03/13/2023

Insights into the logistics and shipping of Muesli Corp.

Created by AI

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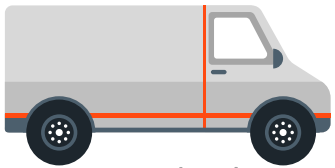
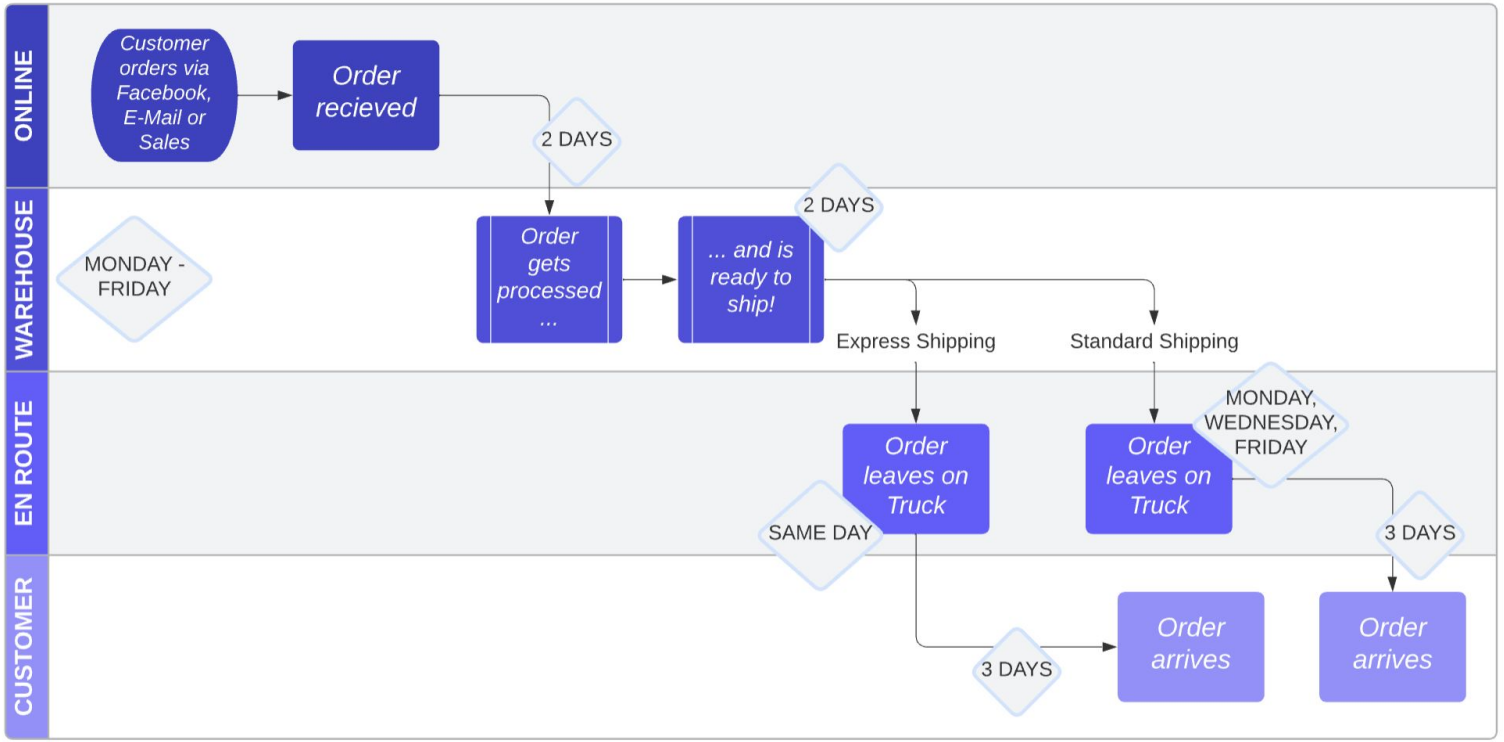
Innovative thinking for success

1. HYPOTHESES
2. INSIGHTS
3. SUGGESTIONS



Start your day right with our delicious muesli, delivered to your door.

Checking the Business Workflow



Where to Start… ?

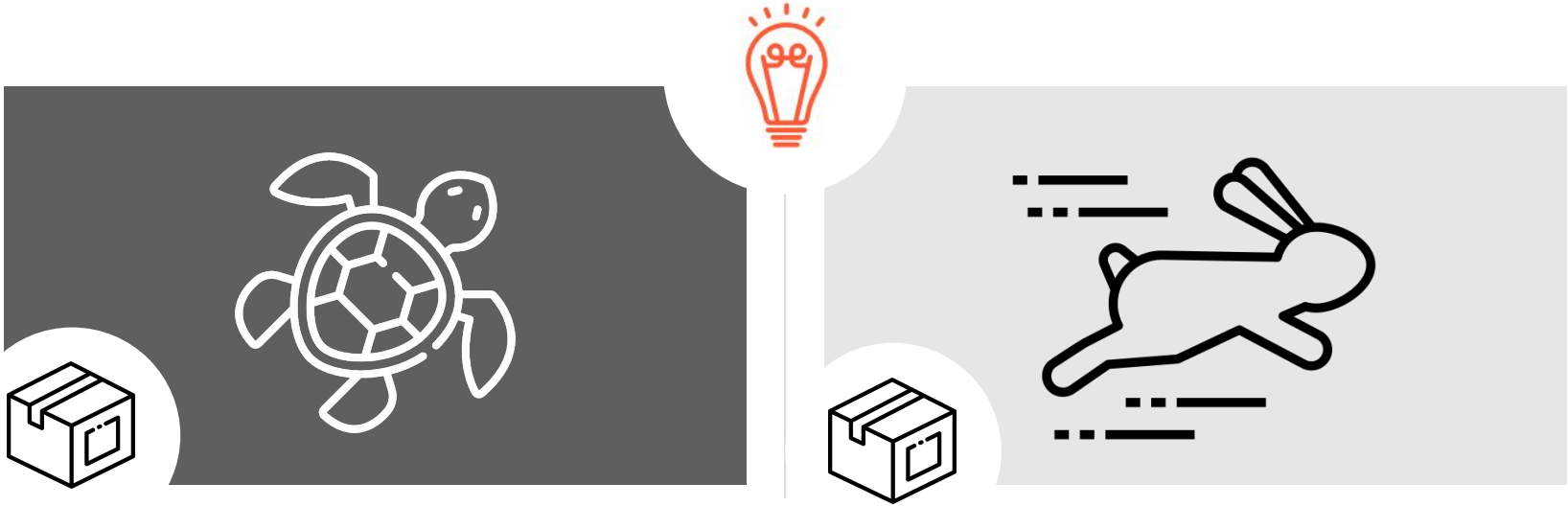
HYPOTHESES

Our focus?
Business!

Hypothesis (1)

Checking if the Business Workflow Expectation matches Reality

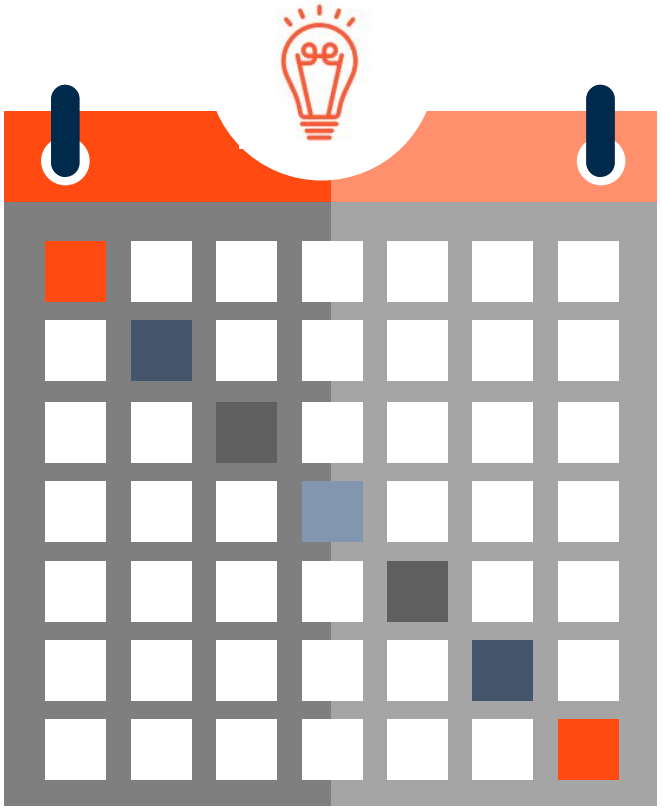
Hypothesis (2)



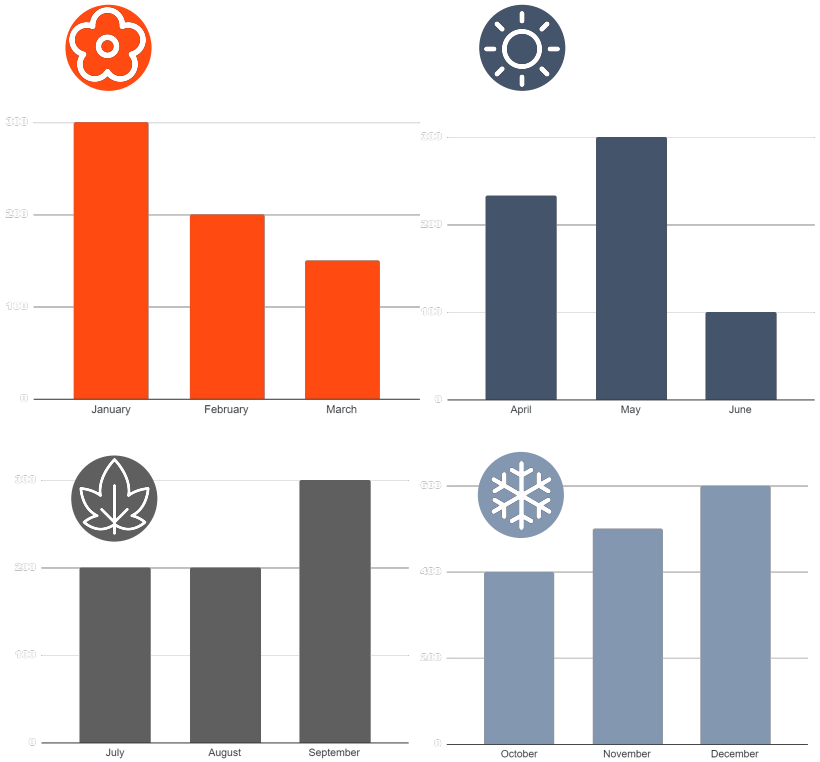
STANDARD vs. EXPRESS DELIVERY

Hypothesis (3)

Do orders on certain days lead to longer waiting times?



Hypothesis (4)

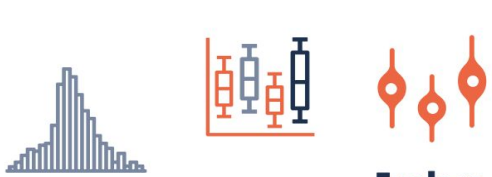


Do we have seasonal variations on a daily, monthly, or annual basis?

And how can we handle this better?

Insights drive success.

INSIGHTS



Explore

look for groups, skewness, the unexpected centrality and spread
re-express your data if needed: log, root,..

Clean

deal with missing values, why are they missing?
extreme values.. are they really outliers?

Relationships

check for correlations between values
are all correlations making sense?

Discover hidden opportunities with our insightful analysis.

Checking the business workflow

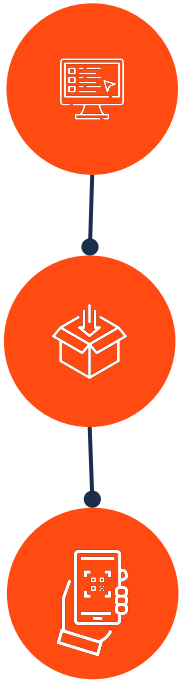
Expectation

Customer orders via facebook, E-mail, or sales. Order is processed in the warehouse and ready to ship within **2 days**.

Trucks leave warehouse on mondays, wednesdays and fridays. Order stays in the warehouse 1 **day** (2 days, if there is no truck) until leaving.

Order takes approx. **3 days** en route until it arrives.

6 - 7 days delivery time per order



Insights

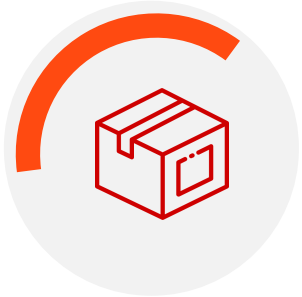
Customer orders via facebook, E-mail, or sales. Order is processed in the warehouse and ready to ship on average within **4 days.**

Trucks leave warehouse on mondays, wednesdays and fridays. Order stays in the warehouse on average **2 days** (up to 4 days) until leaving.

Order takes on average **4,5 days** en route until it arrives.

10,8 days delivery time per order

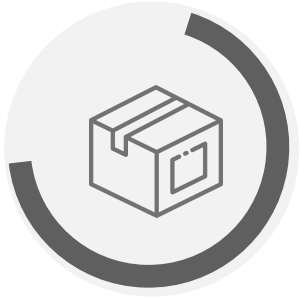
Express vs. Standard



30% **EXPRESS**

7 DAYS* DELIVERY PER ORDER

- Ready to ship in 2 days*
- On truck less than 0,5 days*
- En route 4,5 days*



70% **STANDARD**

11.9 DAYS* DELIVERY PER ORDER

- Ready to ship in 5 days*
- On truck 2 days*
- En route 4,5 days*

*on average

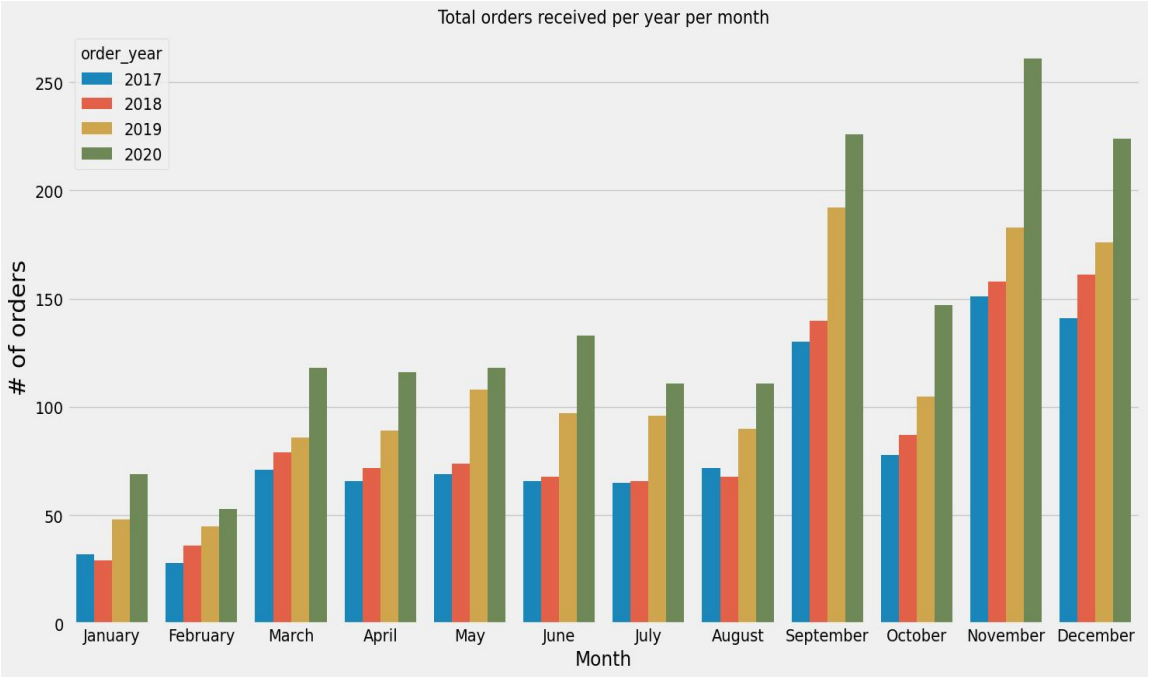
Does the day make the difference?

Mon	Tue	Wed	Thu	Fri	Sat	Sun
01	02	03	04	05	06	07
08	09	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Observations

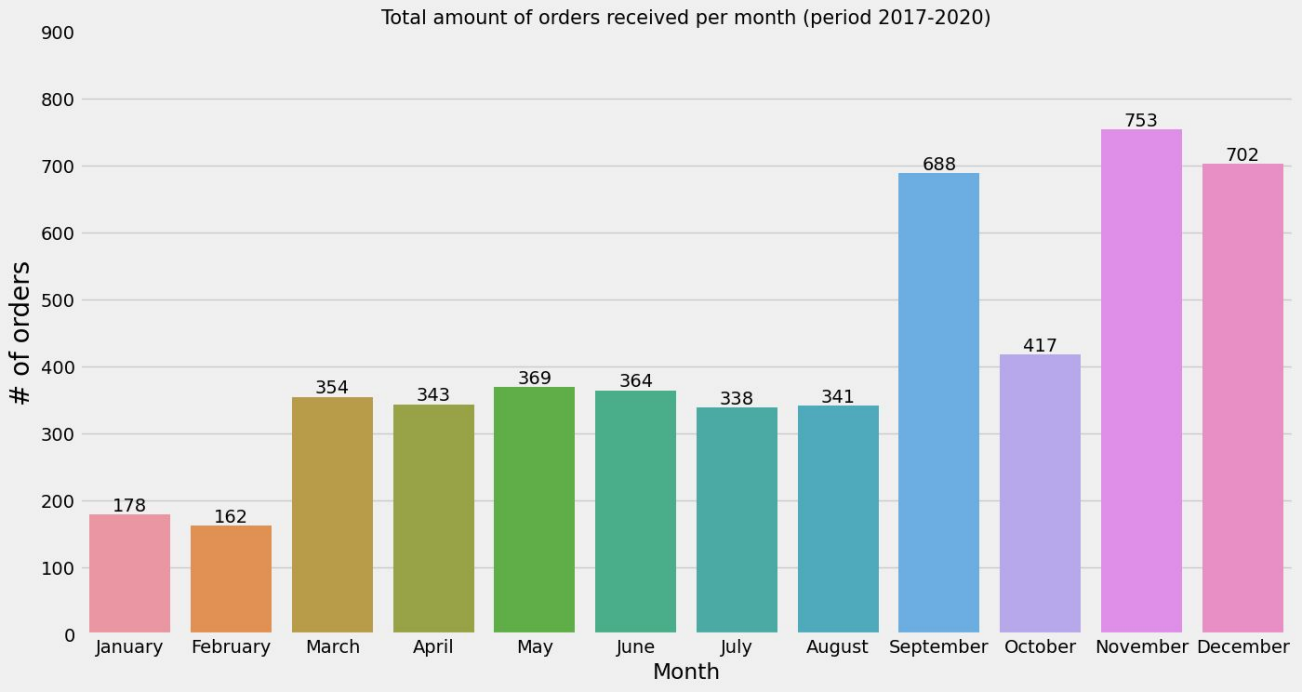
The day of the week when the order is placed does not seem to have any influence on the duration of the delivery. At least, our assumptions that Fridays result in a very long delivery time could not be confirmed.

Do we have seasonal variations on a monthly, or annual basis ?



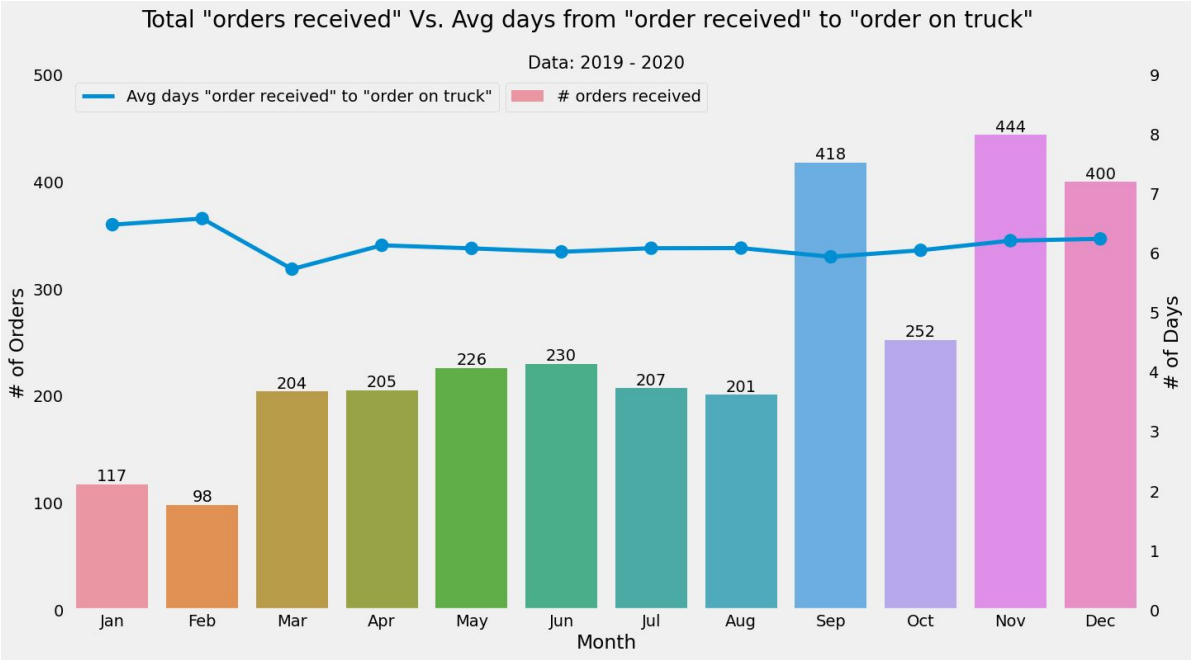
Muesli is growing: 28% increase in orders 2020 compared to 2019

Do we have seasonal variations on a monthly, or annual basis ?



Orders are increasing on September, November and December

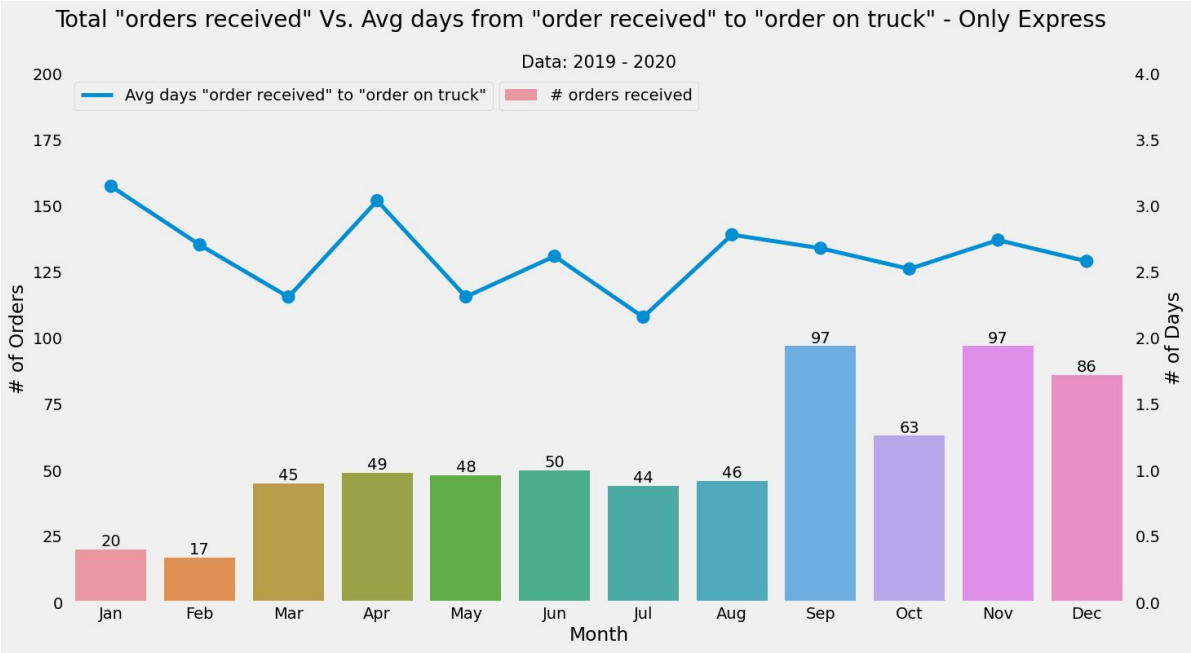
Do we have seasonal variations on a monthly, or annual basis ?



The amount of orders doesn't seem to affect the average time to get the products loaded and scanned on the truck

We see that something is happening on January and February that needs to be checked by the company since the time needed to get an order on truck is even longer than on months where the amount or orders are twice the size

Do we have seasonal variations on a monthly, or annual basis ?

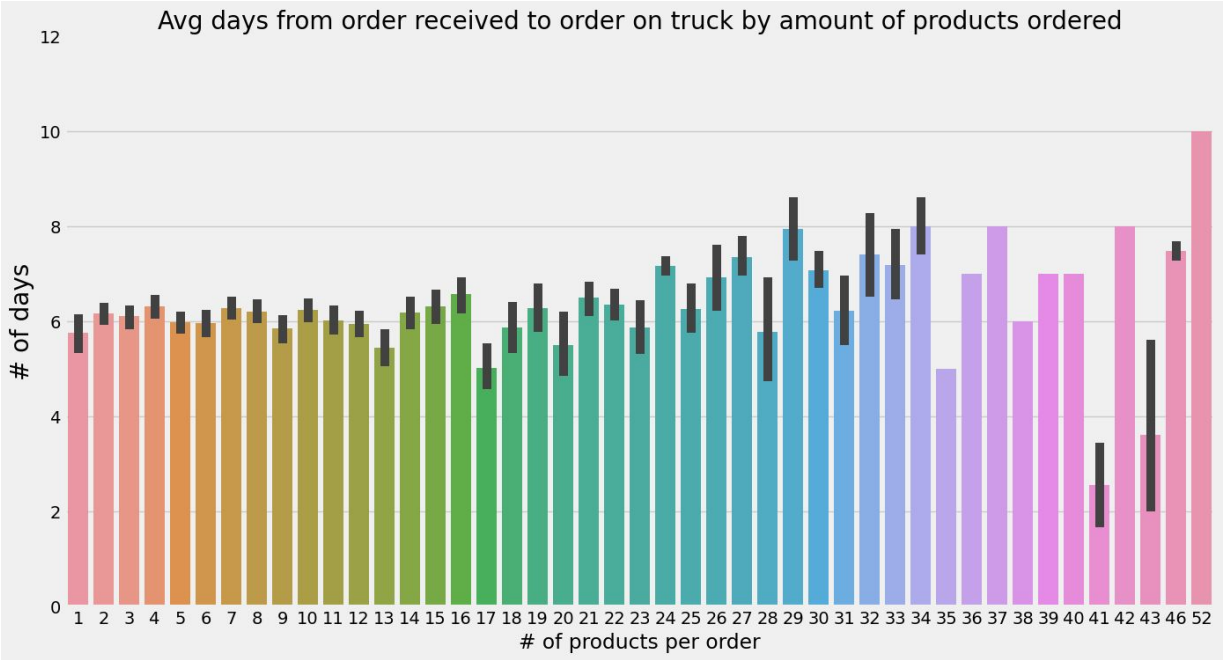


We check now orders with Express delivery assuming they are loaded on the same day they are ready to ship.

January and February have unexpected long time processes despite lower number of orders

By doing this analysis we are excluding any type of data contamination from the Delivery company assuming that orders with Express delivery are always loaded on the same day, which would bring us the avg time from order received to ready to ship

Does the amount of products affect the process times?

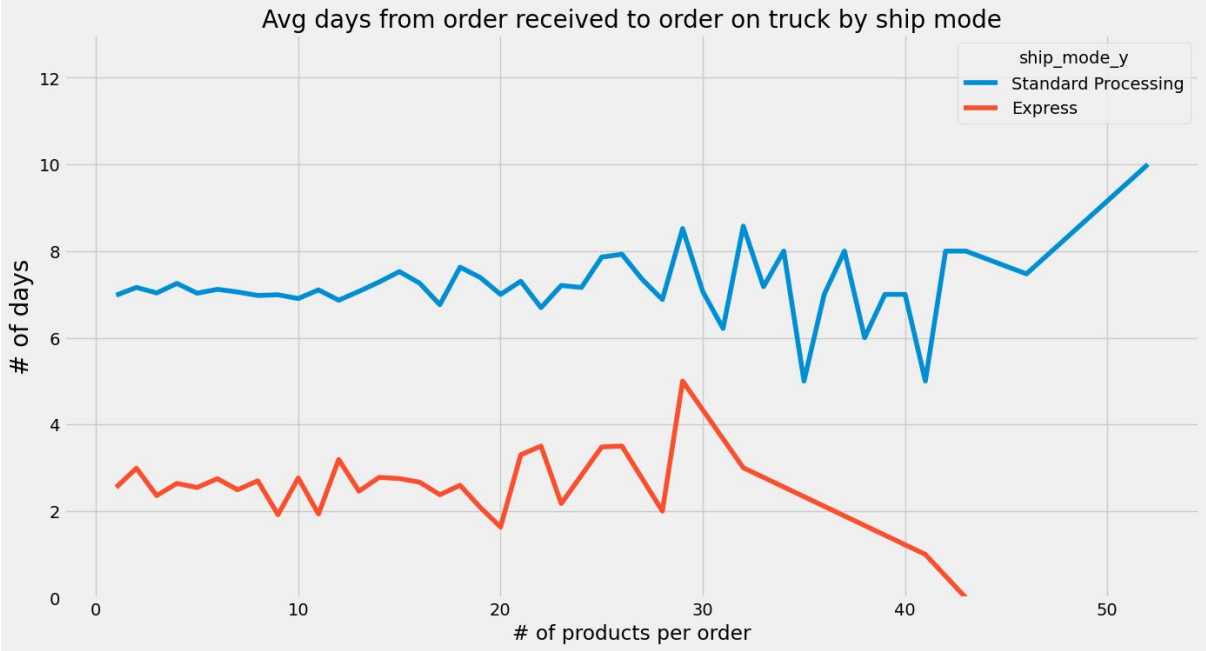


Data: 2019 - 2020

The amount of products per order doesn't seem to affect the time needed to get ready on truck

```
#Creating new column with total items per order_id
merged['total_items'] = merged.groupby('order_id', sort=False)['quantity'].transform('sum')
```

Does the amount of products affect the times needed?



Data: 2019 - 2020

We don't see any difference on the trend when comparing both types of ship mode

Assuming that all ready orders are on truck on the same day, we could consider the orange line as "Ready to Ship"
The difference between both lines would be then the time needed from ready to ship to being scanned on truck on average.

Explain
add explanations and overviews
document your thought process..
WHY did you do all the analysis?

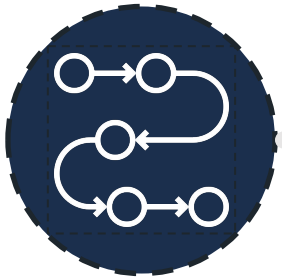
SUGGESTIONS

"Unlock your potential with our top-notch suggestions."

Make data an integral part of your practice

1 FTE as Data Analyst

Creating a Dashboard



Using Process Mining

Time effective working

Seasonal workers

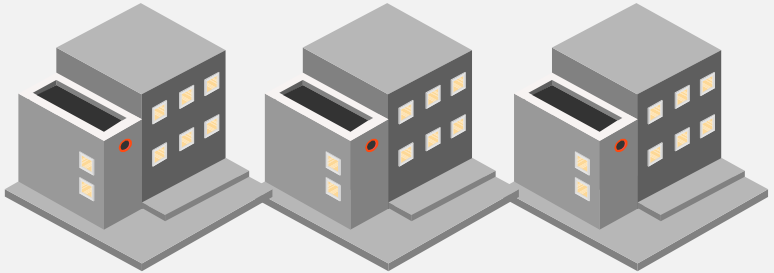
Flexible working time models

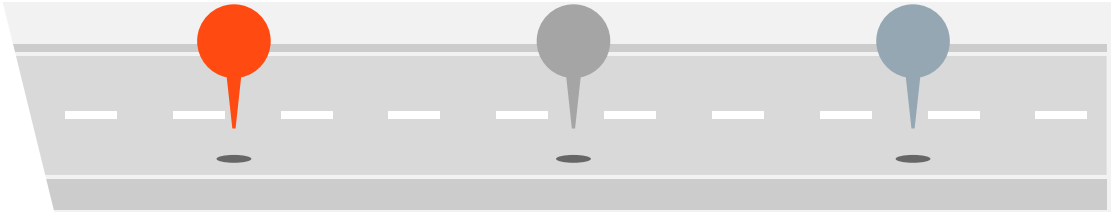
Introduction of a late or night shift

Create a detailed analysis of the shipping and logistics processes

Agreement about several departures ???

Investment in intermediate storage facilities ???





Data-driven route optimization saves resources

Thank you for your attention and time today.

We look forward to continuing our journey together.