

Trending eBay Watch Listings 2024

Exploratory Analysis

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I. INTRODUCTION

The Data set we chose to use for this project was Trending eBay Watch Listings 2024. This data set was found on Kaggle and was made to give a panoramic view of the watch market on eBay while gaining familiarity with R, Tableau, and Jupiter Notebook. This list of 2000 watches is limited to the eBay marketplace and should not be seen as the full market overview for watches. We chose to use this dataset because of its large quantity of entries and the useful variables the dataset provides. This data set also seemed very intriguing. Ebay has a large variety of products it sells including watches which means we get a full view of how the low-price market and high-price market interact. With the data provided we plan to find what watches turn the biggest profit and identify what categories promote a profitable product.

II. DATA SET DESCRIPTION

This data set contains 2000 samples with 10 columns with 2 numerical and 8 Categorical variables. We cleaned this data by turning the Price With Currency column from categorical data to numerical. We also filled in all missing data. For numerical data we filled the empty slots with the mean of the rest of the dataset. For the categorical data we filled the empty slots with “unknown”. A complete listing of the original data set is shown in **Table 1**.

Table 1: Data Types and Missing Data:

<i>Variable Name</i>	<i>Data Type</i>	<i>Missing Data (%)</i>
Available	Categorical	30.6%
Item Location	Categorical	21.15%
Item Number	Numerical	0
Price With Currency	Categorical (now numerical)	0
Seller	Categorical	0
Sold	Numerical	65.25%

Title	Categorical	0
Subtitle	Categorical	87.65%
Type	Categorical	2.25%
Last Updated	Categorical	7.5%

III. Data Set Summary Statistics

In total, there are 3 variables that can be summarized using standard statistics. They describe a range of criteria for each entry such as the price of the watches, number of watches sold, and the item number of the watches. Since the item number of the watches does not provide useful information, we did not include it in our summary and will just focus on price and amount sold.

Table 2: Summary Statistics for Trending eBay Watch Listings 2024

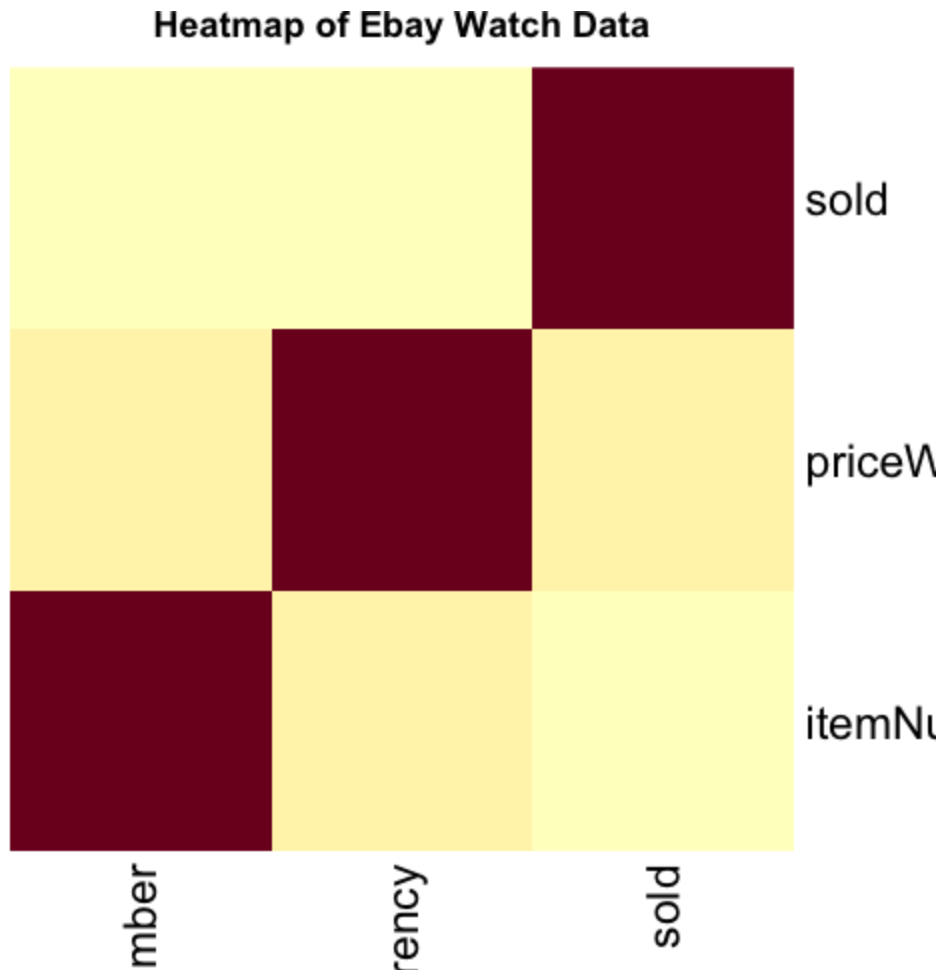
	vars	n	mean	std	median	mad	min	max	range
Item Number	1	2000	2.30E+11	6.10E+10	2.05E+11	7.56E+10	1.24E+11	3.35E+11	2.11E+11
Price With Currency	2	2000	2.73E+03	1.42E+04	9.50E+02	5.37E+02	2.49E+02	3.60E+05	3.60E+05
sold	3	2000	5.82E+00	4.54E+01	2.00E+00	0.00E+00	1.00E+00	1.37E+03	1.37E+03

Table 3: Proportions for Trending eBay Watch Listings 2024

<i>Category</i>	<i>Frequenc y</i>	<i>Proportion (%)</i>
<i>Title</i>	<i>2000</i>	<i>100%</i>
<i>Subtitle</i>	<i>2000</i>	<i>12.35%</i>
<i>Type</i>	<i>2000</i>	<i>97.75%</i>
<i>Last Updated</i>	<i>2000</i>	<i>92.5%</i>
<i>Seller</i>	<i>2000</i>	<i>100%</i>
<i>Item Location</i>	<i>2000</i>	<i>78.85%</i>
<i>Available</i>	<i>2000</i>	<i>69.4%</i>

Table 4: Correlation Table/Tables

	<i>Item Number</i>	<i>Price With Currency</i>	<i>Sold</i>
<i>Item Number</i>	<i>1.00</i>	<i>NA</i>	<i>-0.786</i>
<i>Price with currency</i>	<i>NA</i>	<i>1.00</i>	<i>NA</i>
<i>sold</i>	<i>-0.786</i>	<i>NA</i>	<i>1.00</i>



IV. DATA SET GRAPHICAL EXPLORATION

The first graphic that we explored was the pie chart (Figure 2) of what were the most common types of products sold. Of the 2000 entries, 83% were wrist watches with less than 1% being exclusive to men or women(0.1%) and only 0.2% considered valuable. Next, we explored pricing of watches through the use of a histogram (figure 3). This graph showed a right skew distribution with an average selling price of between \$500-\$1000. Through the bar chart (figure 4) we analyzed the top 5 companies by revenue. Overall, the top 5 were OFF tokyo Hong Kong, Breguetcamera, Citiwide Store, Direct Luxury, Direct Source G&D, and Sigmatime. Finally, we used a scatter plot (figure 1) to show the prices of watches sold bu the brand OFF tokyo. Primarily, this brand sold at high prices which seems to correlate with higher levels of revenue.

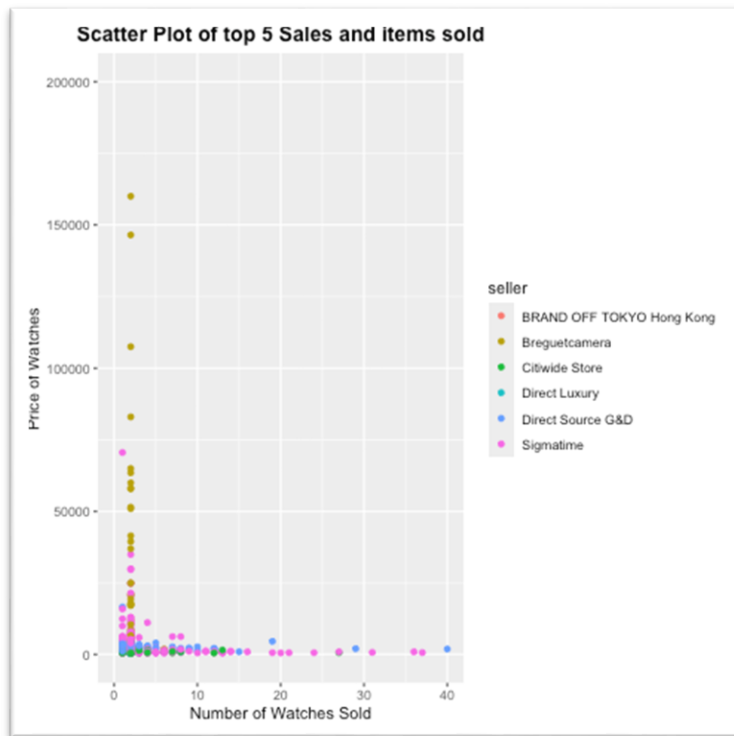


Figure 1: Scatter Plot of top 5 sales and items sold by OFF Tokyo

Pie Chart of Types of Watches on Ebay Market

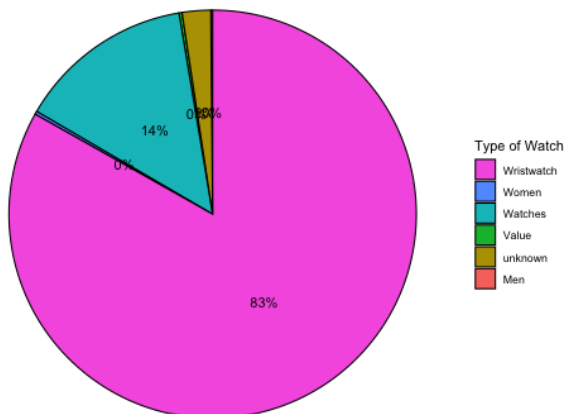


Figure 2: Pie chart of types of watches on Ebay market

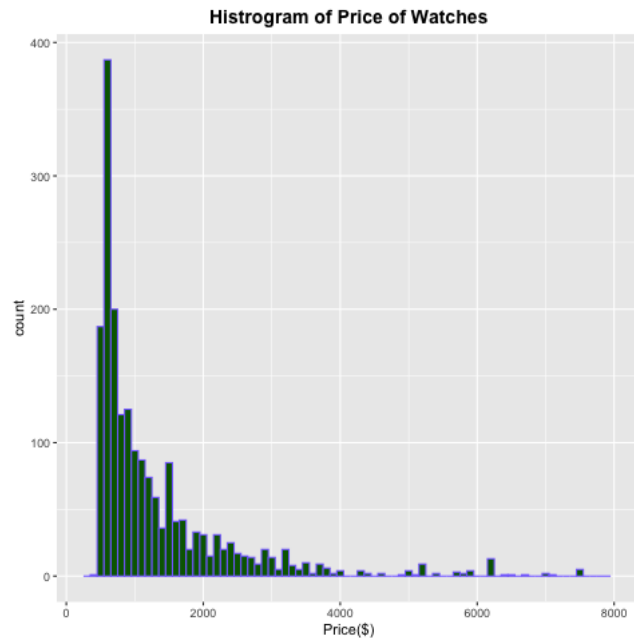


Figure 3: Histogram of Price of Watches

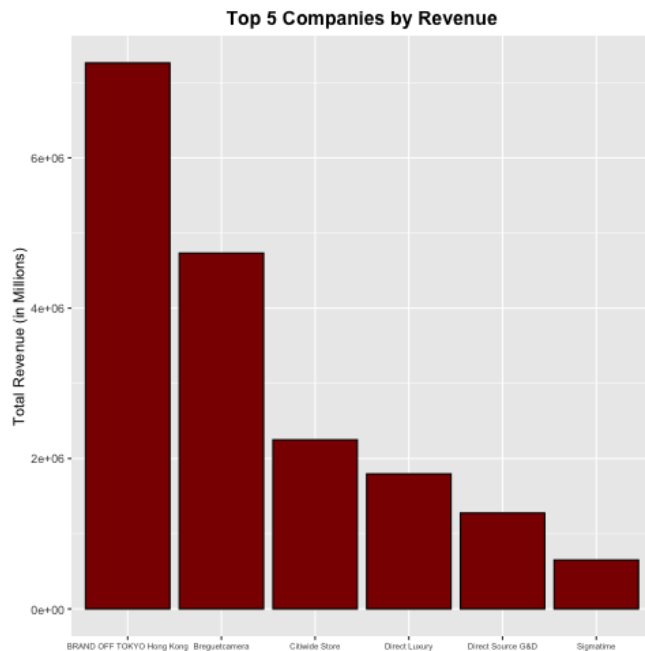


Figure 4: Bar Chart of top 5 companies by Revenue

V. SUMMARY OF FINDINGS

Through our analysis, the most successful brand thus far for 2024 in watch sales has been **OFF Tokyo Hong Kong**. It appears that they have combines a large amount of sales, with an upper-middle price range to maximize revenue. Despite other brands selling more watches and others selling some at massively high prices, OFF Tokyo still comes out as the

leader. Due to the frequency of wristwatch sales compared to others, as well as other categorical data observed, it is likely they specialized in high quality, but not rare, gender neutral watches with a mid to high price point.