Investigation and Analysis on Game Players' Preferences—Take Xi'an as an Example

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Keywords: Games; Game player; Preference

Abstract. This investigation was conducted by means of personal contact. The interviewees were selected from universities and Internet cafes in Xi'an. In addition to the investigation of crowd characteristics of game players, there are two aspects involved in the investigation of preferences. One is the investigation of game style preferences, and the other is a survey of the habits and preferences of game players. The survey of game style preference includes the preference of drawing style, the preference of overall style, the preference basis of game characteristics and the influencing factors of game experience. According to the analysis of survey data, game players like Chinese style games with good visual perception, strong sense of substitution and easy to use in terms of style preference. In terms of the investigation on the habits of game players, according to the analysis of the investigation data, it is more likely to attract the players when the game starts to design charging items about half an hour; in addition to strengthening the competitiveness in terms of the game content and plot, it is also necessary to strengthen the competitive situation setting in the lower stage of the game, strengthen the sense of bringing in, and design equipment or other items with low price. The key point of the design is to attract the players to go deep; the plot design of the game after half an hour and the longer time to attract the players are very important.

In 2018, China's game market revenue reached 203.61 billion yuan, with mobile games accounting for 57%. The revenue of mobile games exceeded 100 billion yuan, while the revenue of end games continued to grow, with an increase of 11.4%. The revenue of page games is only 15.6 billion, showing negative growth for two consecutive years. The market revenue of e-games exceeds 70 billion, and the revenue of mobile e-games grows rapidly. IP game revenue reached 74.56 billion, accounting for 64.2% of mobile game revenue. The revenue of plane games reached 15.98 billion with an increase of 45%. In order to know which games will be more attractive to the game players and which embedded consumption items will be more attractive to the game players, a preference survey is carried out for the game players in order to understand the consumption characteristics of the main consumer groups of the game and provide reference for the majority of game companies to make games and design charging items.

1. Investigation

1.1 Investigation Implementation

In this survey, the mainland city of Xi’an was chosen as the survey site, and 615 people were randomly selected from universities and online game bars for face-to-face survey. 509 people answered the questions completely and seriously, with an effective questionnaire rate of 82.76%.

1.2 Content and Structure of the Questionnaire

Considering the patience of gamers to answer the questionnaire, this questionnaire designed three parts of gamers' crowd characteristics, game style preferences and habit preferences to investigate. In the aspect of the characteristics of the game players, we mainly investigated the characteristics of
gender and age. In the aspect of style preference, it mainly inquires about the preferences of the game players' painting style, overall style, the basis of the preferences of the game characteristics and the influencing factors of the game experience. In the aspect of habit preference, the relationship between game habit and consumption degree of players is investigated by asking questions about game times per week, game duration and game purpose.

2. Gender and Age Characteristics of Game Players

2.1 Gender Characteristics

According to the survey, the sex ratio of game players in Xi'an is 53.83% for men and 46.17% for women. The number of men and women is basically balanced, slightly more men than women.

2.2 Age Characteristics

The survey found that: the age distribution of Xi'an game players is wide. The minimum age is 15 years old, and the maximum age is 45 years old. Among them, 3.34% were under 15 years old, 66.8% were 15-20 years old, 23.58% were 21-25 years old, and 6.29% were over 25 years old. It can be seen that in Xi'an, game players are mainly concentrated in youth groups, but the number of middle-aged players is gradually increasing.

3. Investigation Results and Analysis of Game Style Preference

The investigation of this part mainly focus on the influence of the external style of the game on the player's preference, and from four aspects: the preference of the game painting style, the preference of the overall style, the preference of the characteristics and the reasons that affect the player's experience.

3.1 Game Painting Style Preference

In terms of the preference of game painting style, it can be seen that the realistic style game is the favorite of Xi'an game players. In addition, the Chinese style is also the preferred type of game players. Finally, it can be found that the cartoon and animation style game market is gradually cold.

| Preference Distribution of Game Painting Style |
|-----------------------------------------------|
| Realistic Chinese style | 76.23% |
| Realistic European and American style | 53.63% |
| Q version of Chinese style | 51.28% |
| European and American cartoon style | 39.10% |
| Japanese animation style | 21.22% |

3.2 Overall Style Preference of the Game

In terms of the overall style preference of the game, the order of the survey is: exquisite pictures, gorgeous visual effects, smooth operation, pleasant feeling, strong antagonism, intense tension, strong skill, emphasis on thinking and solving problems. From the overall style preference, we can see that the better the visual effect the game presents, the higher the degree of attracting players to immerse in the virtual effect, the more popular the game will be.
Table 2. Overall Style Preference Distribution of the Game.

| Beautiful picture and gorgeous vision | Smooth and pleasant operation | Strong antagonism and intense tension | Strong skill and emphasis on thinking and solving | Pleasant atmosphere and outstanding cooperation |
|---------------------------------------|-------------------------------|---------------------------------------|-----------------------------------------------|-----------------------------------------------|
| 61.89%                                | 62.67%                        | 61.89%                                | 55.40%                                        | 31.43%                                        |

3.3 Preferences for Game Features

In terms of game characteristics and preferences, FPS, MoBa, race and independent games are more popular with most people, card games are ignored, and puzzle games and action adventure games market are gradually cold. It is not difficult to find that the main reason for the popularity of a game is the tension and stimulation of the game, but the decision-making autonomy and cheapness brought by the game are the main factors that determine whether a game is popular or not. Therefore, easy to use, easy to obtain and gradually improve is the main attraction of the game.

Table 3. Game Feature Preference Distribution.

| 3D action games | Free shooting | Educational games | Puzzle games | Action adventure | Racing Games | Card games | Multi player Sports |
|-----------------|---------------|-------------------|--------------|------------------|--------------|------------|---------------------|
| 29.08%          | 59.33%        | 18.27%            | 13.56%       | 17.49%           | 31.43%       | 8.45%      | 19.84%              |

3.4 Influencing Factors of Game Experience

In addition to the investigation of several aspects of game preference, the reasons that affect the game experience are also within the scope of investigation and analysis. Through the investigation, it is found that the poor experience of game operation, boring plot, unsmooth network and screen texture are the main factors affecting the players’ game experience. From this part of the survey, it can be seen that in terms of game style, games with Chinese style, strong visual effect, good screen texture, strong sense of substitution and good plot experience are widely popular among Xi’an game players.

Table 4. Distribution of Game Experience Factors.

| Poor picture quality | Boring plot | Poor operability | Aimlessness | Simple design | High difficulty | Too much BUG | Drop or delay | Team work | No creative role |
|----------------------|-------------|------------------|-------------|---------------|-----------------|--------------|--------------|-----------|-----------------|
| 33.40%               | 36.94%      | 44.99%           | 32.22%      | 31.24%        | 16.50%          | 27.70%       | 33.99%       | 25.74%    | 22.59%          |

4. Survey Results and Analysis on Game Habit Preference of Players

The analysis on the game habit preference of the game players is mainly based on the investigation of the relationship between the game playing time, the level of times and the consumption in the game, so as to serve as the reference for the game companies to design the game consumption.

4.1 Analysis of the Relationship Between the Number of Games Per Week and the Duration of Games

Through the investigation of the time length of each game, we can know the time that players are willing to pay for the game, so as to modify and control the content and experience of the game in time.
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By investigating the number of games played each week, we can know the frequency of the game, which is related to the interaction and activity settings in the game. According to the player's game time, immersive games can be considered in design due to the relatively long investment time. In addition, fast competitive games are also the focus of game companies in design.

According to the personal information answered by the questionnaire, most of the game players of competitive type are young people without income generating ability, but they have less money input in the game. The group of gamers who play three times a week and once a week prefer games that are not too intense and exciting but have good interest. These people have a lot of restraint in the total time investment in the game, most of them have work, and the game is the main way for them to rest and have fun. This group has a large investment in the money when they play the game.

| Table 5. Distribution of Game Times and Game Duration Per Week. |
|---------------------------------------------------------------|
| 2 hours or more at a time | About one hour at a time | About half an hour each time | 10 minutes or less at a time | Total |
| Number | Proportion | Number | Proportion | Number | Proportion | Number | Proportion |
|-------|-----------|-------|-----------|-------|-----------|-------|-----------|
| Play almost every day | 152 | 59.61% | 81 | 31.76% | 12 | 4.71% | 255 |
| About three times a week | 62 | 48.82% | 41 | 32.28% | 14 | 11.02% | 10 | 7.87% | 127 |
| Once a week | 25 | 40.98% | 24 | 39.34% | 6 | 9.84% | 6 | 9.84% | 61 |
| Less than once a week | 25 | 37.88% | 14 | 21.21% | 6 | 9.09% | 21 | 31.82% | 66 |

The conclusion of this survey is that players who play three times or once a week have higher viscosity to a favorite game and are more willing to invest money to maintain their achievements in the game world. In terms of age, most of these people are 25-35 years old. The setting of charging items in the game can be designed according to their preferences.

4.2 Analysis of the Relationship Between Player's Game Level and Game Duration

Through the investigation of the game level of players, we can know the level of most players, and analyze which kind of players may be the main consumption force of game supporting equipment.

It can be seen from the survey results that among ordinary players, those who play for more than one hour each time spend more on game equipment than other groups. This kind of player's characteristic is that the game level increases gradually, which makes them have higher viscosity to the game, and they are more willing to spend money to maintain their position in a game. Secondly, the consumption of senior players who have played many games should not be underestimated. However, the consumption of such players in the game is relatively scattered, and they seldom focus on one or several games.
Table 6. Cross Distribution of Player's Game Level and Game Duration.

|                           | 2 hours or more at a time | About one hour at a time | About half an hour each time | 10 minutes or less at a time | Total |
|---------------------------|---------------------------|--------------------------|-----------------------------|-------------------------------|-------|
| Number Proportion         | Proportion                | Number Proportion        | Proportion                  | Number Proportion             | Proportion |
| Rarely play games         | 26                        | 30.95%                   | 21                          | 25%                           | 13      | 15.48% | 24                          | 28.57% | 84                          |
| Junior player             | 52                        | 44.07%                   | 49                          | 41.53%                        | 10      | 8.47%  | 7                           | 5.93%  | 118                         |
| Ordinary player           | 138                       | 58.23%                   | 74                          | 31.22%                        | 11      | 4.64%  | 14                          | 5.91%  | 237                         |
| High level players        | 40                        | 67.80%                   | 14                          | 23.73%                        | 3       | 5.08%  | 2                           | 3.39%  | 59                          |
| Professional player       | 8                         | 72.73%                   | 2                           | 18.18%                        | 1       | 9.09%  | 0                           | 0%     | 11                          |

From the above data, it can be seen that the design of game consumption projects should be mainly aimed at the people who are constantly improving the level of the game over time. That is to say, when designing a game, we should pay attention to increasing the charging items of the game with the deepening of the game, and attracting the players to go deep into the game and keep improving.

4.3 The Relationship Between Game Purpose and Consumption

It is generally believed that there is a positive correlation between game purpose and consumption. From the point of view of game purpose, players can be roughly divided into two categories: strategy players and leisure players. From the perspective of the amount of consumption of players in the game, it is found that: the consumption of leisure players is generally low, while that of strategy players is generally higher than that of leisure players because they enjoy the competitive experience brought by the game and pay more attention to and invest in the game.

Table 7. Relationship between Game Purpose and Consumption.

|                               | No consumption | Less than 100 yuan. | Less than 1000 yuan. | Less than 5000 yuan. | Over 5000 yuan | Total |
|-------------------------------|----------------|--------------------|----------------------|----------------------|----------------|-------|
| Relaxation and decompression  | 44.81%         | 31.17%            | 11.04%               | 7.14%                | 5.84%          | 154   |
| Competitive confrontation     | 34.15%         | 21.95%            | 19.51%               | 9.76%                | 14.63%         | 41    |
| Pass the time;                | 51.49%         | 24.75%            | 12.87%               | 6.93%                | 3.96%          | 101   |
| Social Entertainment          | 42.25%         | 26.29%            | 19.25%               | 8.45%                | 3.76%          | 213   |

The results show that leisure players consume the most in the game. Among the people who choose game as their leisure choice, those who spend more are those who aim at relaxation and decompression. The above situation shows that in the game design, in addition to strengthening the competitiveness in the content and plot of the game, we should also pay attention to strengthening the competitive
situation setting in the lower stage of the game, strengthening the sense of bringing in and enhancing the entertainment, and designing low price equipment or other projects.

5. Survey Summary and Suggestions

In combination with the above, game creators should pay attention to the following game design issues in game creation and operation.

5.1 Game Manufacturers Should Enhance the Gameplay to Attract and Stabilize Players.

The idea of improving gameplay is: in view of the characteristics that more players do not want to consume in the game, game manufacturers should design time limited discounts and other promotional links, and improve the game experience of consumer customers, forming a significant difference with non consumer users. When designing the corresponding equipment, it is necessary to set up the equipment in accordance with the differentiation requirements.

5.2 Develop Games More Suitable for Female Players

Women pay more attention to the texture of the screen and the emotional experience of the game, so the game settings should be mainly based on the Chinese ancient style to express the delicate and soft style. Add the expression of emotional elements in the game, so that women's emotional experience needs can be better satisfied.

5.3 Focus on 24-35 Year Old Gamers

When designing the game, the main consideration is to increase the emotional experience, so as to attract the people around 35 years old to join in, and the price of products in the game tends to emotional consumption. and mainly to develop role-playing games.

5.4 Strengthen the Stickiness of Game Players to Promote Consumption

Improve the sense of achievement by multiple systems, multiple playing methods and small goals, and keep the players firmly in the game. The game should not only provide upgrading experience, but also provide all-round and multi angle playing methods. Design small goals that players can achieve in about 10 minutes, so that the game time is more than half an hour, continue to increase small goals that can be achieved in the half an hour link, stimulate players to enter an hour, and after an hour, design consumption projects with low amount. We should pay attention to the positive correlation between the consumption of the game and the players' playing time and accumulation time, so as to design the consumption project will be more targeted.

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