



K-GEDIRIN

When quality meet the power

Analysis Sales Report (Visualization)



INSIGHT DATA & TOOLS

* This analysis uses the detail_transaksi dataset, and it has the same condition as MySQL analysis report

* This analysis uses Google Colab, Matplotlib-Seaborn Python and Tableau

* The Tableau analysis file was saved in the twb format, in GITHUB and Google drive



MATPLOTLIB & SEABORN

```
✓ [38] import pandas as pd
      import numpy as np
      import matplotlib.pyplot as plt
      import seaborn as sns
      from matplotlib.ticker import FuncFormatter
```

```
✓ [2] df = pd.read_excel('detail_transaksi.xlsx')
```

```
✓ [49] # Filter data dengan KOMISI = 'ST'
      filter = df[(df['KOMISI']=='ST') & (df['PAYMENT_STATUS']!='PAID')].copy()
```

```
[ ] revenue = filter.groupby('DEPARTMENT')['NILAI REVENUE PRODUCT'].sum().reset_index()
```

1.

2

BAR PLOT

```
▶ #Membuat barplot
plt.figure(figsize=(12, 7))
ax = sns.barplot(data=revenue,
                 x='DEPARTMENT',
                 y='NILAI REVENUE PRODUCT',
                 hue='DEPARTMENT',
                 palette='Set2',
                 legend=False)

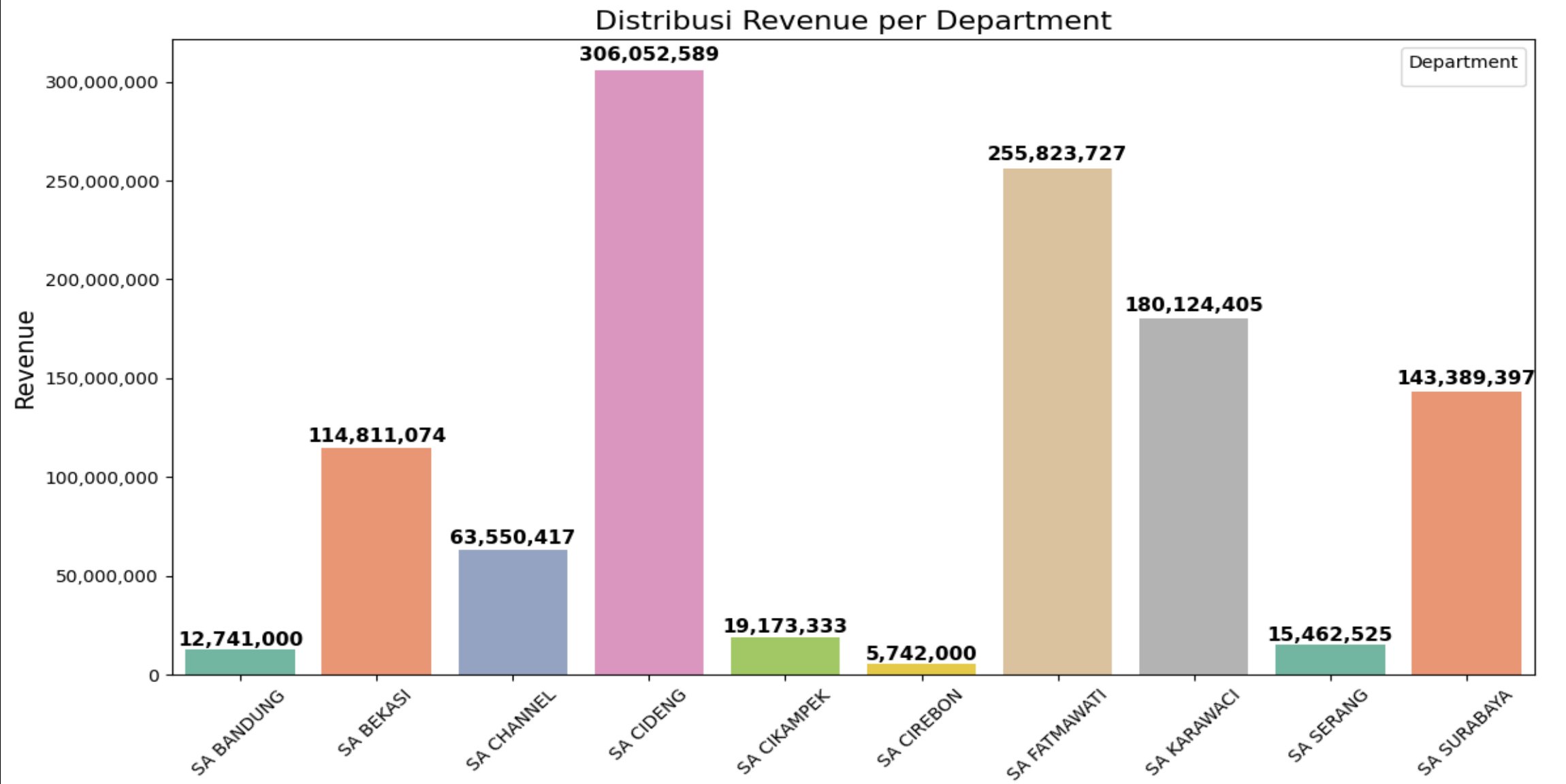
# fungsi format untuk menampilkan angka dengan koma sebagai pemisah ribuan
def format_millions(x, pos):
    # format angka dengan koma tanpa desimal
    return f'{int(x):,}'

# Terapkan format angka pada sumbu Y
ax.yaxis.set_major_formatter(FuncFormatter(format_millions))

# Manambahkan angka disetiap bar
for p in ax.patches:
    height = p.get_height()
    ax.text(p.get_x() + p.get_width() / 2, # horizontal position in the mid bar
            height + (0.01 * height),      # slightly vertical position above the bar
            f'{int(height):,}',             # number text with comma
            ha='center',                   # horizontal alignment center
            va='bottom',                   # vertical alignment below the text
            fontsize = 11,
            fontweight='bold')

plt.title('Distribusi Revenue per Department', fontsize = 16)
plt.xlabel('Department', fontsize=14)
plt.ylabel('Revenue', fontsize=14)
plt.xticks(rotation=45)
plt.legend(title = 'Department')
plt.tight_layout()
plt.show()
```

```
<ipython-input-52-a54cf9066af4>:33: UserWarning: No artists with labels found to put in legend. Note that artists whose label start with an underscore are
plt.legend(title = 'Department')
```




```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
!pip install pandas matplotlib seaborn openpyxl

df = pd.read_excel('detail_transaksi.xlsx')

# Use seaborn style for visual
df = pd.read_excel('detail_transaksi.xlsx')

# filter rows from KOMISI = ST and Payment status = PAID
flt = df[(df['KOMISI']=='ST') & (df['PAYMENT_STATUS']=='PAID')]

# assuming each row is one account, so count rows per city
# Group by city and count total accounts ( counting unique CUST_ACCT)
group_by_city = flt.groupby('CITY').size()

# Calculate total accounts
Total_new_accounts = group_by_city.sum()
```



PIE CHART

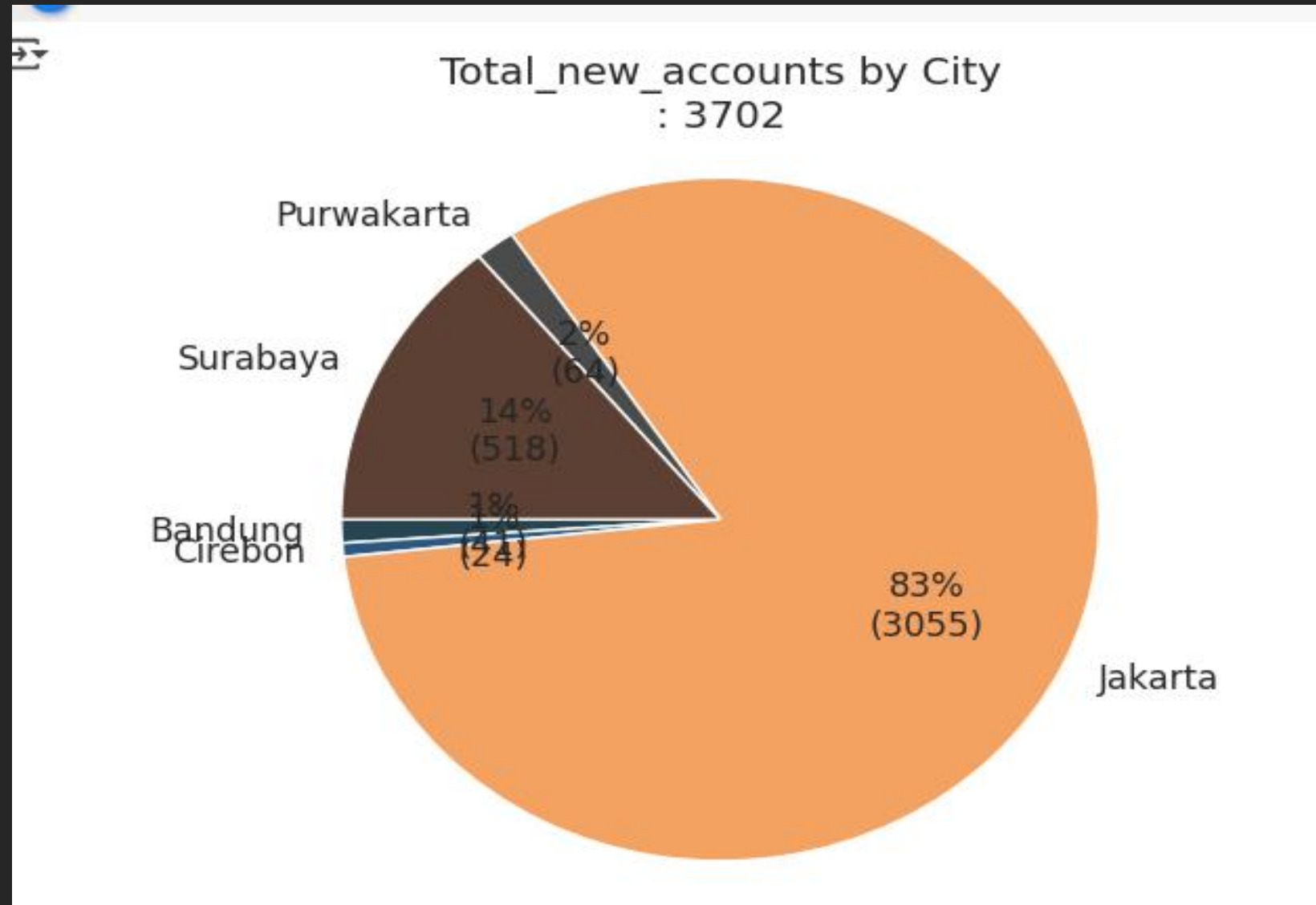
```
# Plot pie chart
plt.figure(figsize=(10, 10))

# plot color pie chart
#cl = sns.color_palette(['#264653', '#E63946', '#F4A261', '#2A9D8F'])[:len(group_by_city)]
cl = sns.color_palette(['#264653', '#2B5783', '#F4A261', '#4B4B4B', '#5C4033'])[:len(group_by_city)]

# Define a function to show both percentage and absolute counts in label of pie chart
def autopct_format(p):
    absolute = int(round(p * Total_new_accounts /100.0))
    return f"{p:.0f}%\n({absolute})"

plt.pie(
    group_by_city,
    labels=group_by_city.index,
    autopct=autopct_format,
    colors=cl,
    startangle=180,
    textprops={'fontsize': 12}
)
plt.title(f'Total_new_accounts by City\n: {Total_new_accounts}', fontsize=14)
plt.axis('equal')
plt.tight_layout()
```

```
plt.title(f'Total_new_accounts by City\n: {Total_new_accounts}', fontsize=14)
plt.axis('equal')
plt.tight_layout()
plt.show()
```




```
[2] import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.cluster import KMeans

[5] df = pd.read_excel('detail_transaksi.xlsx')

[6] # filter data
flt = df[(df['KOMISI']=='ST') & (df['PAYMENT_STATUS']=='PAID')]

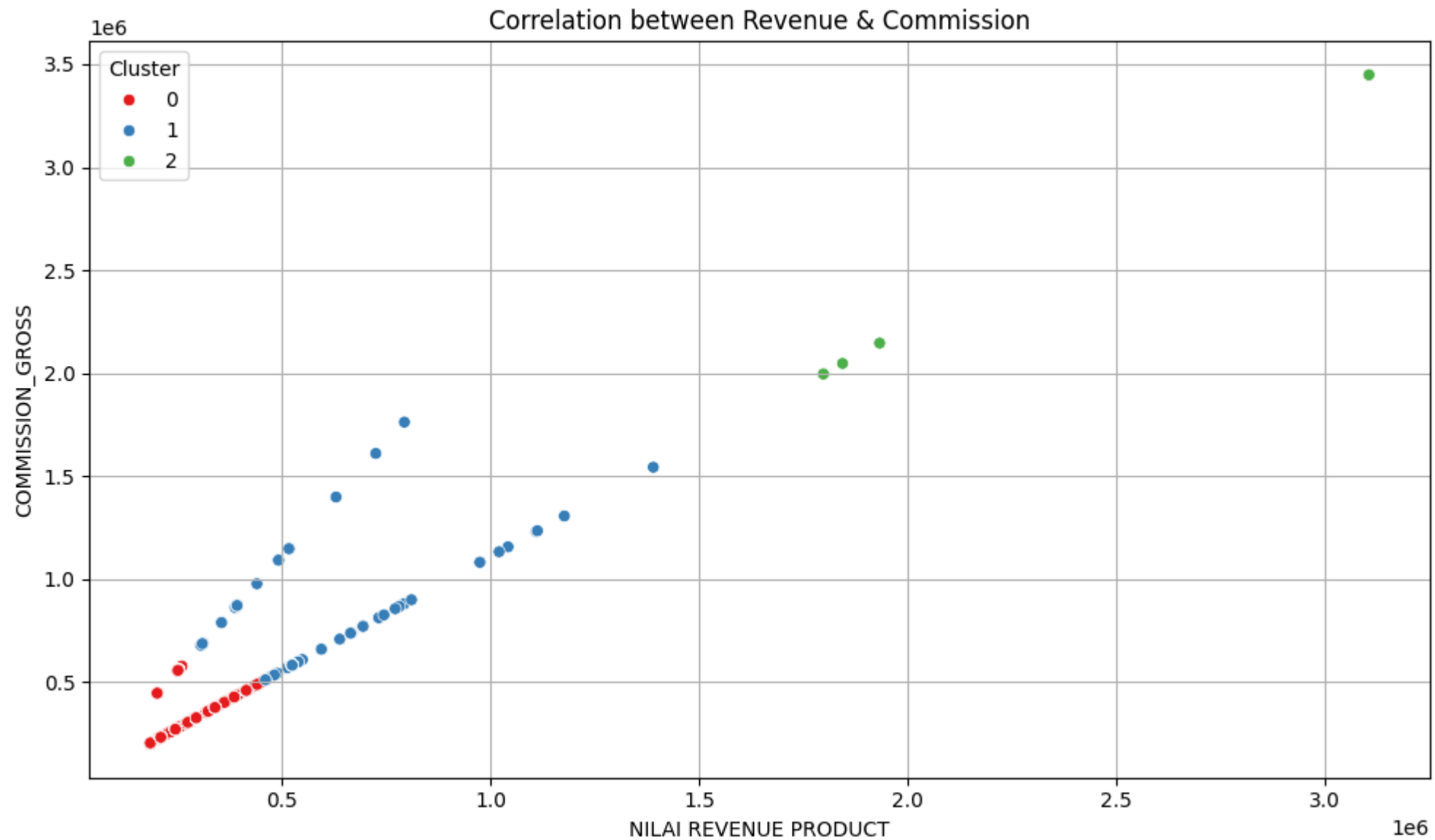
# Select relevant columns and drop missing values
drop_na = flt[['NILAI REVENUE PRODUCT', 'COMMISSION_GROSS']].dropna()

[8] #Kmeans clustering
from sklearn.cluster import KMeans
k_means = KMeans(n_clusters=3, random_state=0)
cluster = k_means.fit_predict(drop_na)

# Add cluster label to dataframe
flt = flt.loc[drop_na.index]
flt['cluster']=cluster

[12] # Plot with cluster colors
plt.figure(figsize=(10,6))
sns.scatterplot(data=flt, x='NILAI REVENUE PRODUCT', y='COMMISSION_GROSS', hue='cluster', palette='Set1')
plt.title('Correlation between Revenue & Commission')
plt.xlabel('NILAI REVENUE PRODUCT')
plt.ylabel('COMMISSION_GROSS')
plt.legend(title='Cluster')
plt.grid(True)
plt.tight_layout()
plt.show()
```

SCATTER PLOT



```

import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns

# Membaca data
df = pd.read_excel('detail_transaksi.xlsx')

# Filter rows where KOMISI = ST AND PAYMENT_STATUS = PAID
flt = df[(df['KOMISI'] == 'ST') & (df['PAYMENT_STATUS'] == 'PAID')]

# Group by TERM PAYMENT and count unique accounts [CUST_ACCT]
Total_new_accounts = flt.groupby('TERM PAYMENT')['CUST_ACCT'].nunique().reset_index()

# Define the correct order of the months
month_order = ['JAN', 'FEB', 'MAR', 'APR', 'MEI', 'JUNE', 'JULY', 'AUG', 'SEP', 'OKT', 'NOV', 'DEC']

# Ensure 'TERM PAYMENT' is the categorically correct order
Total_new_accounts['TERM PAYMENT'] = pd.Categorical(
    Total_new_accounts['TERM PAYMENT'],
    categories=month_order,
    ordered=True
)

# Sorting by month order
Total_new_accounts = Total_new_accounts.sort_values('TERM PAYMENT')

# Line plotting
plt.figure(figsize=(12, 8))
sns.lineplot(data=Total_new_accounts, x='TERM PAYMENT', y='CUST_ACCT', marker='o', markersize=10)
plt.title('Monthly trend of new accounts')
plt.xlabel('Month')

```

```

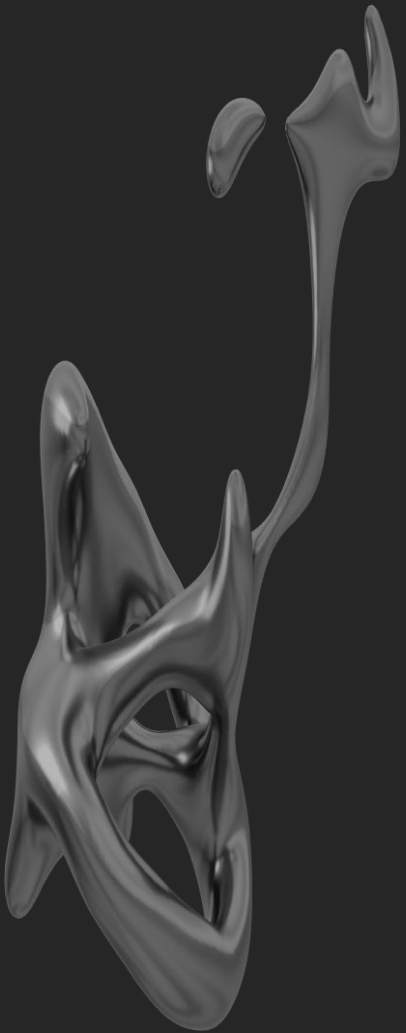
plt.ylabel('Total_new_accounts')
plt.grid(True)
plt.xticks(rotation=45)
plt.tight_layout()

# Adding numbered label in each marker
for i, row in Total_new_accounts.iterrows():
    plt.annotate(
        f'{row.CUST_ACCT}',
        (row['TERM PAYMENT'], row.CUST_ACCT),
        textcoords='offset points',
        xytext=(0, 12), # label's position is above the dot
        ha='center',
        fontsize=14
    )

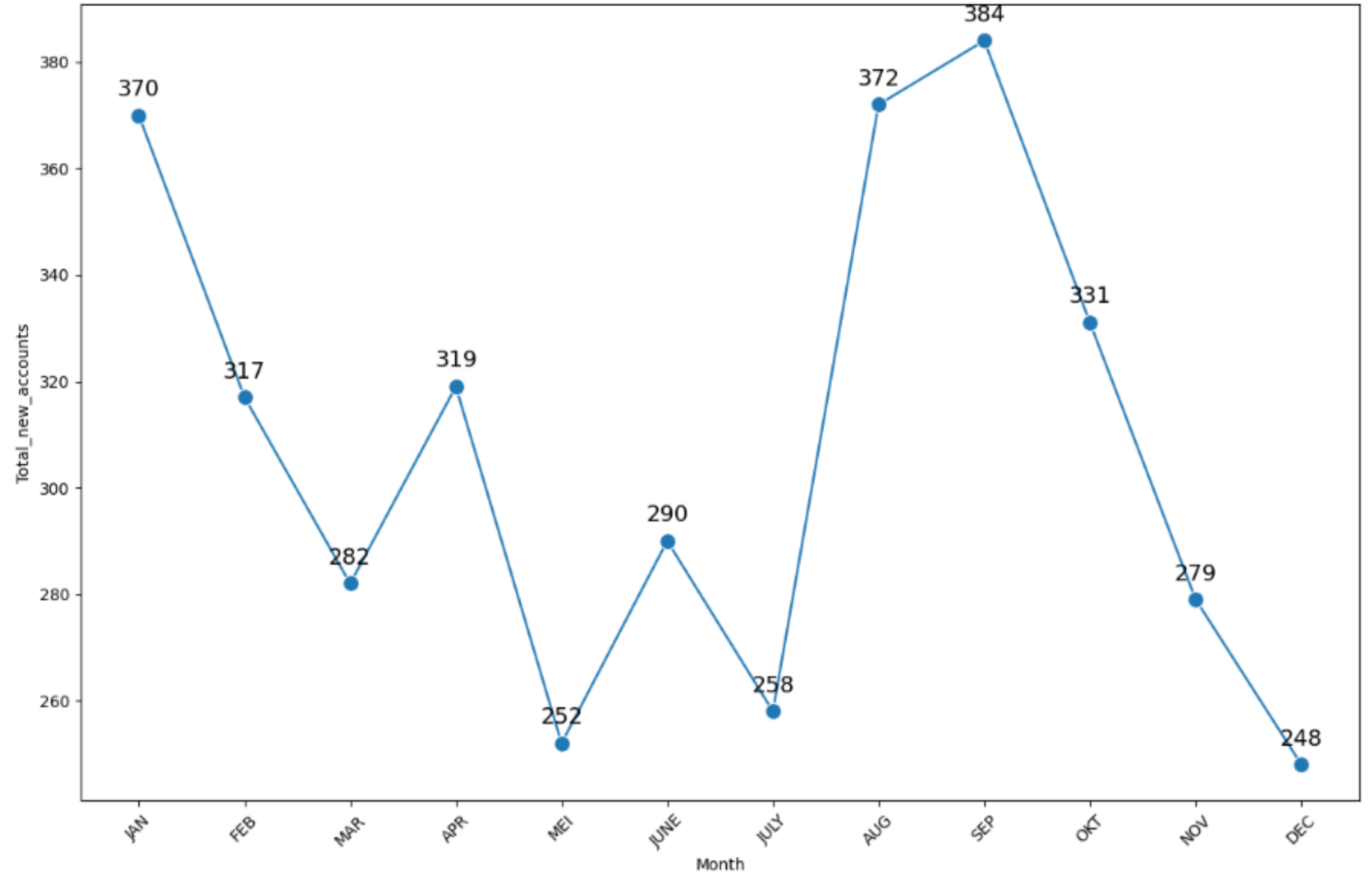
plt.show()

```

LINE PLOT



Monthly trend of new accounts



K-GEDELTEN



TABLEAU

Pages	Columns	Measure Names
Filters	Rows	
Marks		
Measure Values		

Filters

Measure Names

Quarterly

Marks

Automatic

Color

Size

Text

Detail

Tooltip

Measure Val..

Measure Values

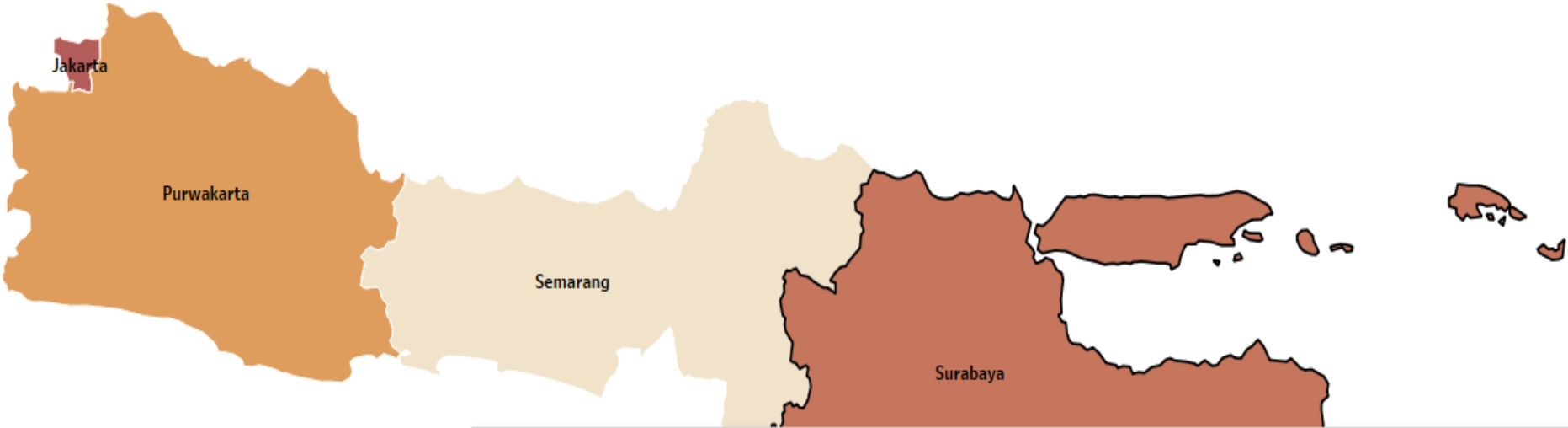
CNTD(New_Account..)

SUM(Revenue_1st)

SUM(First_comm)

KPIs		
# of New Accounts	1st Month Revenue	1st Month Commission
3.702	1.116.870.467	1.317.346.159

Sales_by_City



City_size:	8
City:	Surabaya
Distinct count of New_Accounts:	518
Distinct count of Churn_account:	149
Distinct count of Sales Code:	12
Difference in Ratio_new_account_to_total_agent from the Previous along City:	51,80
1st_Month_Revenue:	143.389.397
2ND_Comm:	103.232.275,5

Columns

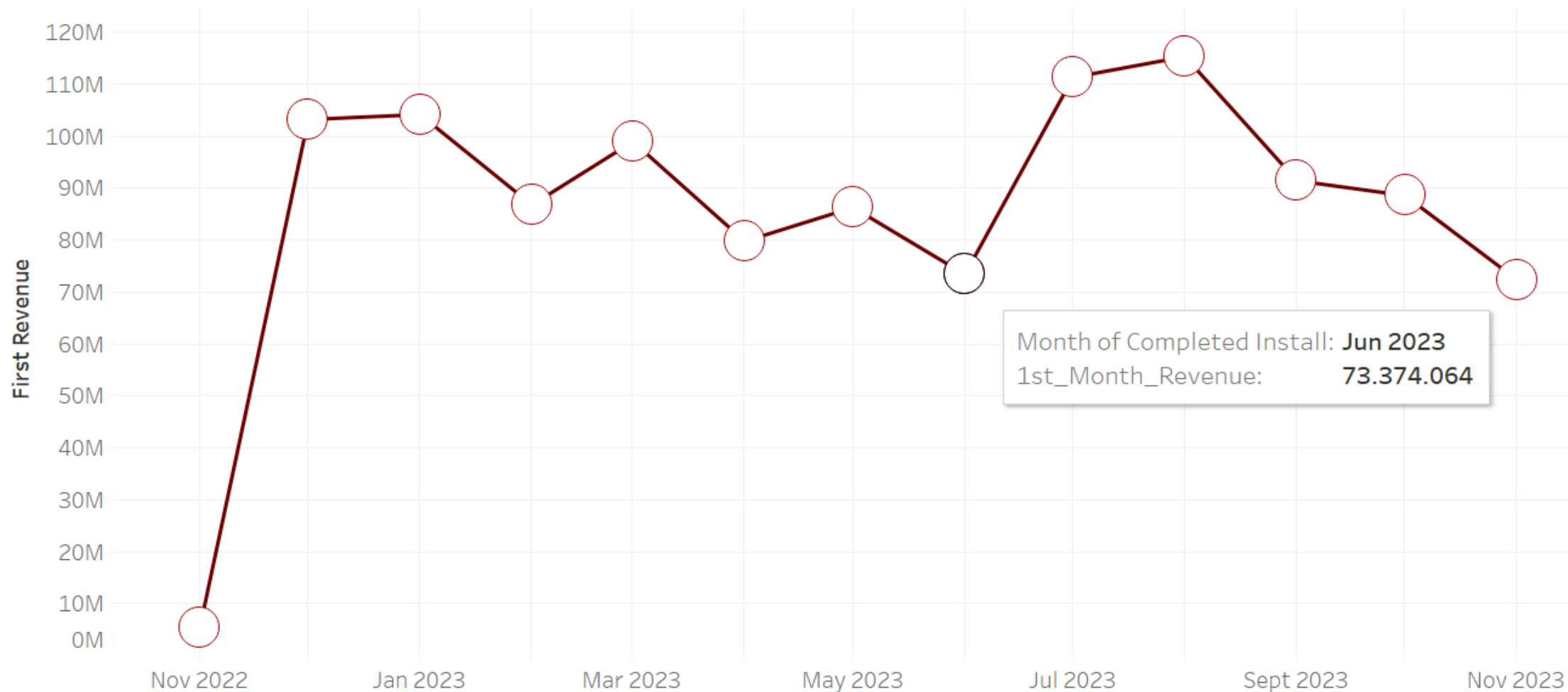
MONTH(Complete..

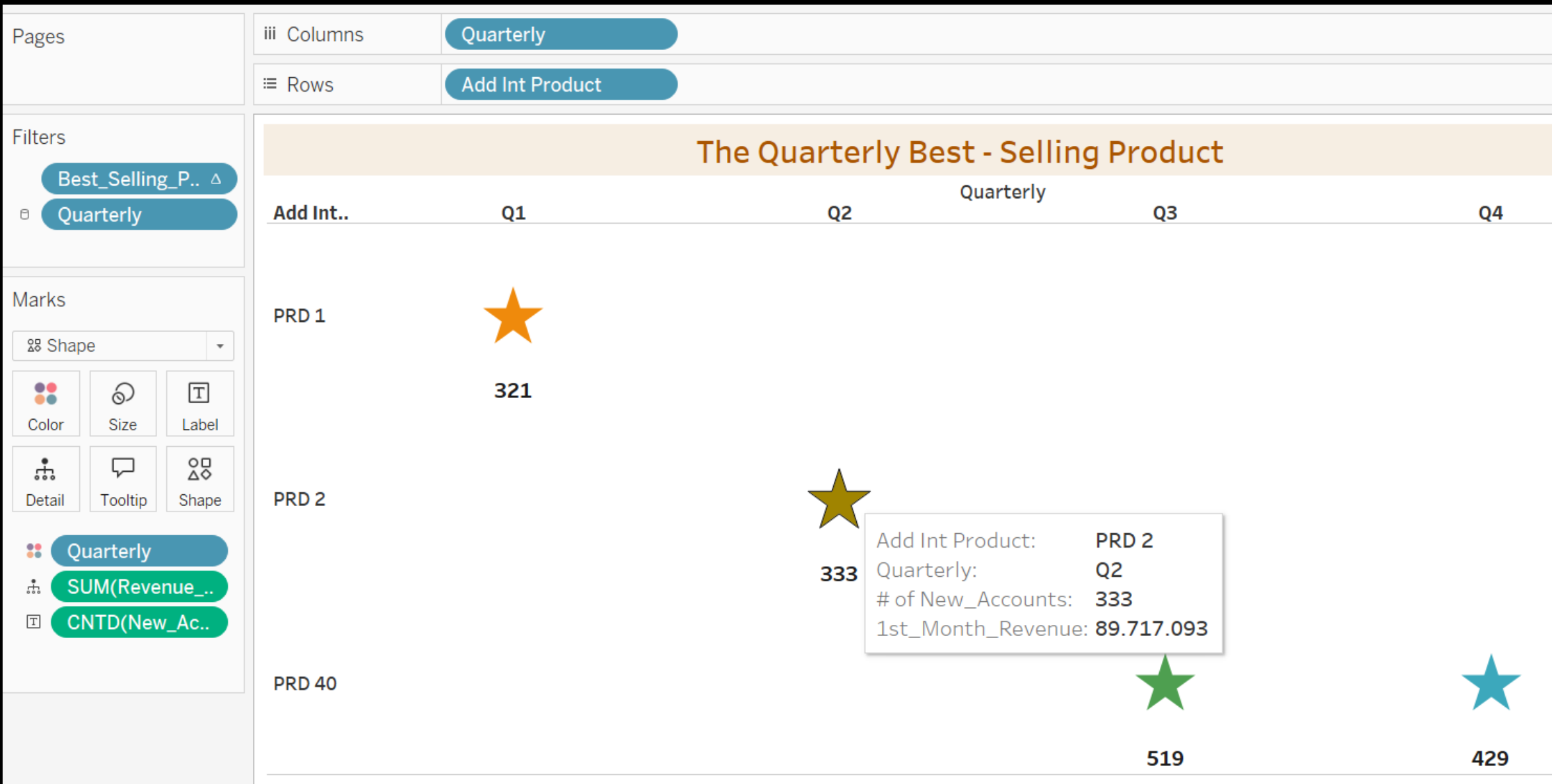
Rows

SUM(Revenue_1st)

SUM(Revenue_1st)

Sales by Month





Pages

Columns

Rows

Filters

Best_selling_Rev

Quarterly

Marks

Automatic



Color



Size



Label



Detail



Tooltip



SUM(Revenue_1st)



SUM(Revenue_1st)



Add Int Product



Best_selling_Rev



SUM(Revenue_1st)



AVG(Revenue_1st)

The TOP 3 Revenue Generating Products

PRD 40

1

245.053.250

Add Int Product:

PRD 40

Avg. Revenue_1st:

250.822

Revenue_1st:

245.053.250

Best_selling_Rev along Add Int Product: 1

PRD 2

3

182.082.234

PRD 16

2

212.036.262

Pages

Columns

AGG(4th_month_pro..

Rows

AGG(2ND_Revenue)

Filters

Quarterly

Marks

Automatic



Color



Size



Label



Detail



Tooltip



Shape



AGG(Profit_margin_si..



AGG(Profit_margin_si..



Add Int Product



AGG(Profit_margin_to..

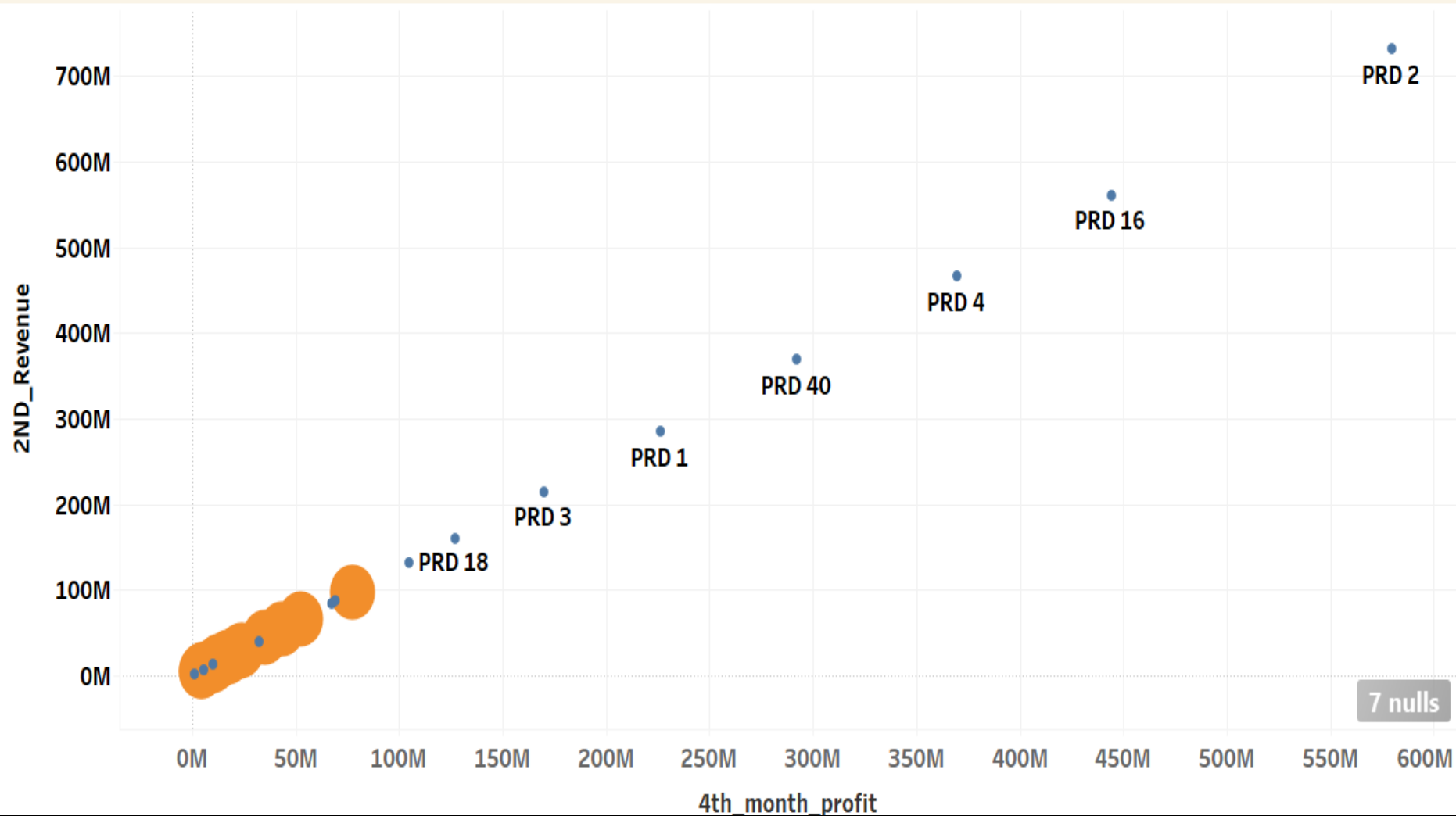


Add Int Product



AGG(4th_month_total..

4th-Month Profit Margin by Product



Pages

Columns

CNTD(New_Accounts)

Rows

Add Int Product

Filters

YEAR(Completed Ins..)

Add Int Product

Quarterly

Marks

Automatic



Color



Size



Label



Detail



Tooltip



Above AVG Sales



AVG(Revenue_1st)

TOP 10 Products by New Accounts

Add..

PRD 40

PRD 2

PRD 16

PRD 1

PRD 39

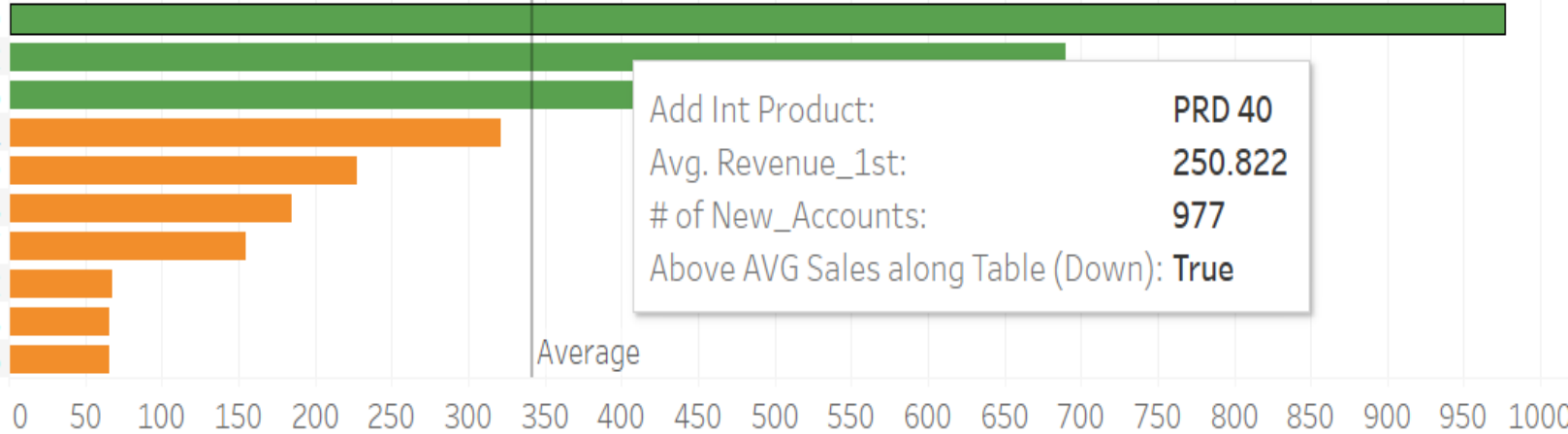
PRD 3

PRD 37

PRD 42

PRD 38

PRD 36



AGG(Above ...)

False

True

Pages

Columns

CNTD(New_Accounts)

Rows

Add Int Product

Filters

YEAR(Completed..

Add Int Product

Quarterly

Marks

Automatic



Color



Size



Label



Detail

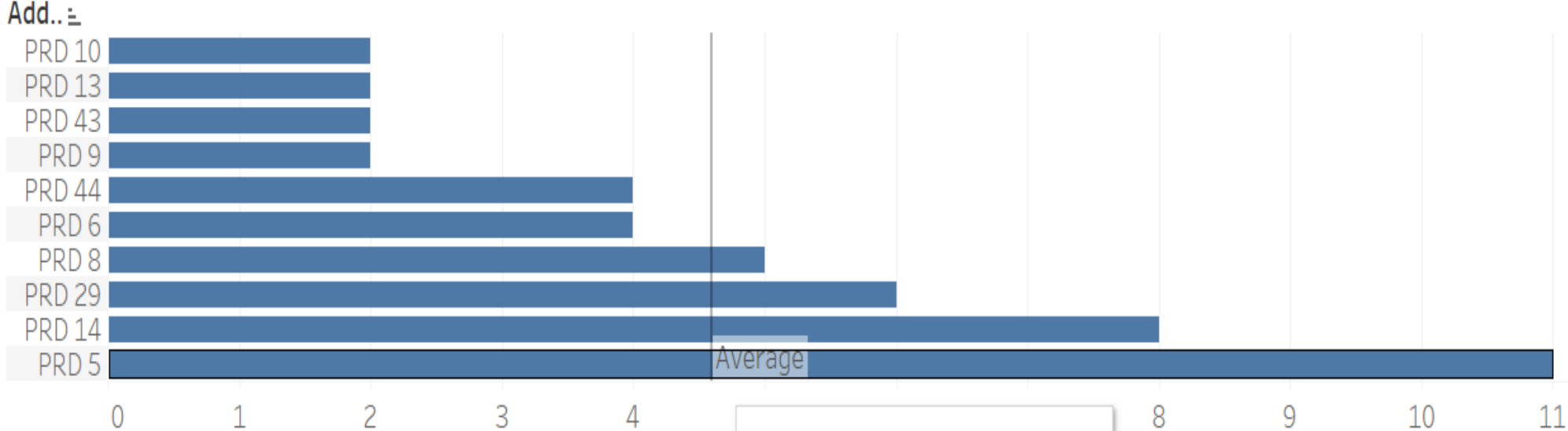


Tooltip

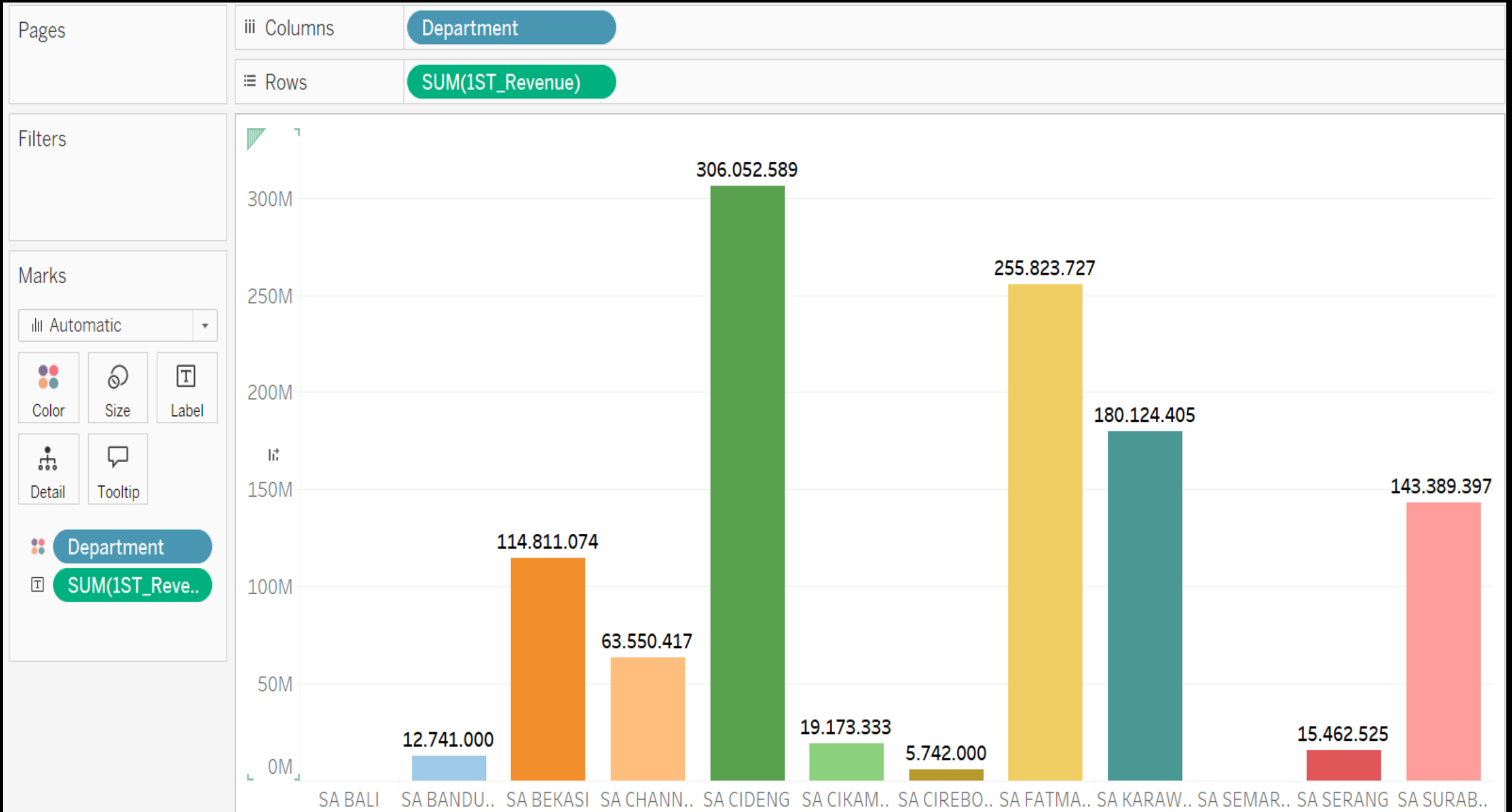


AVG(Revenue_..

The Bottom of 10 Products by New Accounts



Add Int Product: PRD 5
Avg. Revenue_1st: 294.682
of New_Accounts: 11



Columns

Quarter



Rows

SUM(1ST_Revenue)

The Quarterly Trend of Paid Revenue

298.293.271

262.775.209

302.539.650

Quarter

Q1

Q2

Q3

Quarter:

Q3

% of Total 1ST_Revenue along Table (Across):

27%

1ST_Revenue:

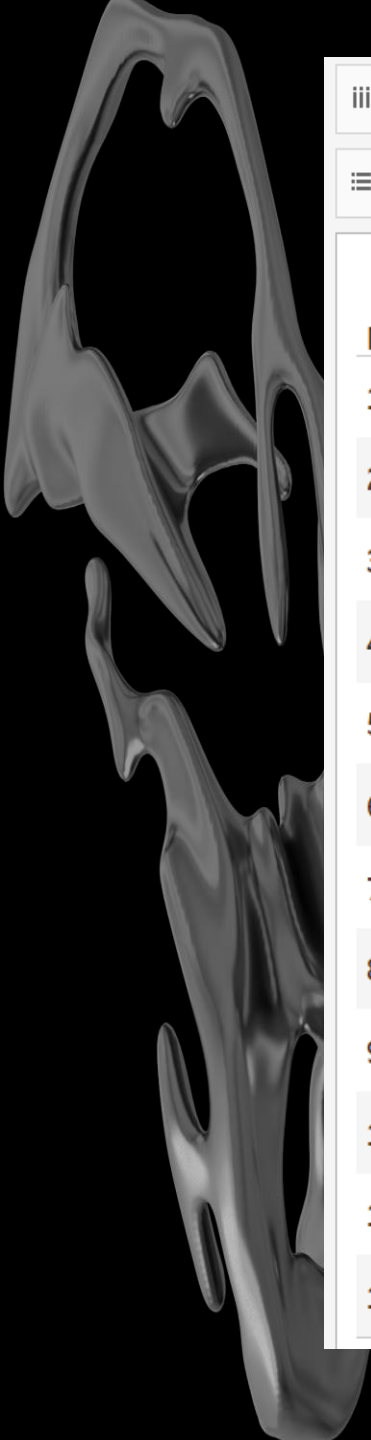
302.539.650

Q1

Q2

Q3

Q4



iii Columns	Measure Names		
≡ Rows	Month to month		
The Monthly Recurring Commission			
Month ..	1st_comm	2nd_comm	3rd_comm
1	127.034.914	31.608.798	83.351.733
2	127.780.093	31.422.538	43.537.835
3	102.676.193	54.900.005	32.157.833
4	115.747.217	51.900.216	26.255.394
5	95.126.448	51.437.226	25.685.605
6	96.281.113	43.219.374	42.218.480
7	87.924.458	54.193.778	47.269.467
8	132.082.290	39.011.973	45.682.156
9	134.389.144	42.349.873	38.839.869
10	106.452.210	38.831.627	46.855.846
11	104.904.866	58.579.253	33.844.923
12	86.947.213	36.565.941	61.876.712

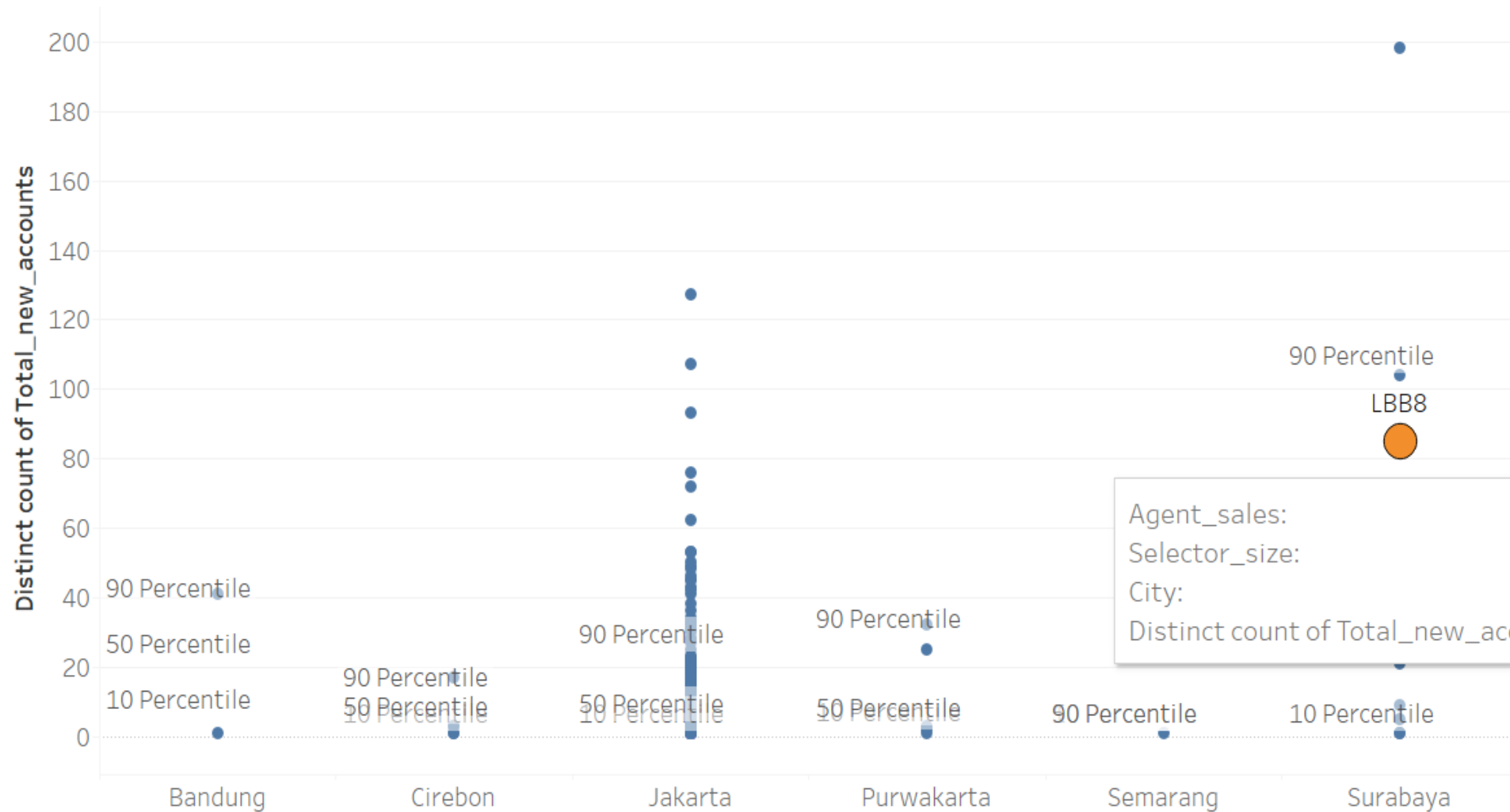
iii Columns

City

Rows

CNTD(Total_new_acc..

Average Accounts Distribution by Agent



Agent_interest

Null

LBB8

Agent_select...

LBB8

Agent_sales:

LBB8

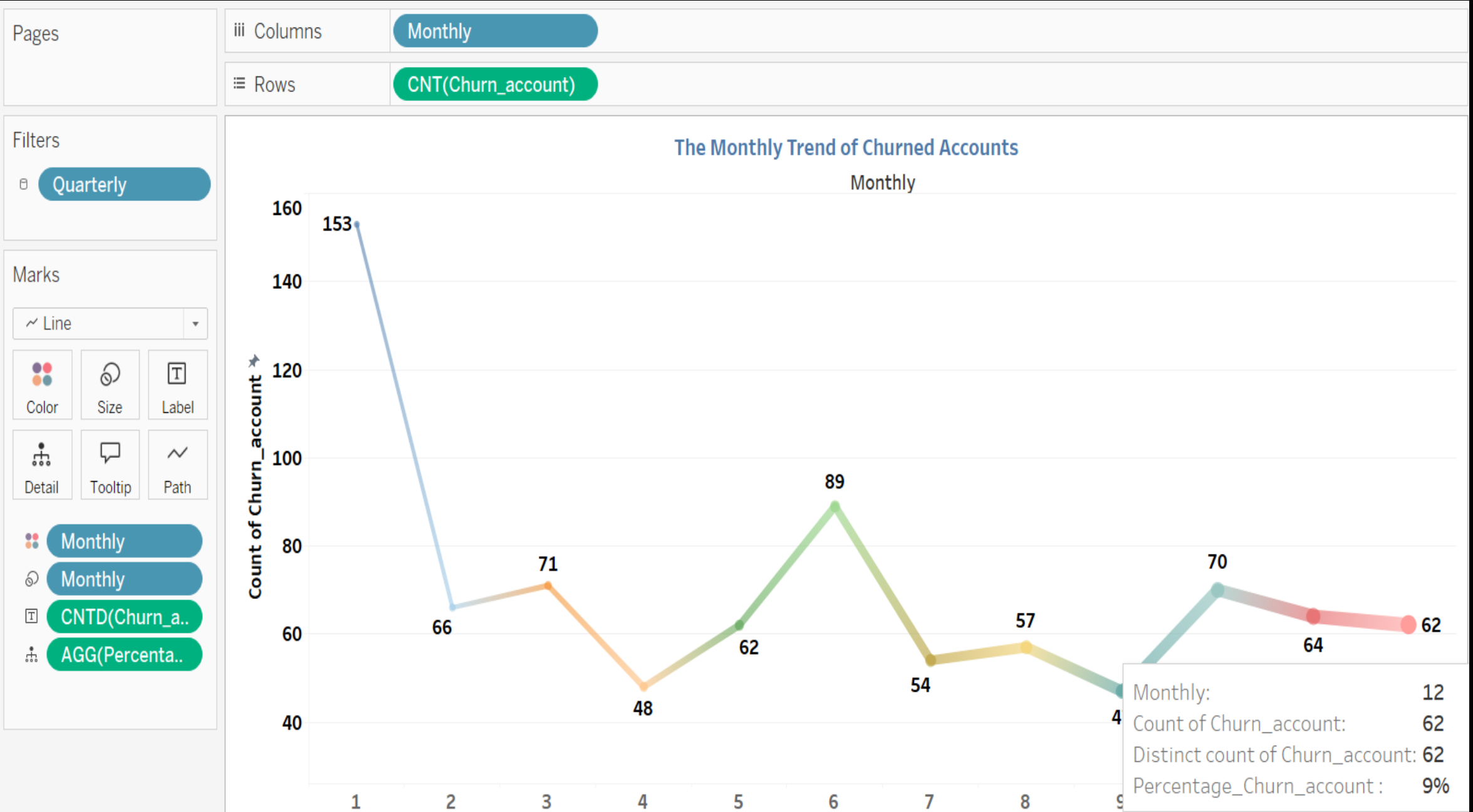
Selector_size:

8

City:

Surabaya

Distinct count of Total_new_accounts: 85



Pages

Columns

ISOWEEK(Churn D..

Rows

CNT(Churn_account)

Filters

YEAR(Churn Dat..

ISOWEEK(Churn ..

Quarterly

Marks

Automatic



Color



Size



Label



Detail

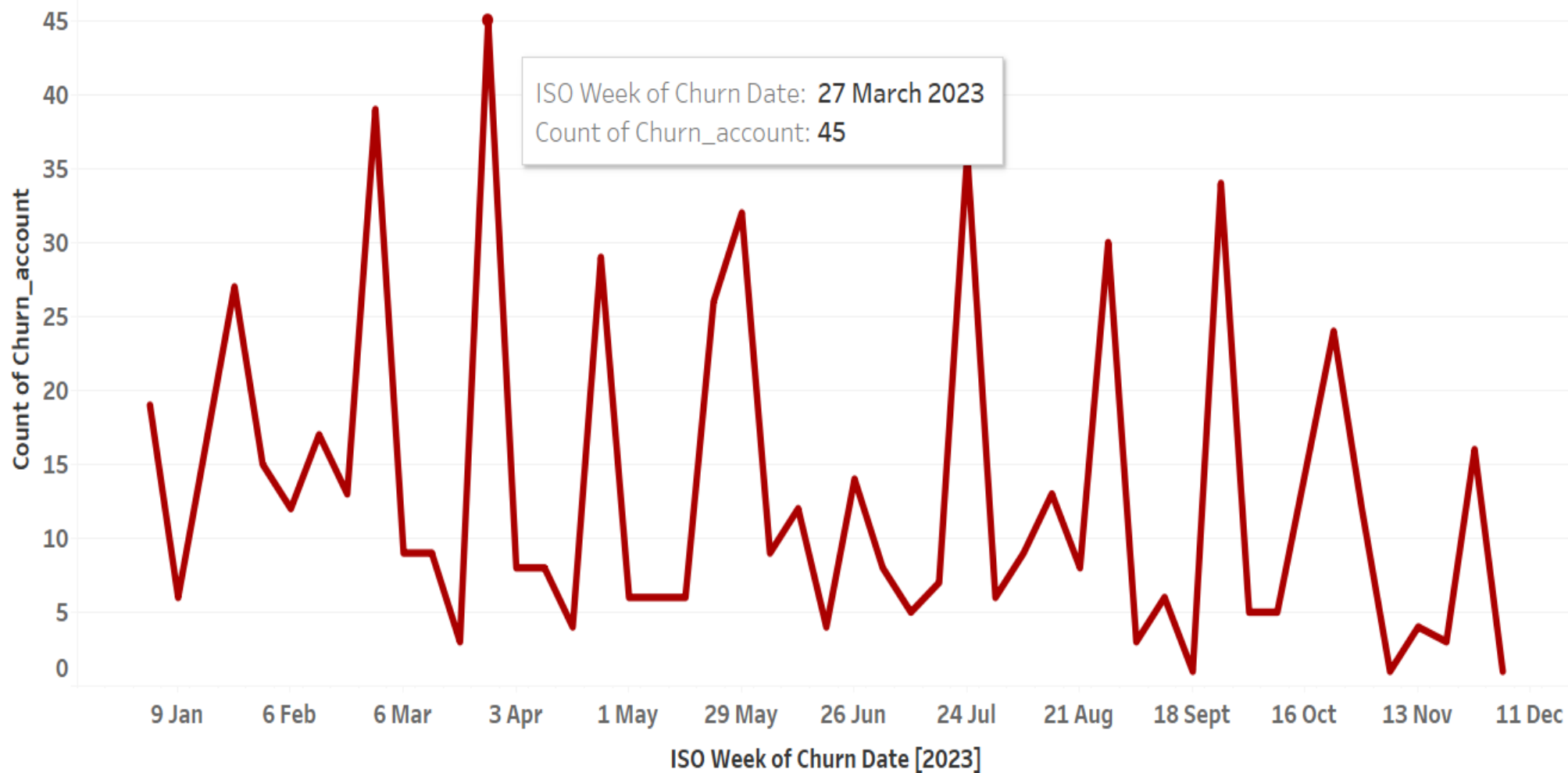


Tooltip



Path

The Weekly Trend of Churned Accounts



Filters

Quarterly

Marks

Pie



Color



Size



Label



Detail



Tooltip



Angle



Department



CNTD(Churn_a..



CNTD(Churn_a..

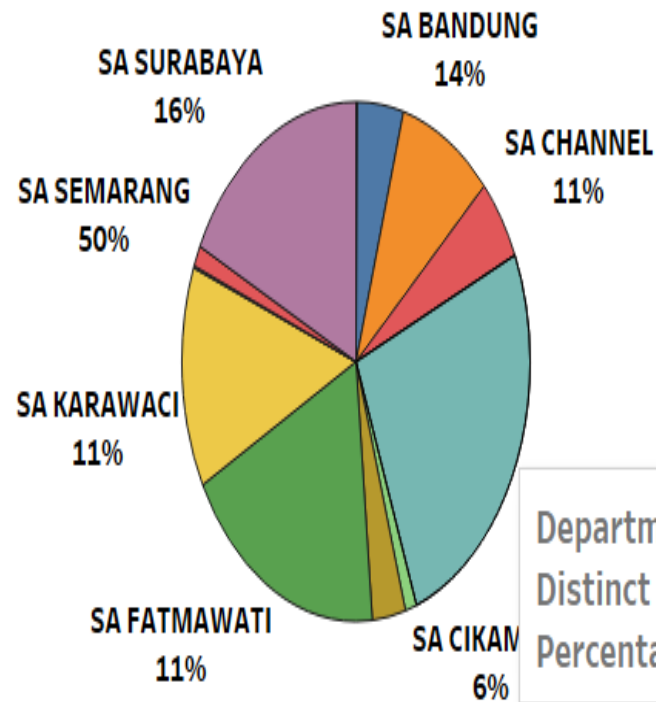


Department



AGG(Percentag..

The Churned Accounts by Department



Department:

SA CIDENG

Distinct count of Churn_account: 220

Percentage_Churn_account : 11%

AREA SALES DASHBOARD

Quarte.. (All)

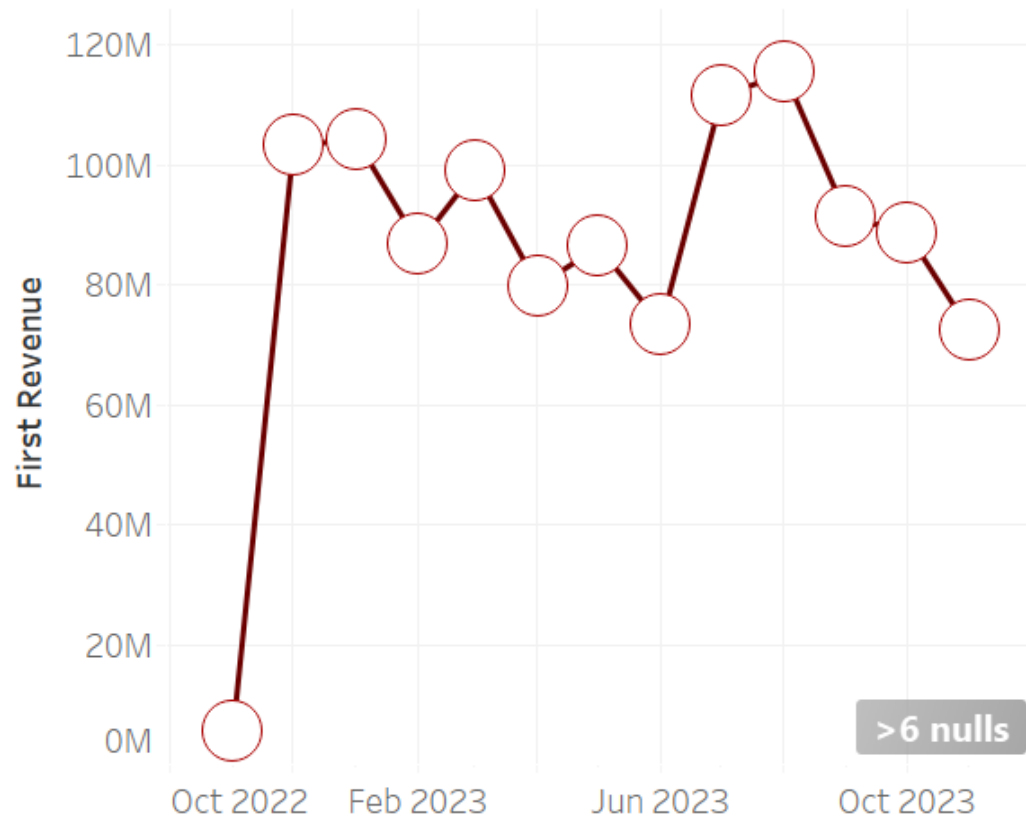


of New Accounts
3.702

1st Month Revenue
1.116.870.467

1st Month Commission
1.317.346.159

Sales by Month



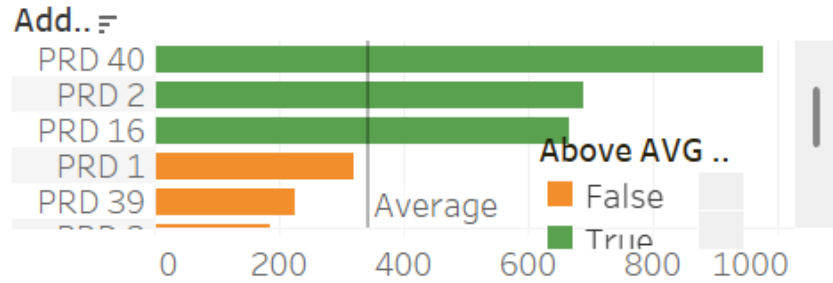
Sales_by_City



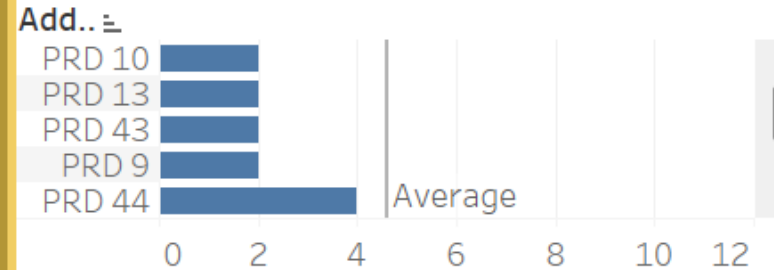
Although Jakarta recorded the highest number of new accounts(3055), with over 300 sales agents, its productivity was not proportional. In contrast, Surabaya achieved 518 new accounts with only around 11-12 agents, resulting in a much higher productivity score of 51. Meanwhile, the highest revenue was recorded in August and the lowest in November, with 72.343.666

Sales by Product Dashboard

TOP 10 Products by New Accounts



The Bottom of 10 Products by New Accounts

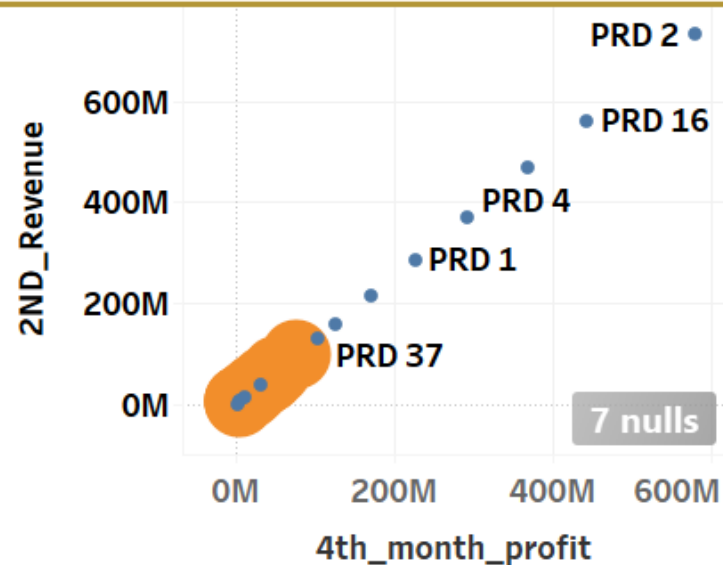


Product 2 dominates nearly all segments, with new accounts and revenue, the best-selling product in Q3, and the highest profit margin. The bottom of some products have an average revenue of more than 250k, it takes further customer segmentation and marketing strategy to delve into the cause of this product to be a favourite

The Quarterly Best - Selling Product

Add Int..	Quarterly			
	Q1	Q2	Q3	Q4
PRD 1	★ 321			
PRD 2		★ 333		
PRD 40			★ 519	★ 429

4th-Month Profit Margin by Product

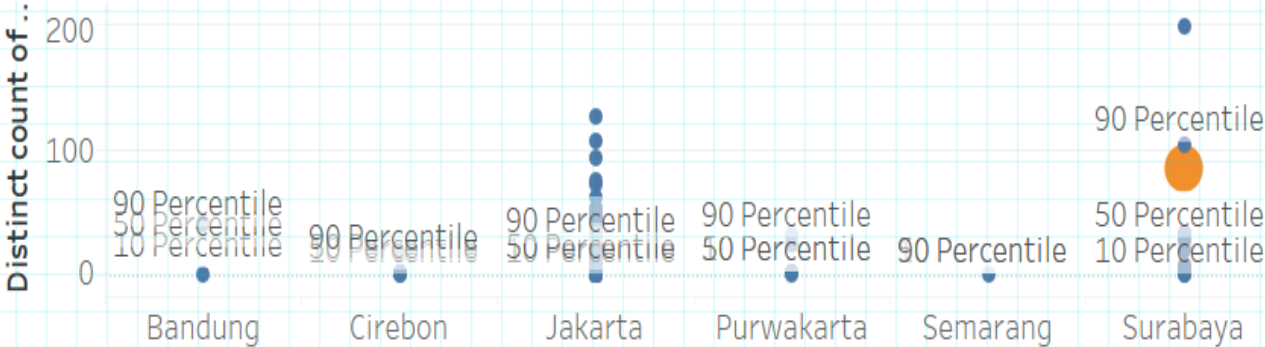


The TOP 3 Revenue Generating Products

PRD 40 1 245.053.250	PRD 2 3
PRD 16 2 212.036.262	

Revenue - New Accounts - Commission Sales Dashboard

Average Accounts Distribution by Agent



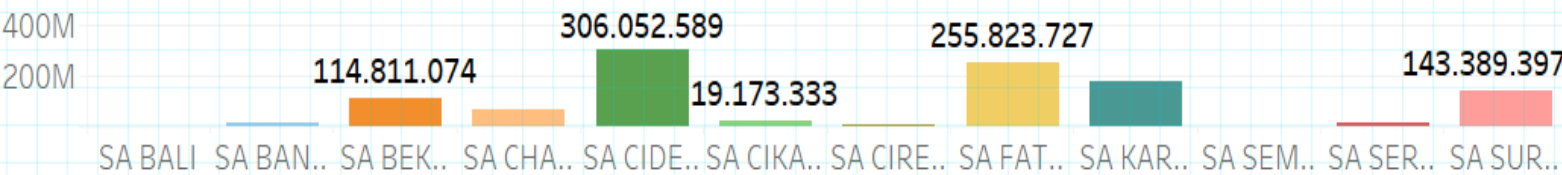
Agent.. LBB8

Agent_interest

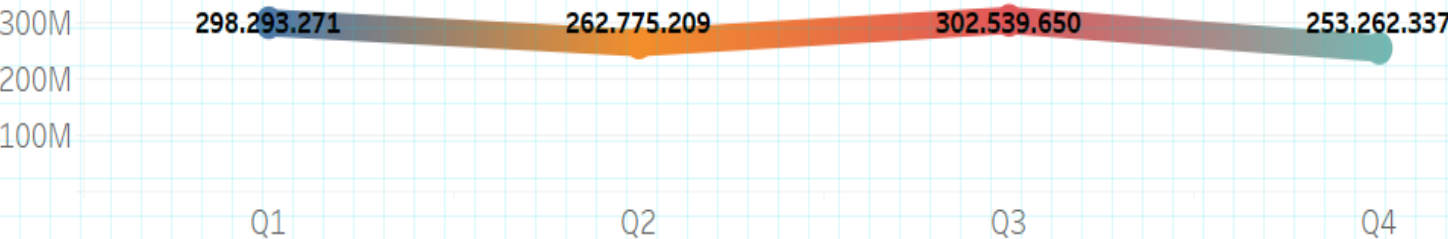
Null
IRR8

SA Cideng has the highest revenue. Furthermore, a few of the sales agents in Jakarta have an average of more than percentile- 90 of the account distribution, while Surabaya is served by a single agent, nevertheless, the commission amount consistently decline over the 1st, 4th, and 7th ..

Total Paid Revenue by Department



The Quarterly Trend of Paid Revenue

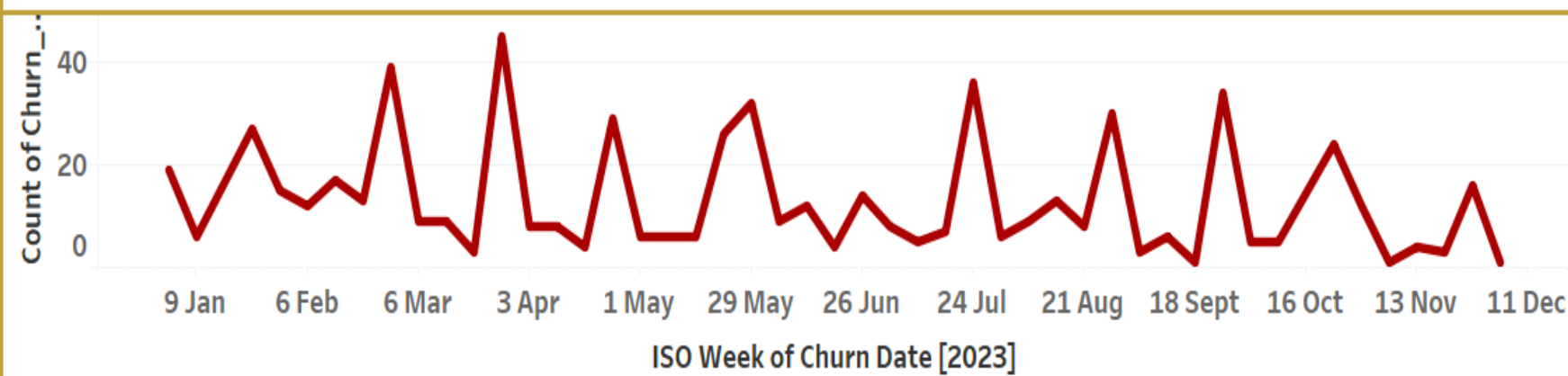


The Monthly Recurring Commission

Month ..	1st_comm	2nd_comm	3rd_comm
1	127.034.914	31.608.798	83.351.733
2	127.780.093	31.422.538	43.537.835
3	102.676.193	54.900.005	32.157.833
4	115.747.217	51.900.216	26.255.394
5	95.126.448	51.437.226	25.685.605
6	96.281.113	43.219.374	42.218.480
7	87.924.458	54.193.778	47.269.467
8	132.082.290	39.011.973	45.682.156
9	134.389.144	42.349.873	38.839.869
10	106.452.210	38.831.627	46.855.846
11	104.904.866	58.579.253	33.844.923
12	86.947.213	36.565.941	61.876.712

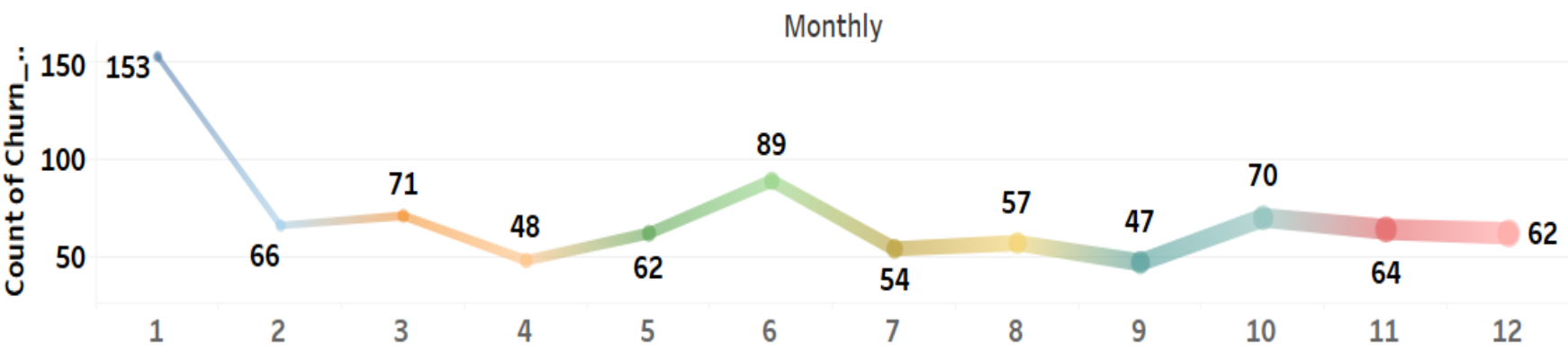
Churn Dashboard

The Weekly Trend of Churned Accounts

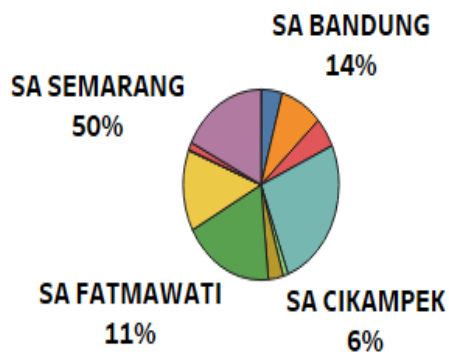


In the opening year, January had 153 churned accounts, following 89 accounts in June. The number of churned accounts rose steadily on a weekly basis during the period from the end of February through March, and SA Cideng had the biggest contribution to churned accounts

The Monthly Trend of Churned Accounts



The Churned Accounts by Department



CONCLUSION

The 200%-commission scheme over three periods is utterly ineffective in retaining subscribers, it only works to acquire new accounts. The equalization of selling skills shown in Surabaya, which outperformed Jakarta, requires further investigation. This may be due to competent leadership and management being significantly more effective than relying on a few well-skilled agents. For product development, focusing on long-term competitive products based on customer segmentation is essential for acquiring loyal customers.

A wide-angle landscape photograph capturing a sunset or sunrise. The sun is a bright, glowing orb on the left side of the horizon, partially obscured by dark, heavy clouds. Golden light radiates from the sun, illuminating the sky and the silhouettes of the mountains. The sky is filled with layers of clouds, some dark and moody, others catching the low light and appearing in shades of orange and yellow. The foreground and middle ground consist of rolling hills and mountain ranges. The hills in the immediate foreground are dark, with some patches of reddish-brown vegetation. The mountains in the distance are layered, creating a sense of depth, with their peaks and ridges softened by atmospheric haze. The overall mood is serene and majestic. Centered across the middle of the image is the text "TERIMA KASIH" in a large, white, outlined font.

TERIMA KASIH