

```
In [15]: import pandas as pd
import numpy as np
import plotly.graph_objects as go
from plotly.subplots import make_subplots
from statsmodels.tsa.seasonal import seasonal_decompose, STL

orders = pd.read_csv('data/orders_merged.csv')
orders.head()
```

```
Out[15]:
```

	PostDate	month	FiscalYear	AssignType	channel	BuyerType	OrderNum
0	2017-10-31	2017-10	FY18	Assign_TO	SLC	Dealer	3004120993
1	2017-10-31	2017-10	FY18	Assign_TO	SLC	Dealer	3004125453
2	2017-10-31	2017-10	FY18	Assign_TO	SLC	Dealer	3004131929
3	2017-10-31	2017-10	FY18	Assign_TO	SLC	Dealer	3004131929
4	2017-10-31	2017-10	FY18	Assign_TO	SLC	OEM	3004133247

explore new order, turnover by month

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In [11]: neworder = orders.groupby('month')['OR'].sum()
turnover = orders.groupby('month')['TO'].sum()
x = neworder.index

plot_order = go.Scatter(x=x, y=neworder, mode='lines', name='New Order')
plot_turnover = go.Scatter(x=x, y=turnover, mode='lines', name='Turnover')
fig = go.Figure([plot_order, plot_turnover])
fig.update_layout(
    height=680, margin={'t':0, 'b':0, 'l':0, 'r':0},
    xaxis=dict(title="Fiscal Months", dtick='M12', range=['2017-07-01', '2024-06-01']),
    yaxis=dict(title="Value (K)"),
    legend=dict(x=0.01, y=0.99)
)
fig.show()
```

```
In [17]: neworder = orders.groupby('PostDate')['OR'].sum()
turnover = orders.groupby('PostDate')['TO'].sum()
x = neworder.index

plot_order = go.Scatter(x=x, y=neworder, mode='lines', name='New Order')
plot_turnover = go.Scatter(x=x, y=turnover, mode='lines', name='Turnover')
fig = go.Figure([plot_order, plot_turnover])
fig.update_layout(
    height=680, margin={'t':0, 'b':0, 'l':0, 'r':0},
    xaxis=dict(title="Fiscal Months", dtick='M12', range=['2022-10-01', '2023-09-01']),
    yaxis=dict(title="Value (K)"),
    legend=dict(x=0.01, y=0.99)
)
fig.show()
```

```
In [18]: neworder.shape
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Out[18]: (688,)
```

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In [ ]:
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