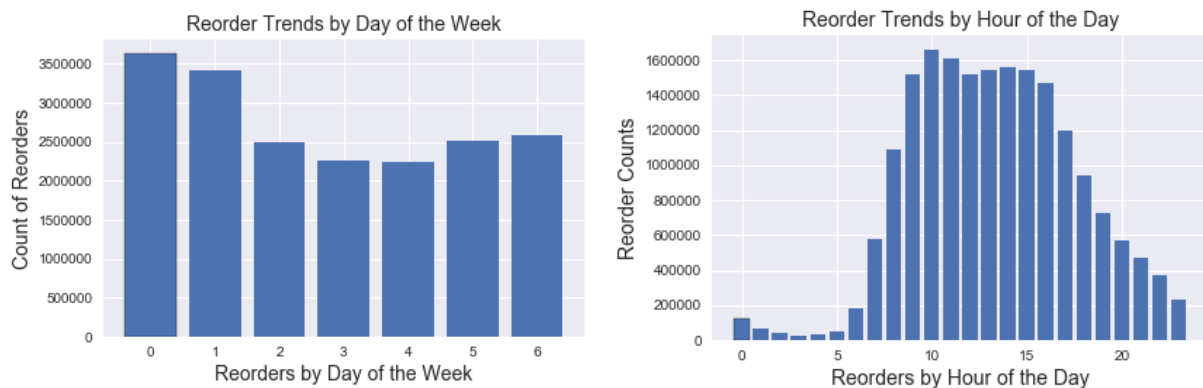


A Data Story at the Grocery Store

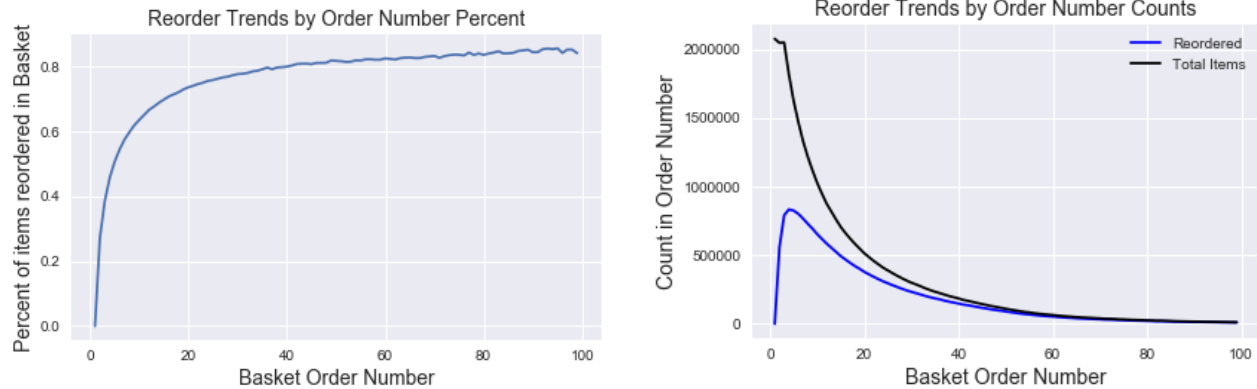
We are interested in how to predict reorders. First, we need to understand what the data has to say about reorders. We see that overall 60% of purchases contain reorders. Investigating the feature columns in respect to reorders, we begin to see some more trends. Hopefully, later these trends, highlighted below, will help in making and understanding customer reorder habits.

The first feature is “order_dow”, which is the day of the week customers make purchases. It starts at zero and goes to six, but InstaCart does not clarify which day of the week zero is, thus we will have to refer only to the numerical number. The data shows that customers make more purchases and more reorders on day 0 and day 1 of the week.

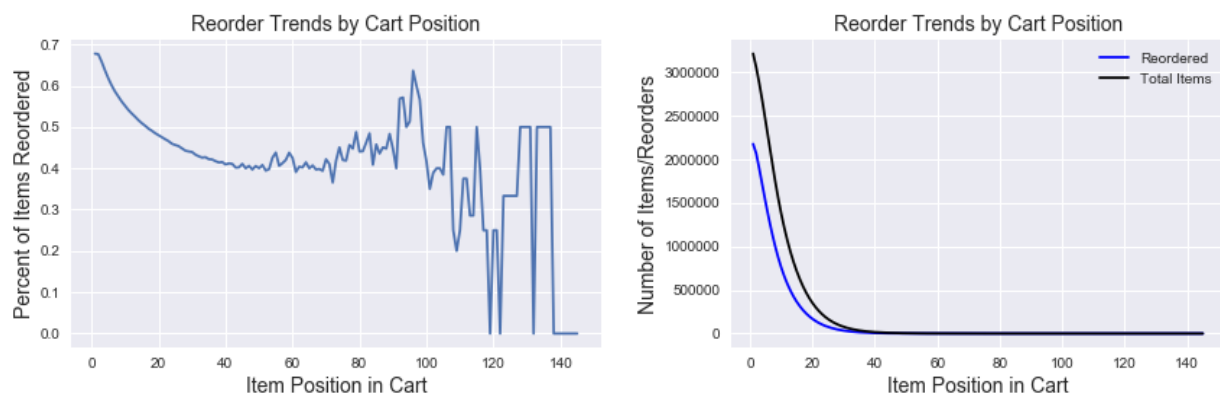


The next feature is “order_hour_of_day”. The data shows customers typically place orders both purchases and reorders between 8 am and 5 pm. The next feature “order_number” tracks the orders chronologically by customer. We see that reorders as a percent of the basket does increase as customer stay with the company. The first order, as expected, has no reorders, hence a percent of 0%. Afterward, the percent of reorders in the basket climbs exponentially for each customer leveling off at near 85%. Then it starts to decline at the same rate as items in the basket decreases.

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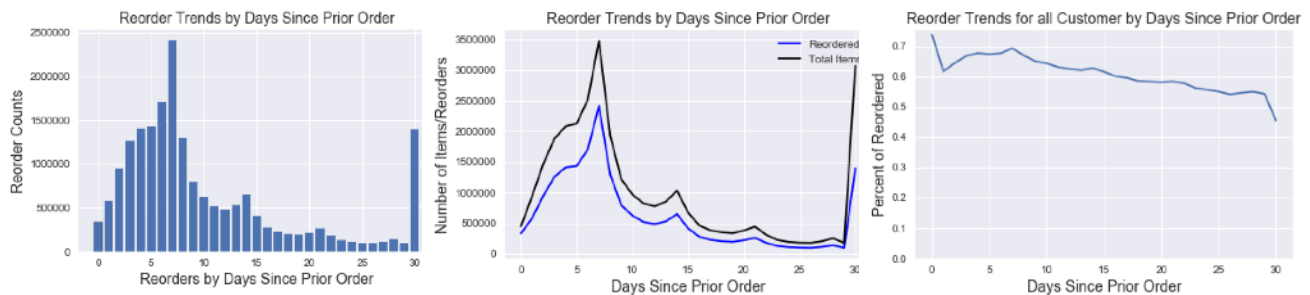
Continuing to the next feature “add to cart order,” we can answer an interesting question. Do customers buy reorders first or wait until the end? We see that most customer’s first item added to the cart is a reorder at just under 70%. Followed closely behind by the second item near the same rate. This begins to trail off to around 40% up to the 55th position in the cart. Afterward, things get a bit more erratic do more than likely do to the low number of orders with this many items in the basket.



The next feature “days since prior order” gives us a picture that most reorders occurs within the first week of theist order. In fact, reorders increase as the week goes on peaking seven days from the previous order after which reorders drop off substantially. The fact that anything over 30 is lumped into 30th day accounts

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for the spike at the end of the graph. We see the percent of reorders start at close to 80% and drop to just above 40%. We can make some propositions from this that customers are more likely to reorder items if they make another order within a week of their previous order. Logically, this might be because customers remember more easily things they enjoyed from their last purchase and purchase those items again.



A picture is beginning to take shape about customer reorders from just an initial look at the data. We can expect more customer on day 0 and day 1 between 8 am and 5 pm. We know that customer reorders drop off after a week from their previous order. If we wanted to try to increase reorders, we might try to engage customers to revisit with in a week. We know that the first items in a cart are much more likely to be reorders an indication that customers are revisiting for items they want to purchase again and then adding items they have less exposure too. These ideas that come from the data can already help to inform us about customers. The story the data tells by itself can assist in making business decisions. Moving forward, the data will also help us make predictions on what customers reorder in their next order.