

HA's Fruit Supply Business Report

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Business context

"HA" is a newly established firm operated in Viet Nam specializing in supplying various type of fruits for one of Vietnam largest distributor (will not be disclosed in this report due to privacy).

For the scope of this project, timeline was between 01/10/2022 (the day the shop established) and 15/11/2022. Since this is a newly established shop, this project will only address two main question as following:

- Which are the top performing provinces, shops and products regarding revenue?
- How are drop-rates distributed across provinces, shops and products?

Answering these two question will help the firm have a accurate perspective about their main revenue generators as well as determine whether there is inefficiency in their operations (high drop-rate indicates insufficient stocks or unqualified products).

Part 1: Revenue

Q1: How was revenue distributed across provinces?



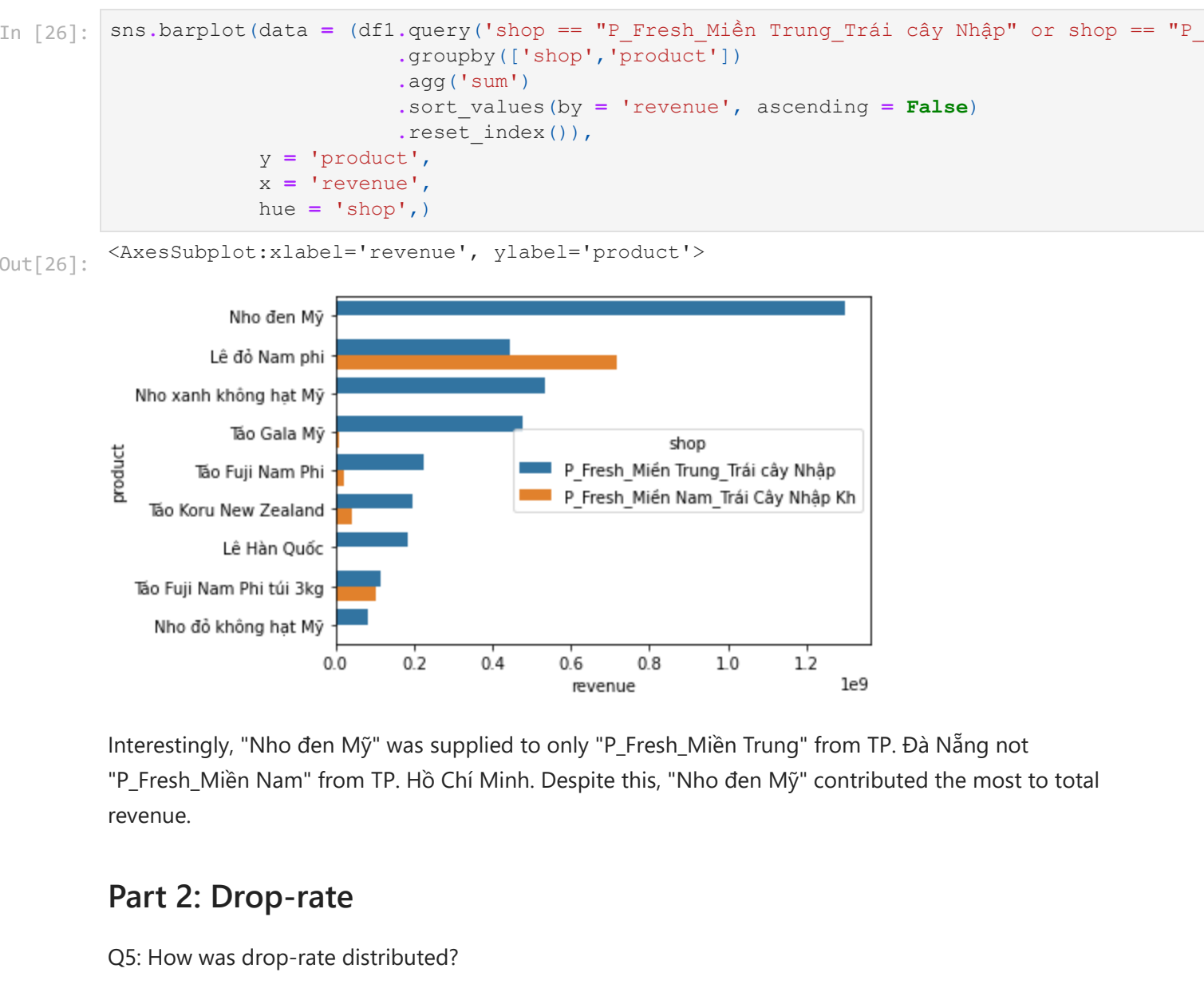
TP. Đà Nẵng and TP. Hồ Chí Minh generated the lion share of total revenue (with revenue from TP. Đà Nẵng almost tripled that from TP. Hồ Chí Minh). Later on, we will take a look at what are the main drivers (shops and products) of this trend.

Q2: How was revenue distributed across shops?



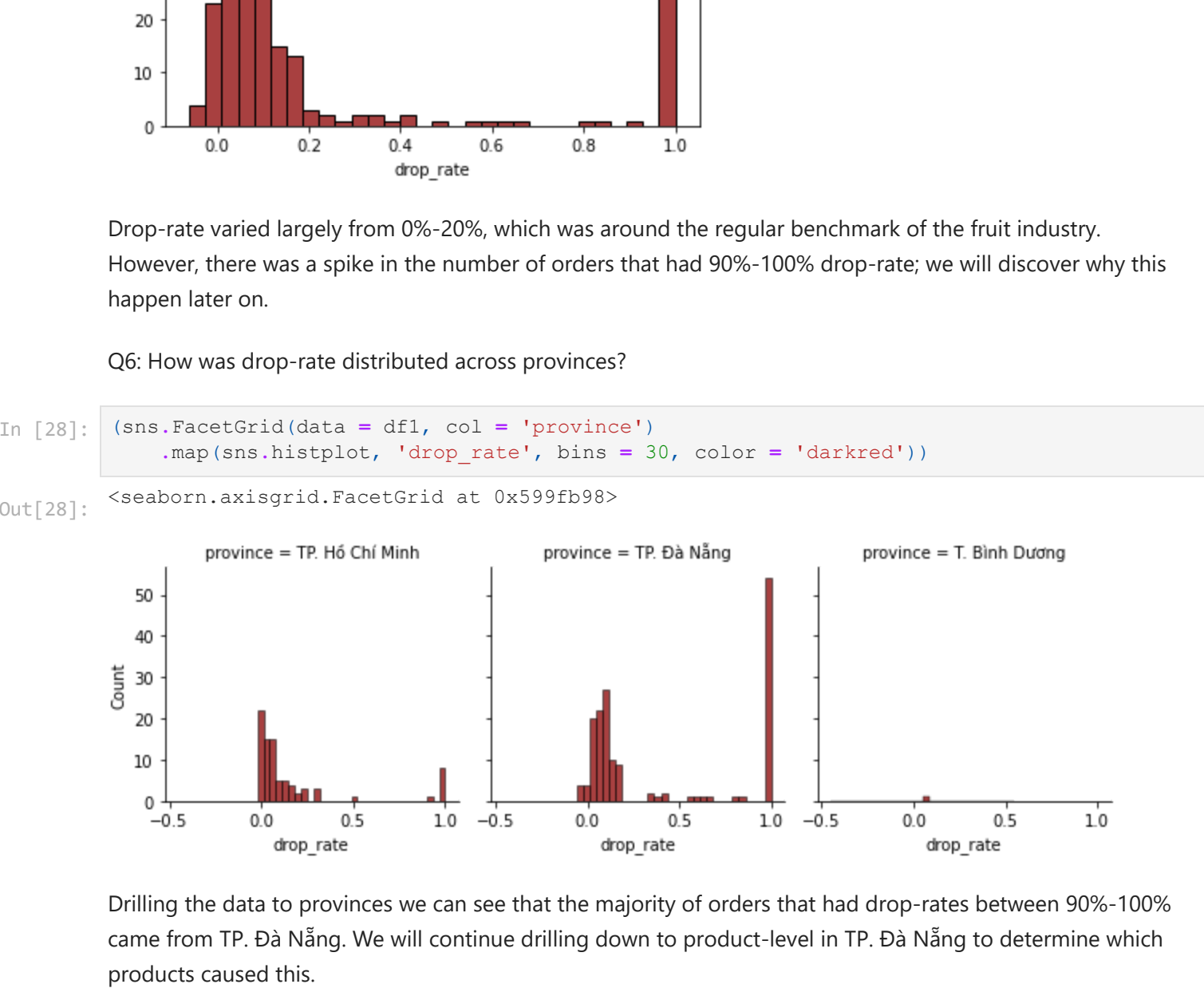
The highest amount of revenue was generated by "P_Fresh_Miền Trung_Trái cây Nhập", a store from TP. Đà Nẵng; ranked in second is "P_Fresh Miền Nam" from TP. Hồ Chí Minh. "T_Fresh_Miền Trung" which ranked at fourth is from TP. Đà Nẵng while the remaining stores are from either TP. Hồ Chí Minh or Bình Dương.

Q3: How was revenue distributed across products?



There were two products that generated the most of total revenue: the first was "Nho đen Mỹ"; the second was "Lê Đỏ Nam Phi".

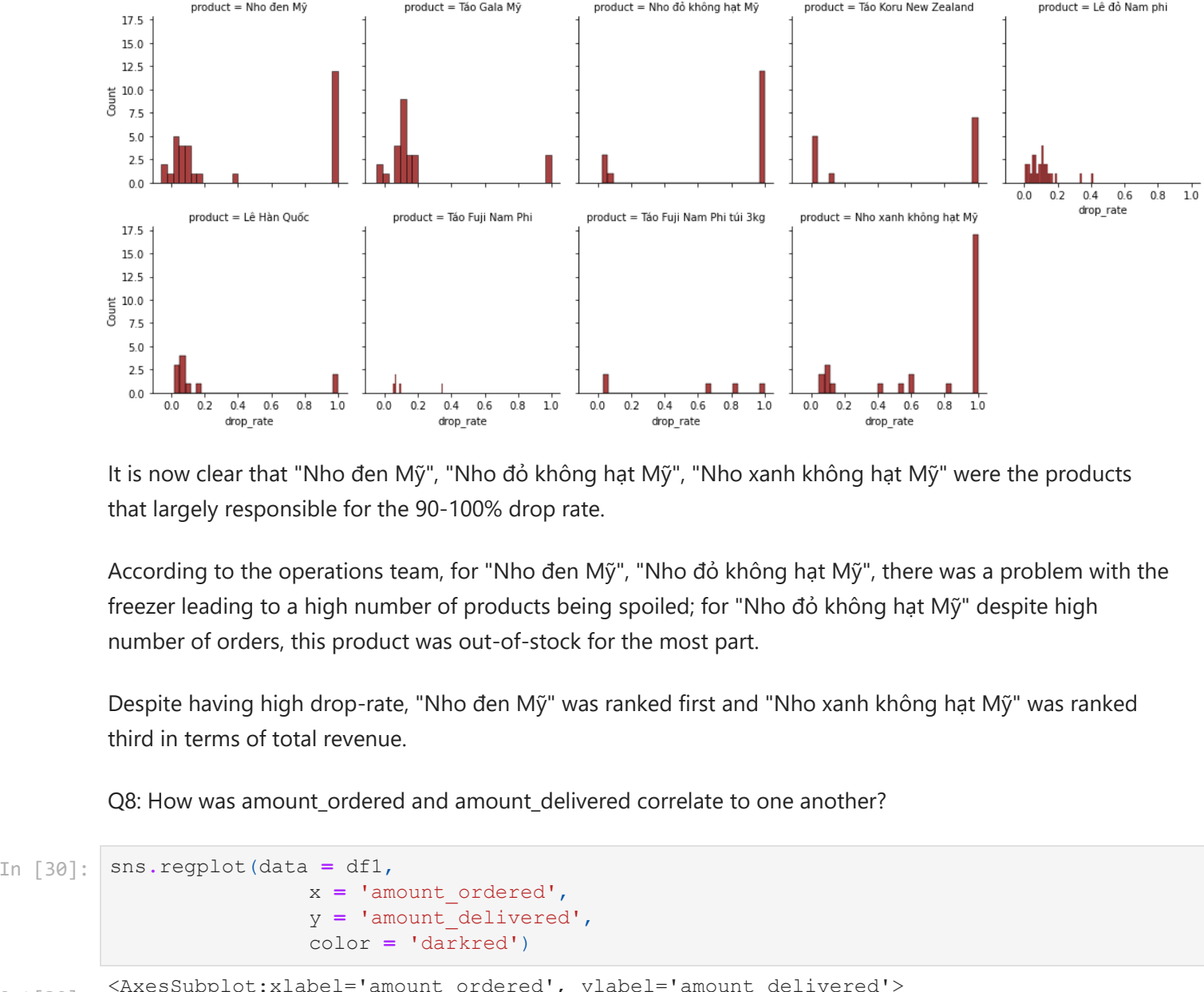
Q4: Regarding the two highest revenue generating shops, which products were their main revenue drivers?



Interestingly, "Nho đen Mỹ" was supplied to only "P_Fresh_Miền Trung" from TP. Đà Nẵng not "P_Fresh_Miền Nam" from TP. Hồ Chí Minh. Despite this, "Nho đen Mỹ" contributed the most to total revenue.

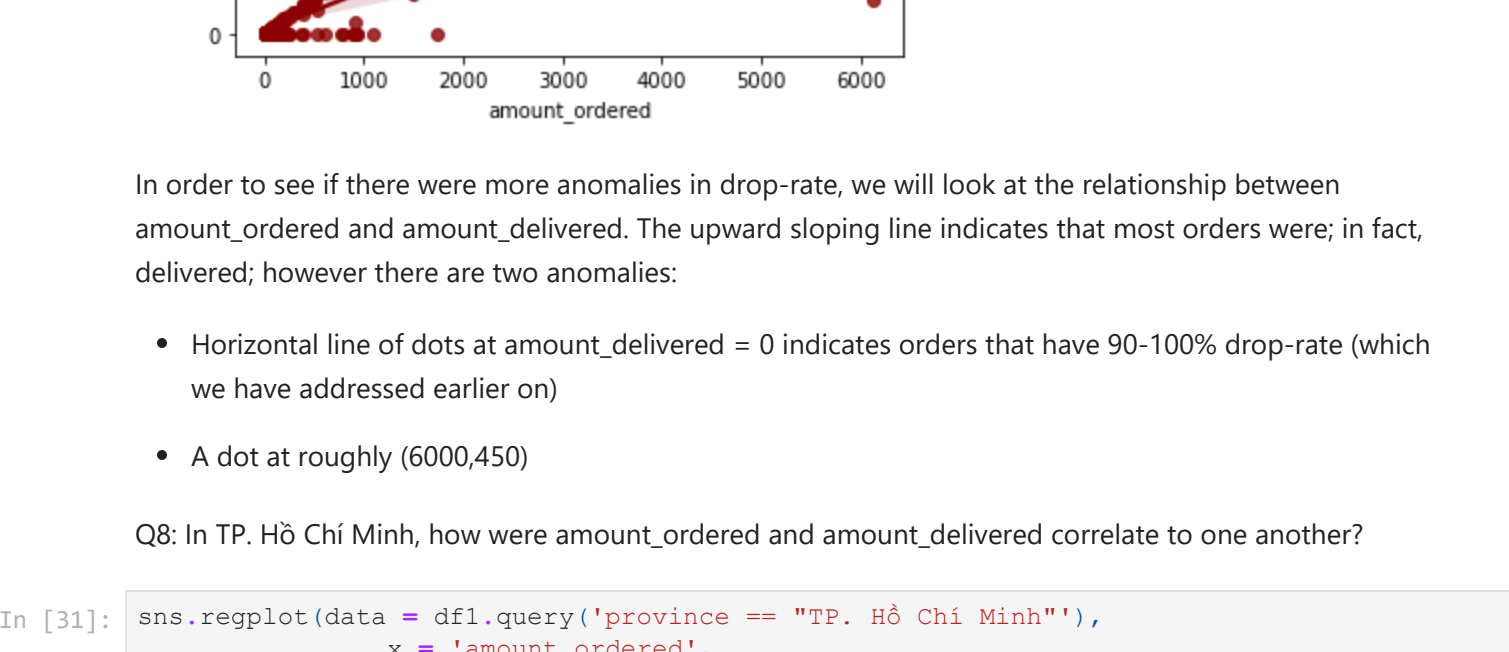
Part 2: Drop-rate

Q5: How was drop-rate distributed?



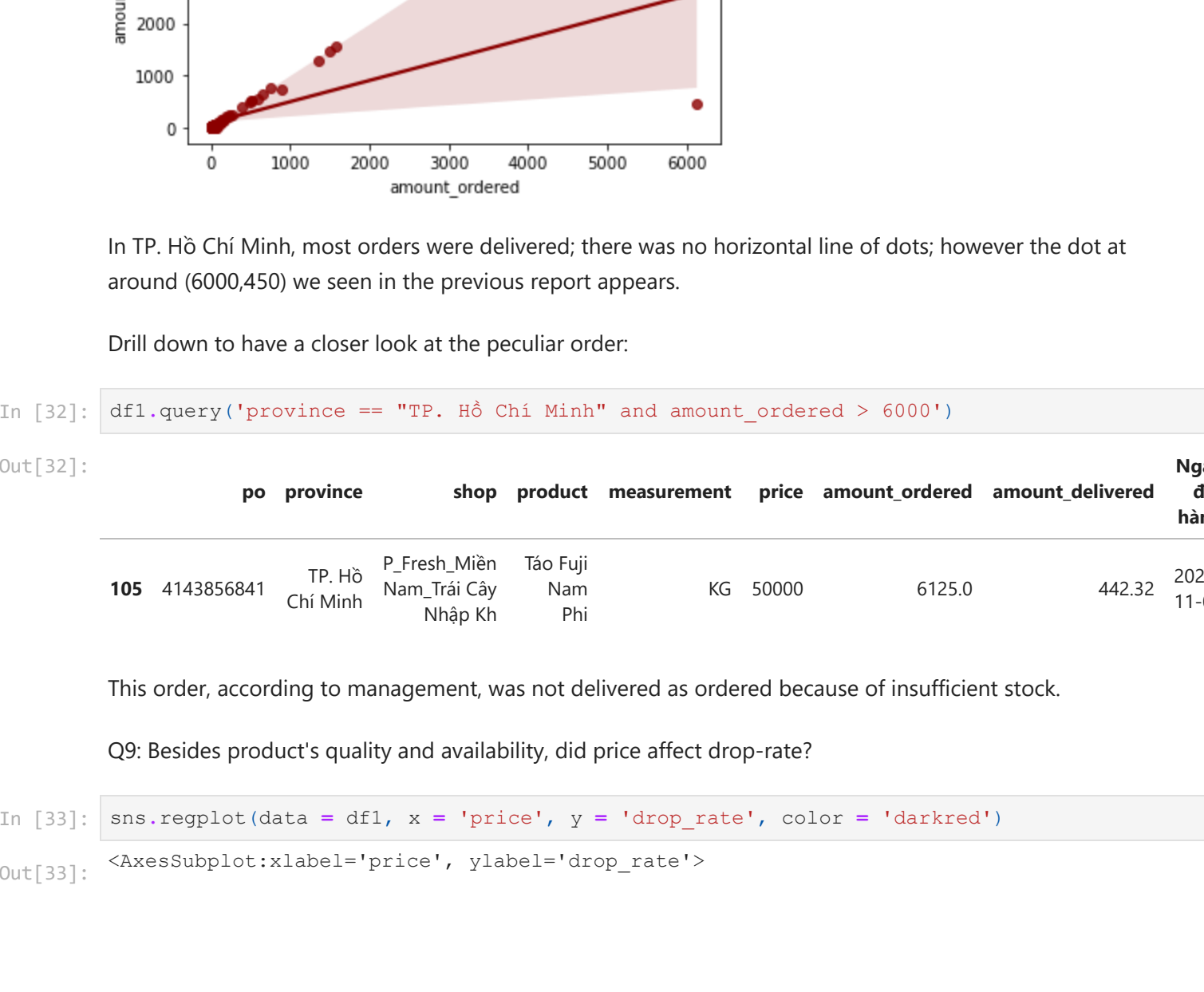
Drop-rate varied largely from 0%-20%, which was around the regular benchmark of the fruit industry. However, there was a spike in the number of orders that had 90%-100% drop-rate; we will discover why this happen later on.

Q6: How was drop-rate distributed across provinces?



Drilling the data to provinces we can see that the majority of orders that had drop-rates between 90%-100% came from TP. Đà Nẵng. We will continue drilling down to product-level in TP. Đà Nẵng to determine which products caused this.

Q7: How was drop-rate distributed across products sold in TP. Đà Nẵng?

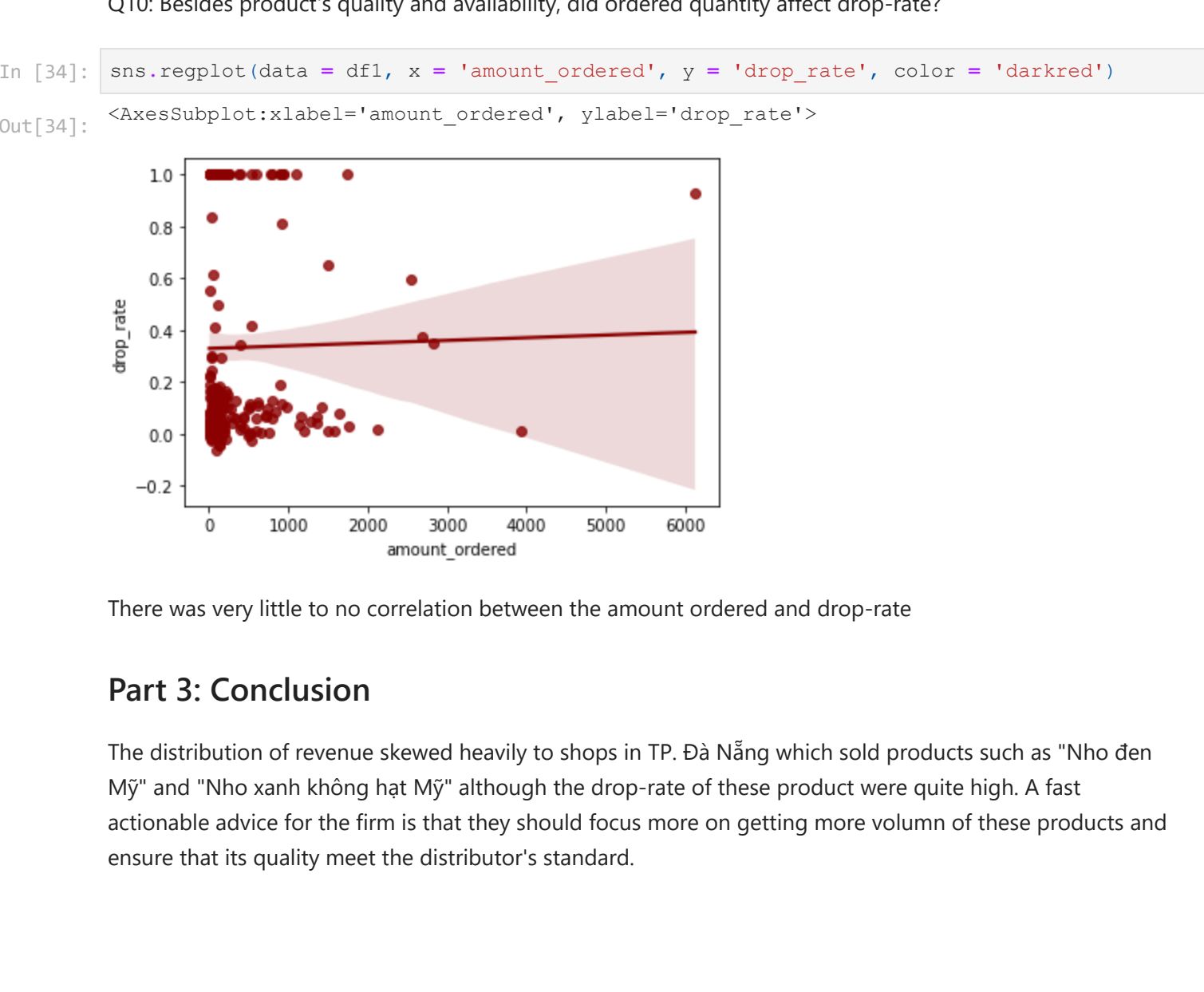


It is now clear that "Nho đen Mỹ", "Nho đỏ không hạt Mỹ", "Nho xanh không hạt Mỹ" were the products that largely responsible for the 90%-100% drop rate.

According to the operations team, for "Nho đen Mỹ", "Nho đỏ không hạt Mỹ", there was a high number of orders to a high number of products; so for "Nho đỏ không hạt Mỹ" despite high number of orders, this product was out-of-stock for the most part.

Despite having high drop-rate, "Nho đen Mỹ" was ranked first and "Nho xanh không hạt Mỹ" was ranked third in terms of total revenue.

Q8: How was amount_ordered and amount_delivered correlate to one another?



In order to see if there were more anomalies in drop-rate, we will look at the relationship between amount_ordered and amount_delivered. The upward sloping line indicates that most orders were; in fact, delivered; however there are two anomalies:

- Horizontal line of dots at amount_delivered = 0 indicates orders that have 90-100% drop-rate (which we have addressed earlier on)
- A dot at roughly (6000,450)

Q8: In TP. Hồ Chí Minh, how were amount_ordered and amount_delivered correlate to one another?

In TP. Hồ Chí Minh, most orders were delivered; there was no horizontal line of dots; however the dot at around (6000,450) we seen in the previous report appears.

Drill down to have a closer look at the peculiar order:

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In [32]: df1.query('province == "TP. Hồ Chí Minh" and amount_ordered > 6000')
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po	province	shop	product	measurement	price	amount_ordered	amount_delivered	Ngđ đ hà
105	4143856841	TP. Hồ Chí Minh	P_Fresh_Miền Nam_Trái Cây Nhập Kh	Táo Fuji Nam Phi	KG 50000	6125.0	442.32	202.11-(

This order, according to management, was not delivered as ordered because of insufficient stock.

Q9: Besides product's quality and availability, did price affect drop-rate?

The relationship between price and drop-rate was quite arbitrary suggesting drop-rate is more product-based than price-based

Q10: Besides product's quality and availability, did ordered quantity affect drop-rate?

There was very little to no correlation between the amount ordered and drop-rate

Part 3: Conclusion

The distribution of revenue skewed heavily to shops in TP. Đà Nẵng which sold products such as "Nho đen Mỹ" and "Nho xanh không hạt Mỹ" although the drop-rate of these product were quite high. A fast actionable advice for the firm is that they should focus more on getting more volumn of these products and ensure that its quality meet the distributor's standard.