currency price is a little higher. Since in the late stage, each quest requires too much 'clams', otherwise, the player needs to wait a very long time. **It might be better to decrease the price of the game currency or decrease the required 'clams', especially for the quest in the late stage**

- The mode of the game

  Multiple modes will increase the joys. The single mode will bored players. Players are likely to pay for new things

  In Family Guy, the mode is collecting coins and then unlock buildings and characters, again and again. Even though the new themed event added sometimes, the game is still very boring after playing a period of time. **The company might consider adding more modes to the game like the battle mode - could battle with their friends directly. The winner could plunder the loser**

- Sociality:

  The sociality could extend the game life dramatically. Players are more likely to spend money under this situation since they would like to compete with their friends

  Currently, Family Guy provides ‘Facespace’ for players to invite and view their friends. **It is a useful feature but could consider increasing the interaction between different players in the future**

Outside: macro factors (policy, economy), popularity, competitor, target customer

- Macro factors (Policy, Economy):

  The macro factors might affect revenue. For example, the government applies a new policy which set the age limitation or the play time limitation or the game purchase limitation. Absolutely, the revenue will be affected. In the other example, if a country is suffering an economic crisis, everyone doesn’t have money. Of course, few people will spend money in a game under this situation

- Popularity (Macro and Micro):

  Popularity could affect how many players we could attract. This factor could view from two levels: Macro and Micro. From Macro, for instance, whether the game or more specifically, the city-building game is popular at this period. From Micro, it could refer to how the company advertise the game like the platform and also refer to whether the name, the description and the icon of our game are attractive

- Competitor:

  The competitor is the main threat of a game company, especially in this information exploded era. Today, players have many choices. If they find our competitors' game is better than us, they will choose our competitor immediately, and they will notify their friends as well. We would lose lots of customers if such things happened

- Target customer (age, gender, region):

  Players in a different age, in a different gender, in a different region will have different purchasing habit. To figure out the demographics of our customer is very important

Features: entice to pay or stop playing

In this game, there are many features are designed to entice players to pay. But some of them are a double-edged sword which could make players stop playing

- **Entice to pay:**

    1. Discount: A very common promotion method

    2. Limited time sale: Some character only sale in limited time. Players are more likely to pay for such character

    3. Themed event: A good way to add new factors to keep the game fresh. Players tend to pay for new things

    4. Varied Characters and items

- **Double Edged Sword:**

  1. Too difficult to collect ‘Clam’: The difficulty might drive players to spend money to buy them. However, too difficult generally will lead to the opposite effect. Players will feel the company is too greedy and choose another game

  2. The quest time increases exponentially: Again, the long quest time will motivate players to purchase game currency to reduce the time. However, if the player needs to pay for every quest, they might feel the company is too greedy and give up the game

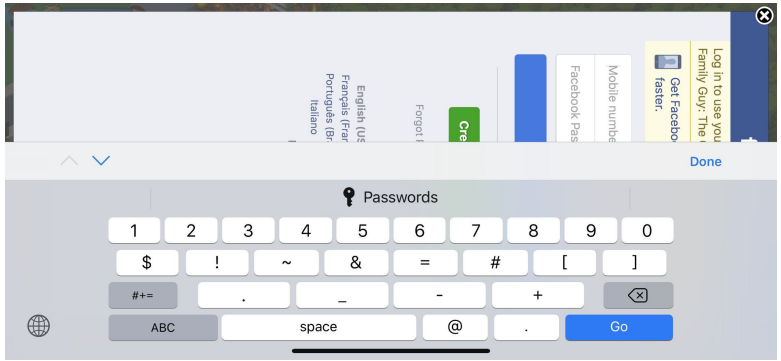
Additional Comments

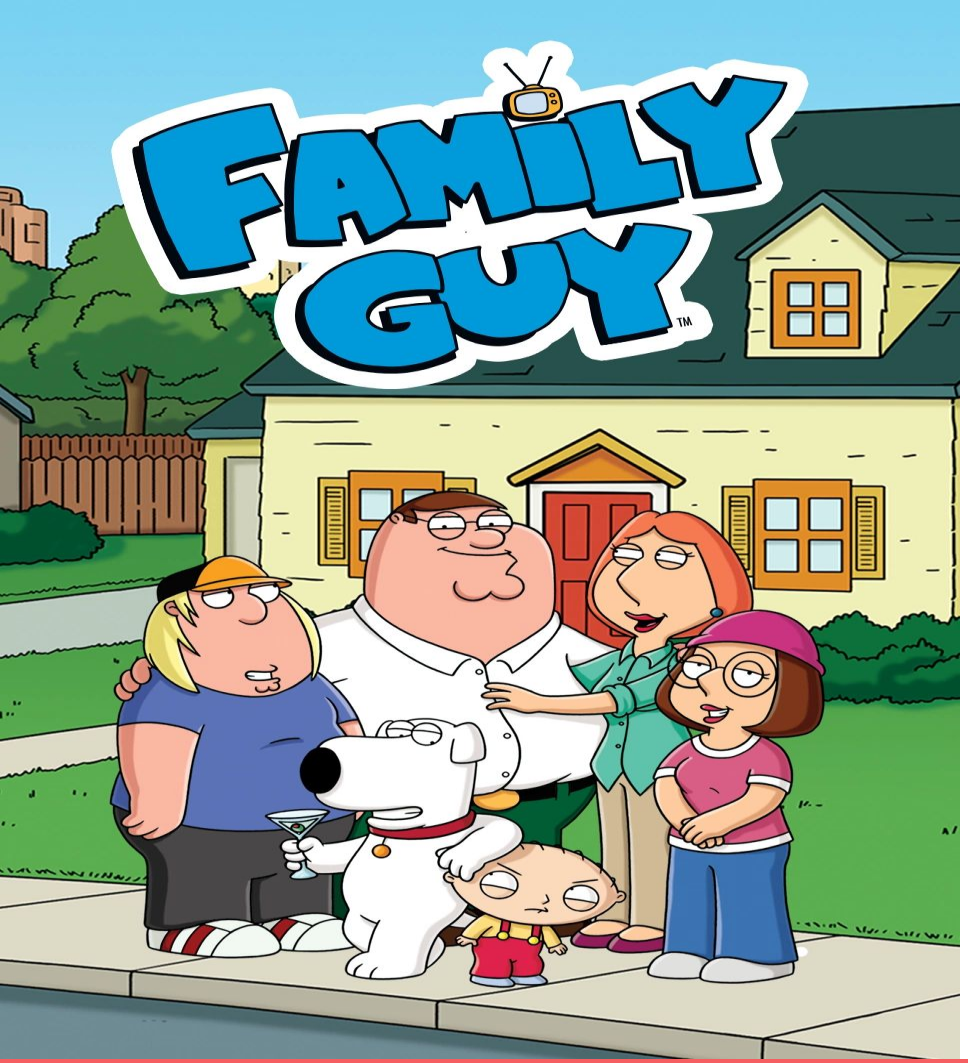
Good:

It is a great idea to make the quest reward(coins) and the quest time are not perfect positive correlation, which means when the quest time doubled, the reward will not reach the doubled value but less than it (1h: 50 coins, 2h: 80 coins). The marginal utility is diminishing. In this way, the engagement might increase. players will spend more time on screen rather than hang up the game

Bad:

Loading time is too long (30s- 60s); Some Bugs:





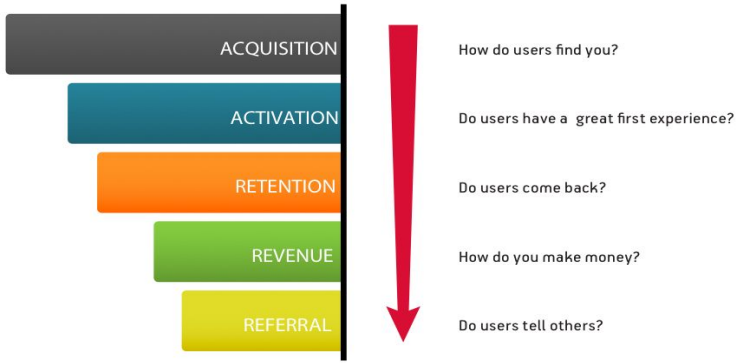
Part2
Metrics

Metrics

To define metrics, I usually figure out the business objectives first and then initialize with some high-level metrics based on five different aspects (AARRR Model). In this example, we have two objectives: 1. Attract more player and bring joys for them 2. Financial Sustainability. According to the objectives, I came up with several metrics Listed below:

还应该考虑 acquisition cost (new user), uninstall rate, DAU/MAU, average revenue per (paying)user

1. Download Page views (Acquisition)
2. Install/download Probability (Acquisition)
3. New users Log in Probability (Activation)
4. Daily/weekly active user (Activation/ Retention)
5. Average Play time (Activation/ Retention)
6. Retention rate (Retention)
7. Install to purchase rate (Revenue)
8. Average number of friends/Invite rate (Referral)



* These metrics can also be **split based on the platform, the age, the gender** to get further informations. In the next page, I will go into details

Metrics: Details

In this part, I will explain each metric in detail: how it linked to the idea or factors discussed previously; how it works; what the limitation; what the graph might look like

- **Download Page views; Install/download Probability:**

  Linked Idea/Factor: Popularity (Micro)

  How it works: This metric is a clear indicator of the popularity of our game. It could show whether the name, the description, and the icon of our game are attractive and whether the company in the right way to advertise. Further, this metric could be split based on the platform (App store, Android, etc.), and then we could provide specific tactics for different platform

  Limitation: Might difficult to collect data from different platforms; Hard to track users behavior, they might view the page several times in different platforms before download

  Graph: The views/Probability might increase after each update and then decrease through time

- **New Users Log in Probability - Link to their facebook accounts:**

  Linked Idea/Factor: The quality of the game

  How it works: This metric Indicate whether users have a great first experience. If they have a good first experience, the company has a good start. Can also be split based on gender, age, and even the device players use. For instance, the game might have some log-in bugs in some phone model. Through this metric, we could identify such problem and solve it

  Limitation: Hard to track users behavior; Hard to define new users; Legal consideration

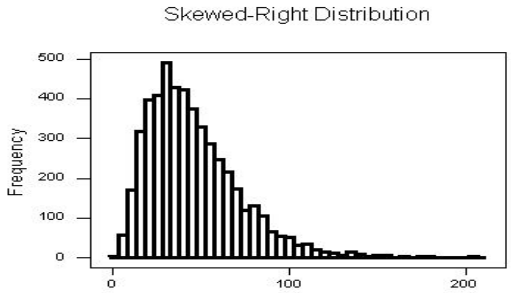
- **Daily Active Users; Average play time (Daily); Retention Rate (7 days):**

  Linked Idea/Factor: The quality of the game

  How it works: These metrics represent whether users like this game. If they like this game, they will spend more time and come back frequently.

  Limitation: Easy to collect compared to other metrics

Graph: If we draw a histogram graph for the average play time. It might show like this one:



Which means only a few users will play a very long time, Most users play time will less than the mean. Thus, It will a right skewed distribution

- **Install to purchase rate:**

  Linked Idea/Factor: All factors (especially In-game purchasing Items)

  How it works: This metric represents whether users would like to pay for the game. This is our primary objective. Can draw more analysis on gender or age. For example, if the metric shows the female player is less likely to purchase, we might add more characters that female likes to the game

  Limitation: Every factor discussed before might affect this metric. It is difficult to identify which part has a problem

- **Average number of friends/Invite rate:**

  Linked Idea/Factor: Sociality

  How it works: This metric Indicate how much social the game is and whether players would like to invite their friends to play this game. The sociality could extend the game life dramatically. Specifically, In Family Guy, it indicates how useful the ‘Facespace’ is

  Limitation: it is hard to measure this metric since it will be affected by other factors like the length of play time. Generally, a player who plays three years will have more friends than the player who plays only one year.

  Graph: The graph might be similar to the chart of the average play time which is the right skewed distribution

Statistical Test

Since I would like to know whether those factors I proposed are **statistically significant.** In other words, whether they actually make effects, I will run the **AB Test** for the factors I proposed. Set a control group and an experiment group, and check one factor each time.

To check the result, for the Statistical Test, I will choose from **T-test or Binomial Test depends on the metrics**:

- Bernoulli Data (Yes or No) - Binomial Test: Download Probability (Download or Not Download), Log- in Probability
- Numerical Data - T Test: other metrics discussed above

*For some metrics like rate, test them empirically might be more appropriate

Statistical Test Limitations

These methods also have some limitations:

1. The sampling process might be bias
2. Required enough sample size. The cost might be very high. Especially when we decide to run the AB test
3. As a statistical method, we always have a chance to get the wrong answer (Type 1, Type 2 Error). We could reduce it, but we can't remove it