

Project "Secrets of Darkwood"

Project goal: to study the influence of player characteristics and their in-game characters on the purchase of the in-game currency "Paradise Petals," as well as to assess player activity during in-game purchases

Part 3. Conclusions and Analytical Comments

Task: In the final part of the project, write conclusions and analytical comments based on the project results.

1. Results of Exploratory Data Analysis:

1.1. What is the share of paying players across the game, and how does character race affect this indicator?

Out of 22,214 players, 3,929 can be considered paying, which is 17.7%.

The most popular race among players is "Human" with 6,328 users (17.6% of whom are paying).

However, the highest paying share belongs to the "Demon" race, with 19.4% of players having made a payment (238 paying players out of 1,229).

The least paying race is "Elf," with a share of 17.07%.

1.2. How many in-game purchases were made and what can be said about their cost (minimum, maximum, differences between mean and median, data spread)?

A total of 1,307,678 transactions were made by players.

The total amount of in-game currency spent was 686,615,040.

The maximum transaction was 486,615, while the minimum was 0. Zero-value transactions raised questions, which were addressed later.

Additionally, the average transaction amount was 525.7 and the median was 74.9.

The spread in player spending was 2,517.3 units of in-game currency.

1.3. Are there anomalous purchases by cost? If yes, how many?

Out of more than one million transactions, 907 had a zero amount. This insignificant number accounted for just 0.07% of all transactions. However, it is worth investigating why these transactions had zero cost.

1.4. How many players make in-game purchases and how active are they? Compare the behavior of paying and non-paying players.

As mentioned earlier, paying players make up 17.7% (3,929) of the total number. Transactions with zero amount were excluded from the behavior study.

Non-paying players with transactions (11,348) make on average 97 transactions totaling 48,631 units of currency.

Paying players (2,444) make 81 transactions totaling 55,467 units.

The lower number of paying players with transactions (2,444), compared to players who purchased currency (3,929), may indicate that some players did not spend the currency.

1.5. Are there popular epic items that are purchased most often?

The most popular item is the "Book of Legends," purchased 1,004,516 times, accounting for 76.9% of all item purchases.

About 88.4% of players who made purchases bought this item.

The second most popular item is the "Bag of Holding," representing 20.8% of all item purchases.

Together, these two items make up 97.7% of all purchases.

39 items were never purchased.

2. Results of Ad Hoc Task Solutions

2.1. Is there a dependency between player activity in making in-game purchases and character race?

The "Demon" race most often made purchases with real money—19.4% of players of this race. Meanwhile, the share of players of this race with any transactions was the lowest among all races—59.97%.

The highest share of players with transactions belongs to the "Orc" race—62.9%.

In absolute numbers, the largest number of buyers is among "Human" (3,921 players), and the smallest among "Demon" (737). This correlates with the number of players of these races.

The highest number of transactions per player was recorded for "Human" (121) and "Angel" (106). The lowest was for "Demon" (77).

The highest spending per transaction per player was for “Northman” (761.4) and “Elf” (677.8), and the lowest for “Human” (403.1).

As the data show, there is no clear correlation that one race makes more transactions and spends more money. Differences in transaction count, real-money currency purchase, and spending may depend on players’ play styles.

2.2. How often do players make purchases?

Players with transactions where the total spending was not zero and who made more than 25 transactions were analyzed.

Based on the data, three equal groups of 2,572 players each were formed, divided by transaction frequency per player: ‘low frequency’, ‘medium frequency’, and ‘high frequency’.

The data indicate that player activity correlates with the average number of days between transactions. The average number of transactions in the high-frequency group is nearly 6.5 times higher than in the next group.

3. General Conclusions and Recommendations

Provide overall conclusions and recommendations for the marketing team based on the results.

- No clear correlation was found between the number of transactions, spending amount, and race. However, several points merit further study.
- The “Elf” race has the lowest percentage of players paying with real money. It might be worthwhile to increase interest among players of this race by introducing additional items tailored to them.
- When releasing updates, priority should be given to the “Human” race since it is the most popular.
- The “Demon” race turned out to be the highest-paying in real money, despite having the fewest transactions.
- Note that just two items (“Book of Legends” and “Bag of Holding”) make up 97.7% of all purchases. Consider diversifying items to encourage more active trading.
- Players were divided into three groups based on transaction frequency. These groups’ lists could be used for targeted marketing campaigns since group activity correlates with transaction count and spending.