

Coursework Title: 1. Pandas Challenge (HeroesOfPymoli)

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Program: Data Visualization Part-Time

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# Observations and Discussion:

## Before starting the tasks, an info and describe command was ru non the original dataframe. Using the info and describe functions facilitated using the correct functions to calculate accurate unique counts for the following exercises.

# Player Count:

# The Player Count exercise was approached in two different ways. One strategy was to use the nunique function on the SN; the next method was to find the length of value\_counts on the SN column

# Although the total number of rows was 780, the unique counts calculated was only 576.

# Purchasing Analysis Total:

# The purchasing analysis summary table shows that out of the total 780 purchases, only 179 unique item were bought. From, the previous exercise, it was also evident that there were only 576 unique players in the dataset.

# Gender Demographics:

# The gender demographics throws light on the fact that the majority(84.03%) of players were male. The unique count of total players(576) is broken down in this table by gender and the percentage is calculated.

# Purchasing Analysis Gender:

# This section displays the total number of purchases by gender. The focus moves from uniqueness to gender based on the count of purchases. Therefore, of a person made multiple purchases, all those ebents are captured.. Other summary calulations are made which shows that although the total purchase value was higher for males due to the number, the average purchase price was not substantially lower for women. In fact, the other/undisclosed spends the highest average out of all the gender groups.

# Age Demographics:

# Age demographics study shows that the majority of players were within the 20 to 24 age group, followed by the 15-19 age group.

# Purchasing Analysis Age:

# Although the majority of players were between ages 20-24, the highest average spend/purchase price was among players in the 35-39 age group, which explains the ability for settled younger professionals to spend more money than the younger crowd. Therefore, the company could target audience from that age group or focus marketing efforts to boost sales in the lower age groups as a strategy.

# Interestingly, the average total purchase per person remains highest for the 35-39 age group as well, but the <10 age group follows second explaining the purchases made by parents/guardians can be a big market for the company as well.

# Top Spenders:

# Top spenders is just a sorted list of the highest spenders whom the company can target to send special deals etc, and on the other hand also try to promote sales with appropriate strategies for lower spenders.

# Most Popular Items:

# From summary statistics, it can be seen that the 3rd quartile sits at $4.08, and The top 3 popular items happen to be higher than that price. Therefore, there is no correlation between cheaper items and sales. Therefore, the company can focus on providing better service and quality to develop better products even if the cost is higher, which could be a key observation here.

# Most Profitable Items:

# Interestingly, the most popular items(top 3) happens to fall within the top 4 places of most profitable items although with a high purchase price seems to high. Final Critic, Oathbreaker, Last Hope of the Breaking Storm and Fiery Glass Crusader seem to be most profitable and the most popular games too, which can allow the company to focus resources and capital allocation towards these games and improvise in the future to sustain cashflow.