Heroes of pymoli purchasing

A Quantitative Analysis of Purchasing by Demographic

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# Background

In the game Heroes of PyMoli, 1, 163 players can purchase from a catalogue of 179 unique items to help advance their characters. Of these players, 576 players have purchased 780 items for a total of $2379.77. These items have an average price of just $3.05. The following report aims seeks to discover trends from the 49.53% of the players who purchase items, and the sales of each item. These trends should inform the best marketing strategies to pursue in order to increase sales.

# Player Data

## Gender Analysis

In our data, we first broke down the 576 players who bought items by their gender.

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| --- | --- | --- |
| **Gender** | **Unique Players** | **% of Players** |
| **Male** | 484 | 84.03% |
| **Female** | 81 | 14.06% |
| **Other / Non-Disclosed** | 11 | 1.91% |

Here we can see that most players are male, but at 14.06%, the female population should not be ignored. The players who specified other or did not disclose their gender is a small population, and the trends of these 11 players might not be a good representation of future players purchasing habits.

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| --- | --- | --- | --- | --- | --- |
| **Gender** | **Total Purchases** | **Purchases per Player** | **Avg Purchase Price** | **Avg Spent per Player** | **Total Spent** |
| Male | 652 | 1.35 | $3.02 | $4.07 | **$1967.64** |
| Female | 113 | 1.40 | $3.20 | $4.47 | **$361.94** |
| Other / Non-Disclosed | 15 | 1.36 | $3.35 | $4.56 | **$50.19** |

From the above table, it is clear that sales are largely male driven. Their purchases make up 82.68% of all sales. However, the average female player buys slightly more items, which are also more expensive. The average female player generates 9.83% more sales than the average male.

## Age Analysis

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| --- | --- | --- |
| **Age Group** | **Number of Players** | **% of Players** |
| <10 | 17 | 2.95% |
| 10-14 | 22 | 3.82% |
| 15-19 | 107 | 18.58% |
| 20-24 | 258 | 44.79% |
| 25-29 | 77 | 13.37% |
| 30-34 | 52 | 9.03% |
| 35-39 | 31 | 5.38% |
| 40+ | 12 | 2.08% |

In looking at the ages of players, we organized players into eight different groups. This table shows that the largest group of players are aged 20-24. There is also a sharp decline between age groups 15-19, and 10-14. It is unclear if this is due to the appeal of the items to each group, or the ability of younger players to purchase items. Players older than our key demographic should have the ability of purchasing items, so it is assumed that the items are not appealing to them.

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| --- | --- | --- | --- | --- | --- |
| **Age Group** | **Total Purchases** | **Purchases per Player** | **Avg Purchase Price** | **Total Spent** | **Avg Spent per Player** |
| <10 | 23 | 1.35 | $3.35 | $77.13 | $4.54 |
| 10-14 | 28 | 1.27 | $2.96 | $82.78 | $3.76 |
| 15-19 | 136 | 1.27 | $3.04 | $412.89 | $3.86 |
| 20-24 | 365 | 1.41 | $3.05 | $1114.06 | $4.32 |
| 25-29 | 101 | 1.31 | $2.90 | $293.00 | $3.81 |
| 30-34 | 73 | 1.40 | $2.93 | $214.00 | $4.12 |
| 35-39 | 41 | 1.32 | $3.60 | $147.67 | $4.76 |
| 40+ | 13 | 1.08 | $2.94 | $38.24 | $3.19 |

While the 20-24 age group makes up 44.79% of all players, they also buy more items than any other age group. This group also spends the third most on average, behind players aged 35-39, and players under ten. However, these groups represent smaller shares of the population (5.38% and 2.95%). The next two groups with the greatest overall spending are ages 15-19 ($412.89) and 25-29 ($293.00). These group are also the next two most populous and sandwich our key demographic.

## Top Spenders

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| --- | --- | --- | --- |
| **SN** | **Total Purchases** | **Average Price** | **Total Spent** |
| Lisosia93 | 5 | $3.79 | $18.96 |
| Idastidru52 | 4 | $3.86 | $15.45 |
| Chamjask73 | 3 | $4.61 | $13.83 |
| Iral74 | 4 | $3.40 | $13.62 |
| Iskadarya95 | 3 | $4.37 | $13.10 |

The average player who buys an item buys 1.35 items and spends $3.05 per item. This is an average total of $4.13 per player. Of our top five spenders, they purchase both more than double the number of items, but also buy more expensive items. These players spend over three times the average player. It is important to not that while this is a large *percentage* increase in volume of purchase, 3-5 purchases do not seem like a large increase from a single purchase.

# Item Data

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| **Top Selling Items** | | | | |
| **Item ID** | **Item Name** | **Number of Purchases** | **Price** | **Total** |
| 92 | Final Critic | 13 | $4.61 | $59.99 |
| 178 | Oathbreaker, Last Hope of the Breaking Storm | 12 | $4.23 | $50.76 |
| 145 | Fiery Glass Crusader | 9 | $4.58 | $41.22 |
| 132 | Persuasion | 9 | $3.22 | $28.99 |
| 108 | Extraction, Quickblade Of Trembling Hands | 9 | $3.53 | $31.77 |

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| --- | --- | --- | --- | --- |
| **Top Earning Items** | | | | |
| **Item ID** | **Item Name** | **Number of Purchases** | **Price** | **Total** |
| 92 | Final Critic | 13 | $4.61 | $59.99 |
| 178 | Oathbreaker, Last Hope of the Breaking Storm | 12 | $4.23 | $50.76 |
| 82 | Nirvana | 9 | $4.90 | $44.10 |
| 145 | Fiery Glass Crusader | 9 | $4.58 | $41.22 |
| 103 | Singed Scalpel | 8 | $4.35 | $34.80 |

Comparing items by the top value of sales and the top revenue generated, there does not appear to be much variation. The top two items in each category sold more than ten times, while the remaining items in the top five sold nine or eight times. Each item is valued higher than the average item ($3.05).

# Conclusions

When studying the players who purchase items in Heroes of PyMoli, a few characteristics stand out. First, an absolute majority of players are male (84.03%). While they spend less and purchase fewer items than the average female, the males account for 82.68% of all sales, and would likely be the most cost-effective group to market towards.

Focusing on the age groups of players, a simple majority of players are aged 20-24 (44.79%). The distribution of players in our age groups is slightly right skewed. The next two largest groups, ages 15-19 (18.58%) and 25-29 (13.37%), sandwich this key demographic. These three groups comprise 76.74% of all players who purchased items. Marketing strategies should include the larger group of players 15-29 but be more focused around the 20-24 age group.

The last area of focus should not be on just on market, but content creation. Looking at our top performing items, and the habits of our top spenders, the most popular items are also more expensive than the average items. Additionally, the top spenders purchase more expensive items. When creating new in-game items, it may be prudent to focus on quality over quantity. These are the items that are appealing to those who spend the most, and the most popular overall.

# Limitations and Further Exploration

While there are clear trends among players who purchase items, this study does not include the 50.47% of players who do not purchase anything. Surprisingly, the breakdown by gender is the same for total players and players who purchase items. But a deeper look into the relationship between a player’s age, and his likelihood to purchase an item is needed.

In our dataset, it is unknown what types of items are available for sale. By knowing what types of items sell better than others, developers can focus on better performing items.

It is also unknown if how whether PyMoli players are more likely to purchase in-game items than players of other games. Such a study would inform the effectiveness of current marketing. If 49.53% is a high proportion of players who purchase in-game items, then it might make market to potential new players. If other games typically sell to a greater proportion of players, it might make sense to try to market to the players not currently buying items. A deeper understanding of the industry as a whole is needed.