Show Code

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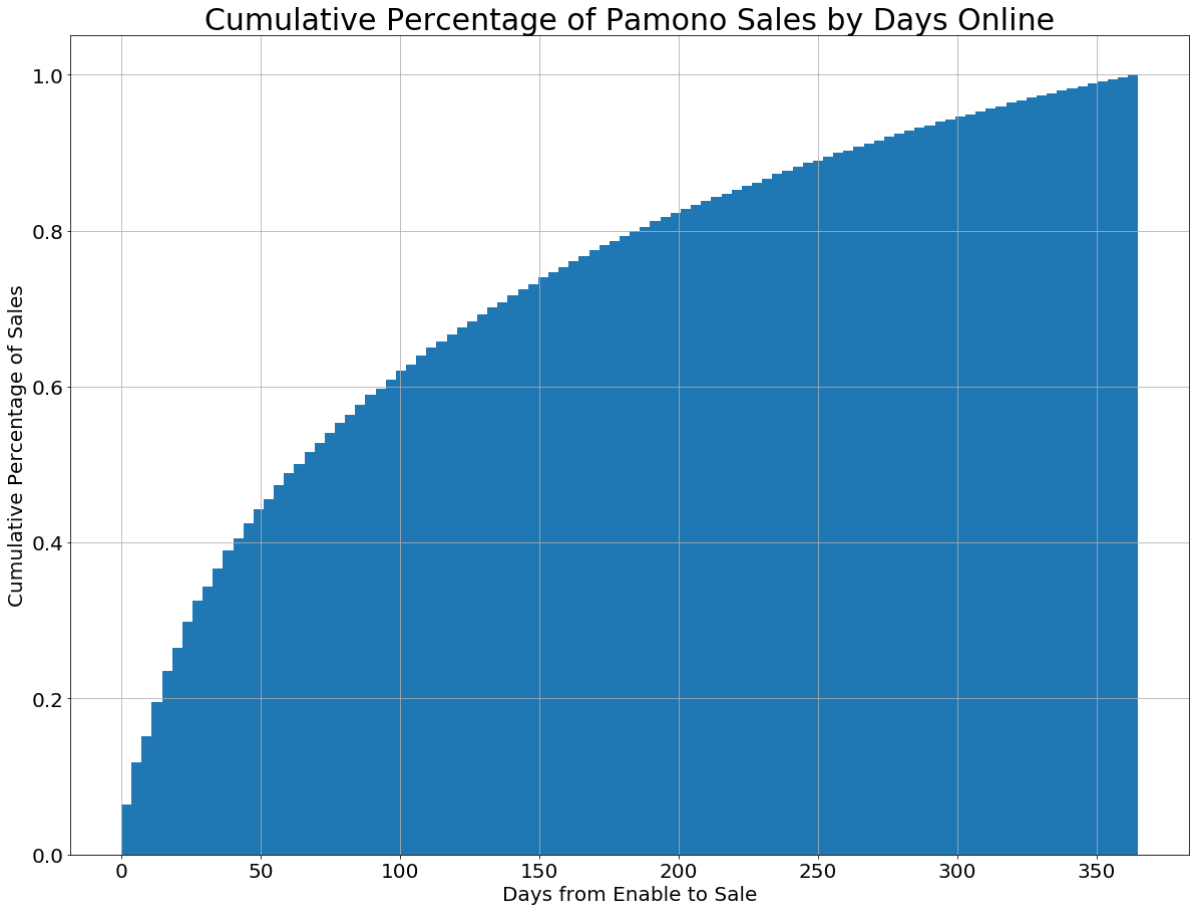
Upload Frequency Analysis

The goal of this analysis is to demonstrate the connection between frequent uploads and positive sales outcomes as a result

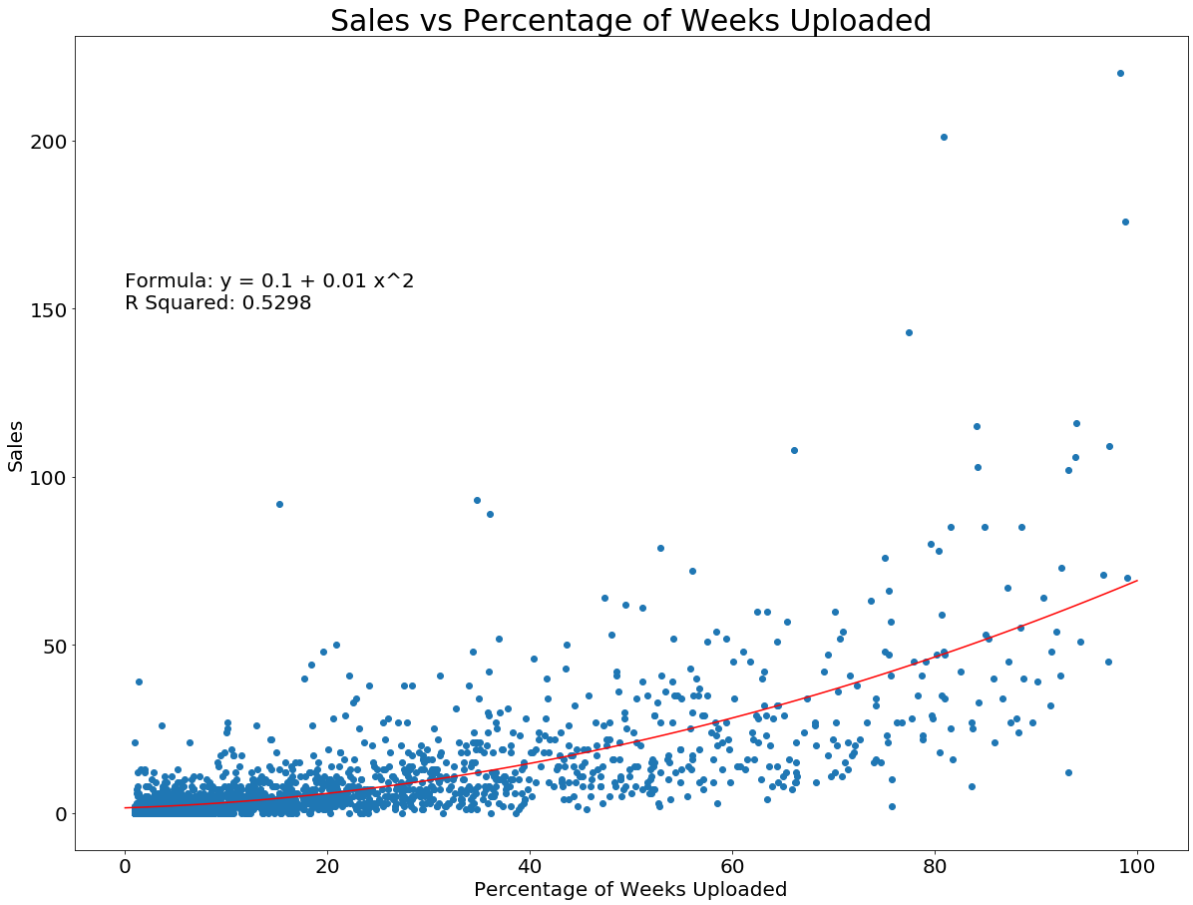
Origin of Sales

First we'll look at the age of products where our sales are coming from. The graph below shows the cumulative share of our sales by how long they've been online (sold within a year of being enabled). We see that more than 50% of our sales come from products less than 70 days old. 30% of our sales come from products online for less than 25 days. This means a product has the best chance of being sold within its first month of being online, with the probability of being sold decreasing in subsequent months. This is due to a myriad of factors including our internal sorting, which favors newer products, as well as search engine optimization and platforms like Google Shopping (a very large channel for us) rewarding novelty/new products.



Outcomes for Vendors by Upload Frequency

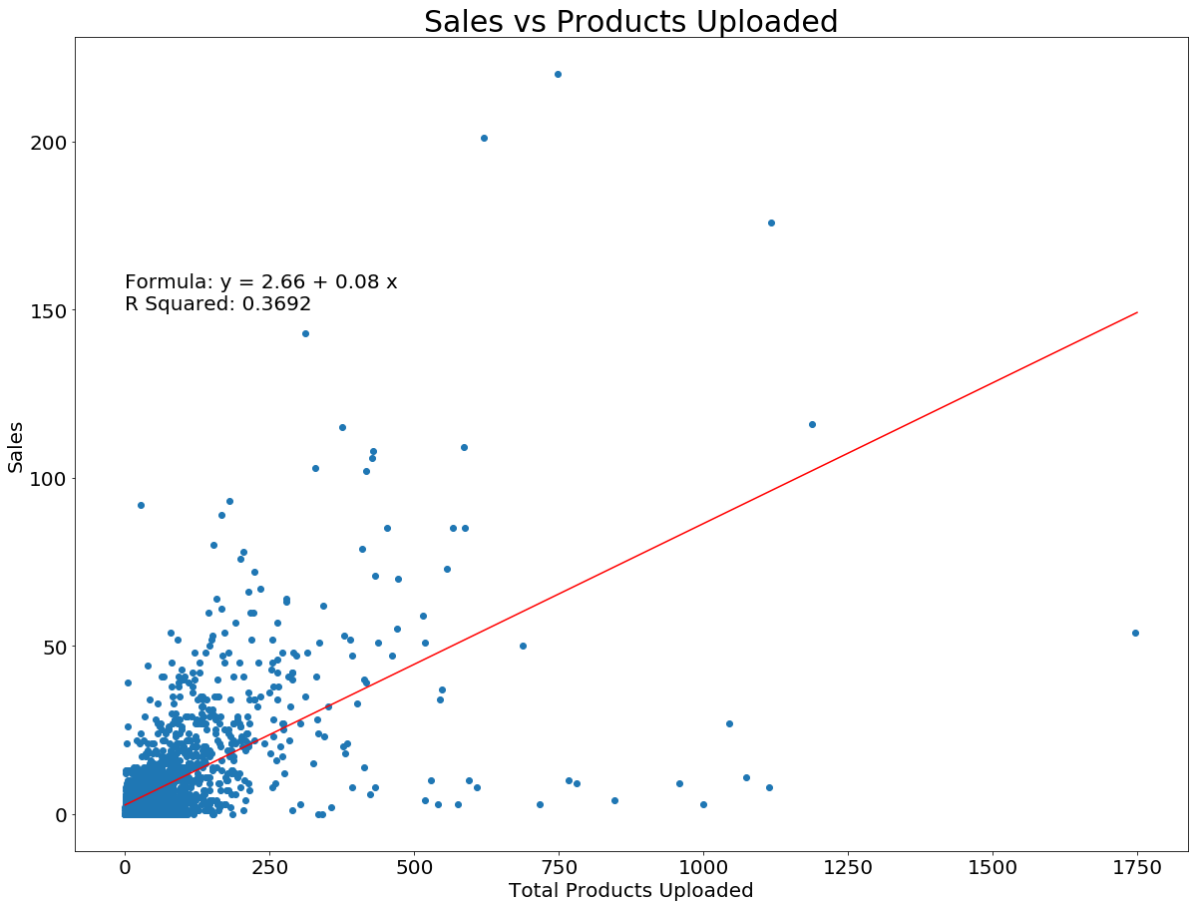
Now we'll take a look at the relationship between upload frequency and sales.



We see a clear positive trend between how often vendors upload and their number of sales, backed up by a polynomial regression of order 2. The fact that an equation of order 2 fits the observed data better than a linear model tells us that as vendors upload more and more frequently, it has increasingly positive benefits to their sales numbers. For example, going from uploading 10% of the time to 15% of the time has a smaller effect than going from 50% to 55%. The second order equation makes it more difficult to interpret the equation in words, but a linear model estimated on this data tells us that a 1% increase in the frequency of uploading corresponds to .5 more sales. So an increase of 10% corresponds to 5 extra sales.

Outcomes for Vendors by Upload Volume

Now we'll look at the same relationship between sales and overall quantity of uploads in the past year.



We again see a clear positive trend between number of products uploaded and number of sales. In this case a linear model fits the data better. The model is saying uploading 1 additional product will result in .08 additional sales.

Conclusion

By examining our historical data we see clear evidence for the fact that more frequent and larger uploads greatly increase a vendor's sale performance on our platform. These results confirm the intuition. Both our own sorting plus Google's reward newer products, resulting in a large proportion of our sales coming from products uploaded within the past month. This is further confirmed by observing the strong positive relationship between frequency of a vendor's uploads and his/her sale performance. More frequent uploads means more newer products means better sales outcomes. Additionally we see that a larger number of products uploaded results in more sales on the site, this clearly follows from the principle of the more a vendor has on the site, the more likely a customer is to buy one of their products.