Background

This assignment focuses on applying all what I have learn about Python Pandas and applying it to a new situation. The situation is analyzing the data of an independent gaming company most recent fantasy game called Heroes of Pymoli. Like many other games in its genre, the game is free to play, but players are encouraged to purchase optional items that enhance their playing experience.

The Heroes of Pymoli game analysis will include several different perspectives to consider and this includes:

1. Player Count – The total number of players included in the dataset

|  | **Total Players** |
| --- | --- |
| **0** | 576 |

1. Purchasing Analysis (Total) – The dataset has 780 purchase transactions of that number 183 transactions are unique (in other words non repetitive) and based on the average price it gives an overall total revenue amount.

|  | **Number of Unique Items** | **Average Price** | **Number of Purchases** | **Total Revenue** |
| --- | --- | --- | --- | --- |
| **0** | 183 | $3.05 | 780 | $2,379.77 |

1. Gender Demographics – Of the 576 active players, 84% are male, 14% are female and 2% did not disclosed their gender type.

Total Count Percentage of Players

Genders

Male 484 84.03%

Female 81 14.06%

Other / Non-Disclosed 11 1.91%

1. Purchasing Analysis (Gender) – Of the 780 purchase transactions the breakdown by Gender is shown below. Noticeably, the males generate a higher purchase value due to number of participations.

Purchase Count Average Purchase Price

Gender

Female 113 $3.20

Male 652 $3.02

Other / Non-Disclosed 15 $3.35

Total Purchase Value Aveg Total Purchase per Person

Gender

Female $361.94 $4.47

Male $1967.64 $4.07

Other / Non-Disclosed $50.19 $4.56

1. Age Demographics – The majority of players fall between the ages of 20-24. Follow by 15-19 and 25-29 years old.

Total Count Percentage of Players

Age Bin

<10 24 4.17 %

10-14 15 2.60 %

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 %

1. Purchasing Analysis (Age) – Again players between the ages of 20-24 lead in terms of revenue being generated; followed by the 15-19 and 20-29 year olds.

Purchase Average Total

Count Purchase Price Purchase Value \

Age Bin

<10 32 $3.40 $108.96

10-14 19 $2.68 $50.95

15-19 136 $3.04 $412.89

20-24 365 $3.05 $1114.06

25-29 101 $2.90 $293.00

30-34 73 $2.93 $214.00

35-39 41 $3.60 $147.67

40+ 13 $2.94 $38.24

Avg Total

Purchase per Person

Age Bin

<10 $4.54

10-14 $3.40

15-19 $3.86

20-24 $4.32

25-29 $3.81

30-34 $4.12

35-39 $4.76

40+ $3.19

1. Top Spenders – This table identifies the maximum amount of purchase transaction a player makes and what each generates in terms average price value.

|  | **Purchase Count** | **Average Purchase Price** | **Total Purchase Value** |
| --- | --- | --- | --- |
| **SN** |  |  |  |
| **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 |

1. Most Popular Items – Here we identify the top 5 most popular items a player purchases. Item #178 is the most popular with 12 transactions.

|  |  | **Purchase Count** | **Item Price** | **Total Purchase Value** |
| --- | --- | --- | --- | --- |
| **Item ID** | **Item Name** |  |  |  |
| **178** | **Oathbreaker, Last Hope of the Breaking Storm** | 12 | $4.23 | 50.76 |
| **145** | **Fiery Glass Crusader** | 9 | $4.58 | 41.22 |
| **108** | **Extraction, Quickblade Of Trembling Hands** | 9 | $3.53 | 31.77 |
| **82** | **Nirvana** | 9 | $4.90 | 44.10 |
| **19** | **Pursuit, Cudgel of Necromancy** | 8 | $1.02 | 8.16 |

1. Most Profitable Items – After sorting the previous table the top 5 most profitable items is identified.

|  |  | **Purchase Count** | **Item Price** | **Total Purchase Value** |
| --- | --- | --- | --- | --- |
| **Item ID** | **Item Name** |  |  |  |
| **178** | **Oathbreaker, Last Hope of the Breaking Storm** | 12 | $4.23 | 50.76 |
| **145** | **Fiery Glass Crusader** | 9 | $4.58 | 41.22 |
| **108** | **Extraction, Quickblade Of Trembling Hands** | 9 | $3.53 | 31.77 |
| **82** | **Nirvana** | 9 | $4.90 | 44.10 |
| **19** | **Pursuit, Cudgel of Necromancy** | 8 | $1.02 | 8.16 |

Conclusion:

Of the 576 active players included in the dataset, the majority are male (84%) with a noticeable portion of female players (14%). The age demographics falls between 20-24(44%) with a close second falling in the 15-19(18%) and 25-29(13%). Based on the purchase analysis by age many players will pay on average $3.05 creating a total purchase value of $1,114.06. Which is coincides closely with the top spender’s average purchase price of $3.79. Based on these two prices we can create another Item that will fall between the purchase value of $3.05 and $3.79. Most popular items have an Item price that fall in $4 value range. In addition, the new Item will have to appeal to the 20-24 males since they are the most active players.