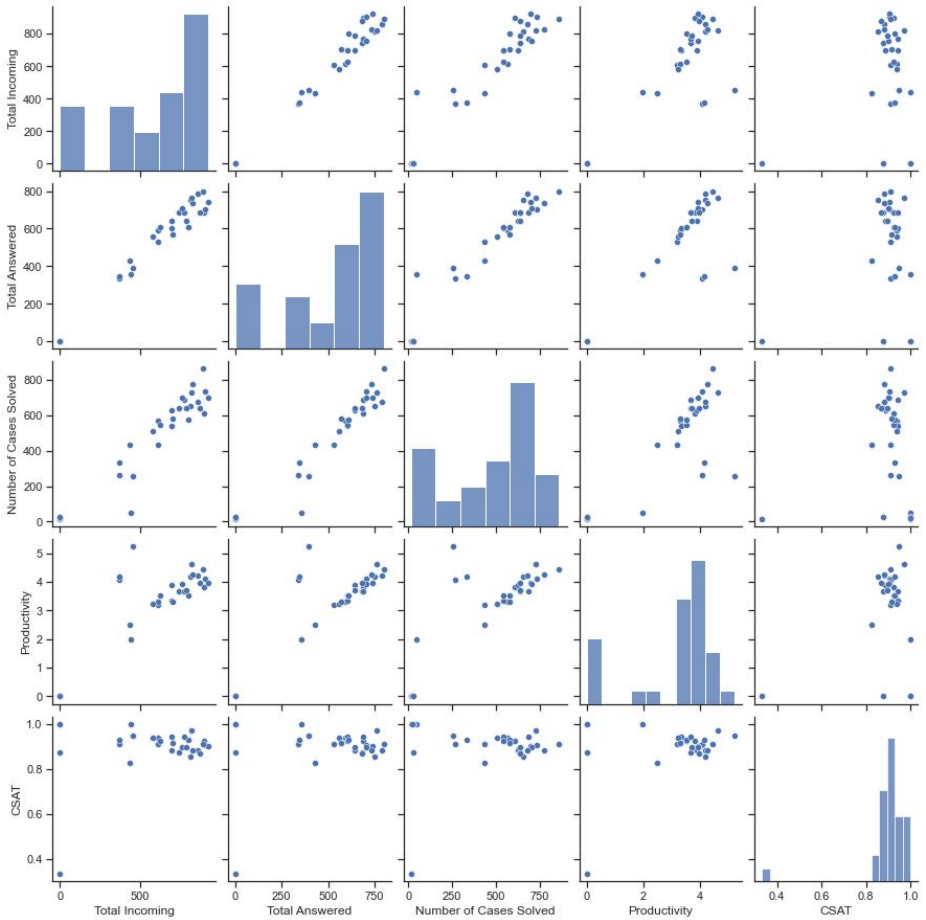
CALL CENTER DATA ANALYSIS

PART 1

Customer and Seller Data Analysis

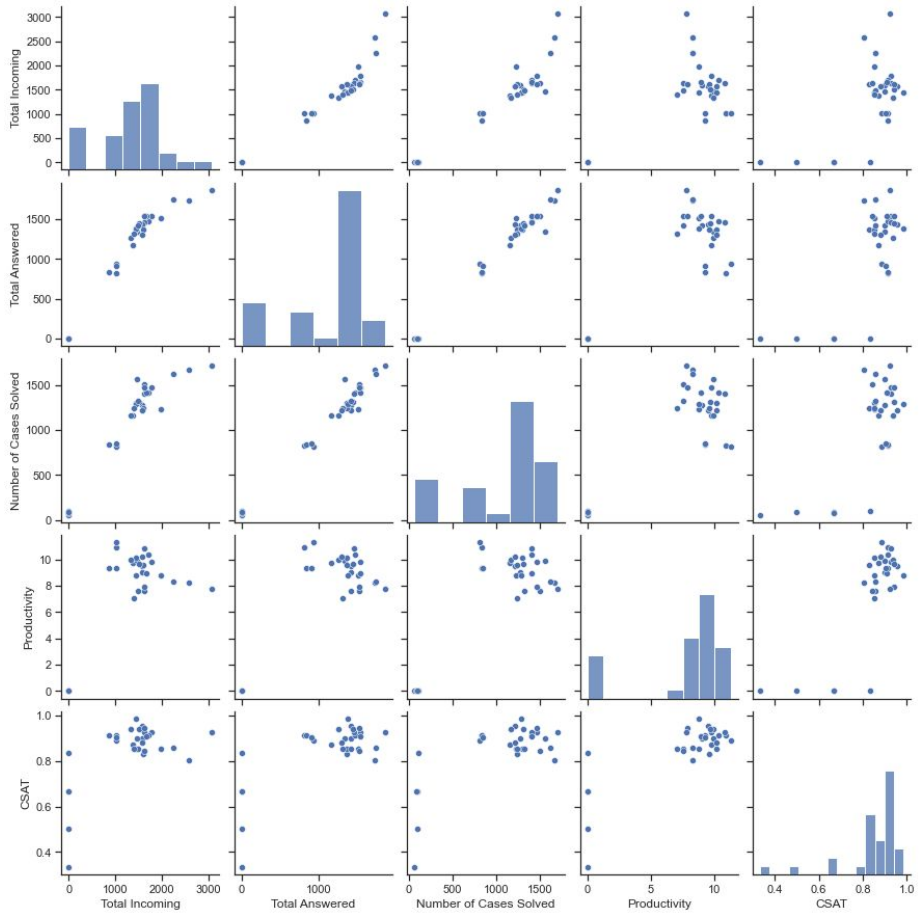
Correlation within seller dataset

Seller CSAT has no strong correlation to other factors.



Correlation within customer dataset

Customer CSAT has fairly strong positive correlation to numbers of call answered, case solved, and productivity.

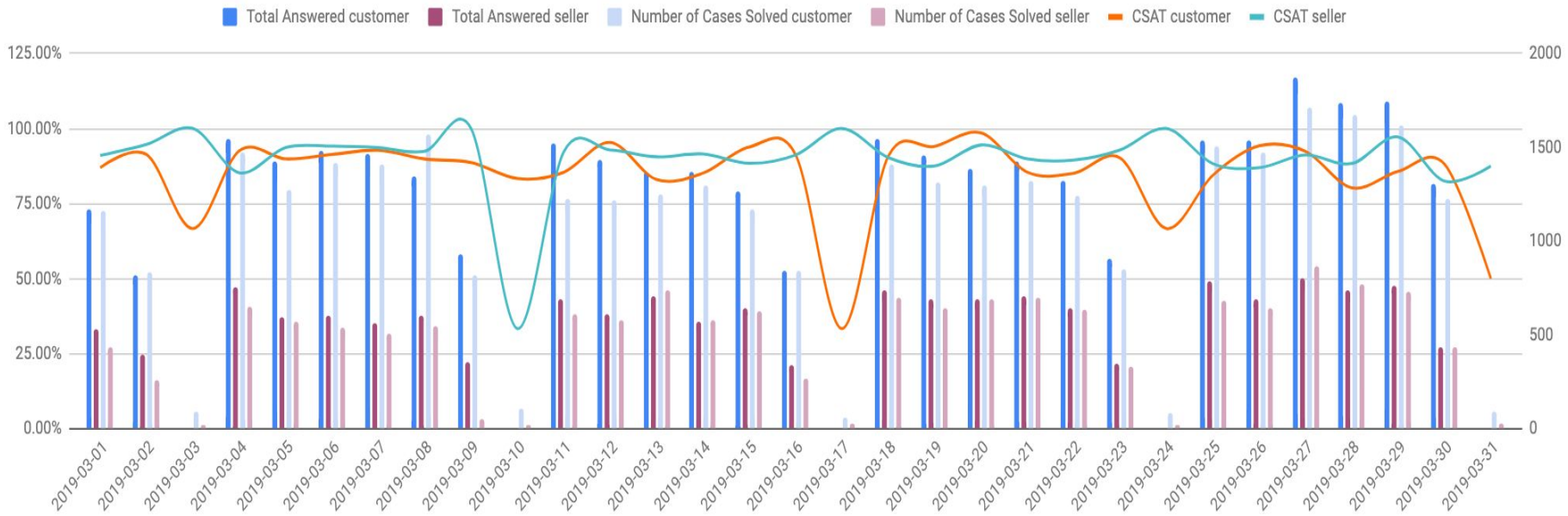


Correlation of two datasets

	Total Incoming customer	Total Answered customer	Number of Cases Solved customer	Productivity customer	CSAT customer	Total Incoming seller	Total Answered seller	Number of Cases Solved seller	Productivity seller	CSAT seller
Total Incoming customer	1.00	0.95	0.94	0.70	0.62	0.89	0.91	0.90	0.81	0.16
Total Answered customer	0.95	1.00	0.99	0.81	0.72	0.96	0.98	0.94	0.86	0.18
Number of Cases Solved customer	0.94	0.99	1.00	0.80	0.71	0.93	0.97	0.93	0.86	0.16
Productivity customer	0.70	0.81	0.80	1.00	0.80	0.74	0.75	0.63	0.84	0.24
CSAT customer	0.62	0.72	0.71	0.80	1.00	0.67	0.69	0.60	0.74	-0.11
Total Incoming seller	0.89	0.96	0.93	0.74	0.67	1.00	0.99	0.95	0.86	0.16
Total Answered seller	0.91	0.98	0.97	0.75	0.69	0.99	1.00	0.96	0.87	0.16
Number of Cases Solved seller	0.90	0.94	0.93	0.63	0.60	0.95	0.96	1.00	0.81	0.11
Productivity seller	0.81	0.86	0.86	0.84	0.74	0.86	0.87	0.81	1.00	0.20
CSAT seller	0.16	0.18	0.16	0.24	-0.11	0.16	0.16	0.11	0.20	1.00

CSAT comparison

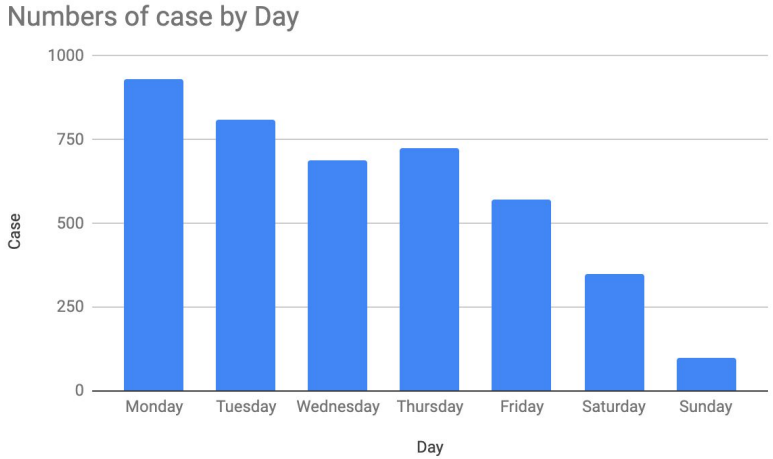
Customer’s CSAT mostly drops on Sunday--No call answered on Sunday, While seller’s CSAT mostly stays the same.

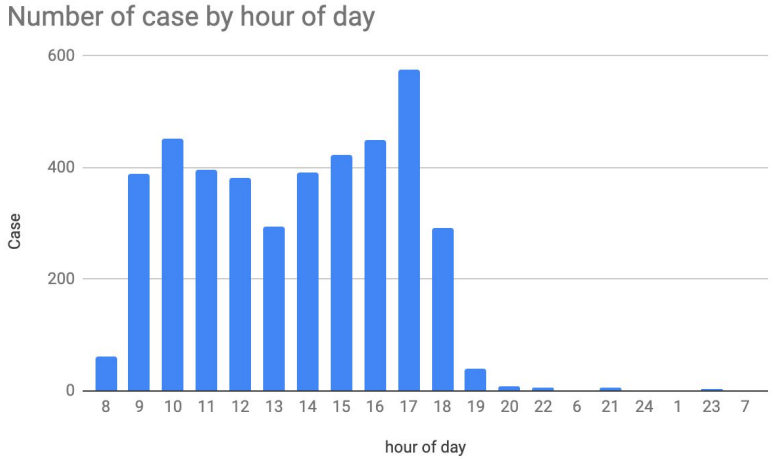


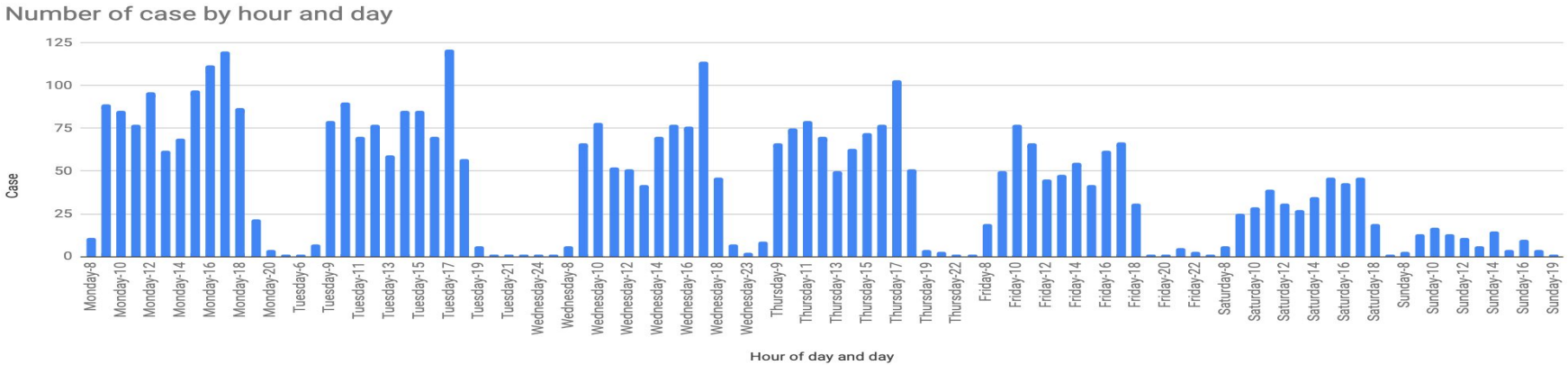
PART 2

Raw tracking of Seller Data Analysis

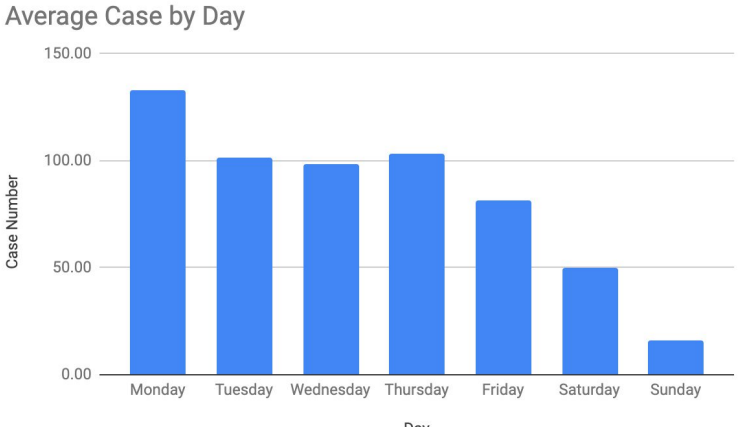
What time and/or day cases were taken

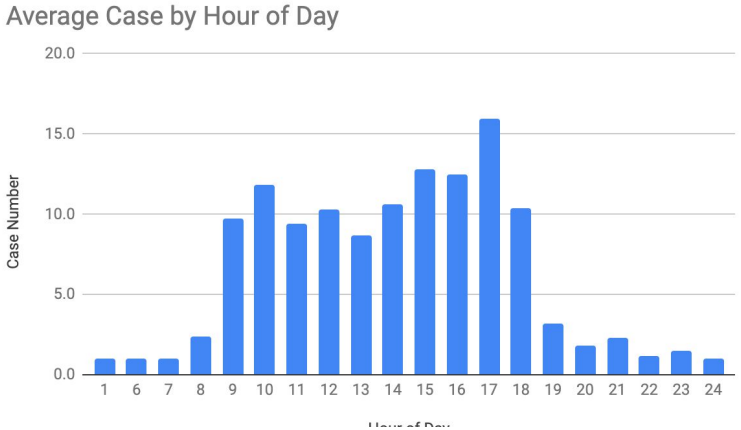


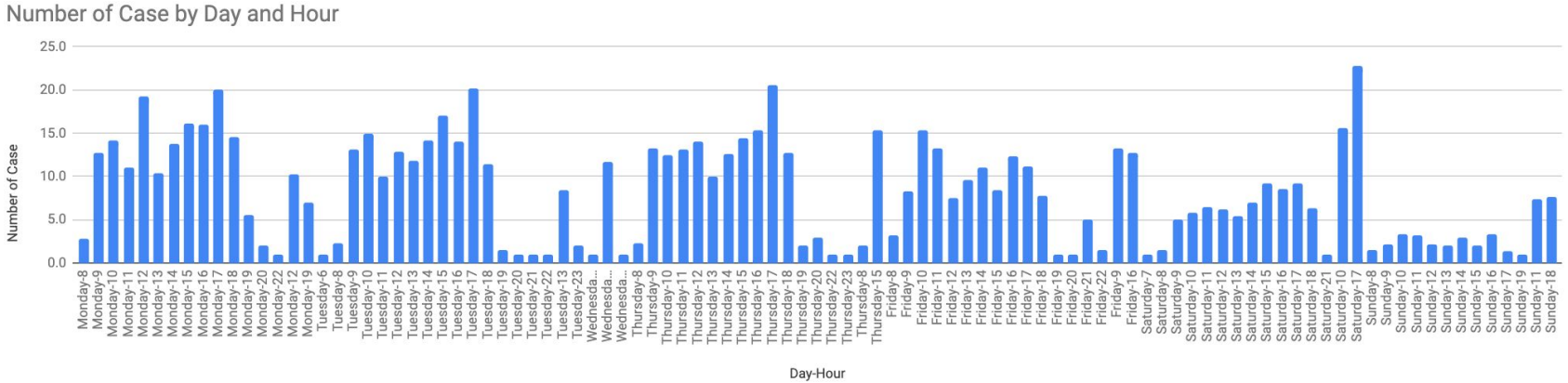




Average cases were taken on what time and/or day







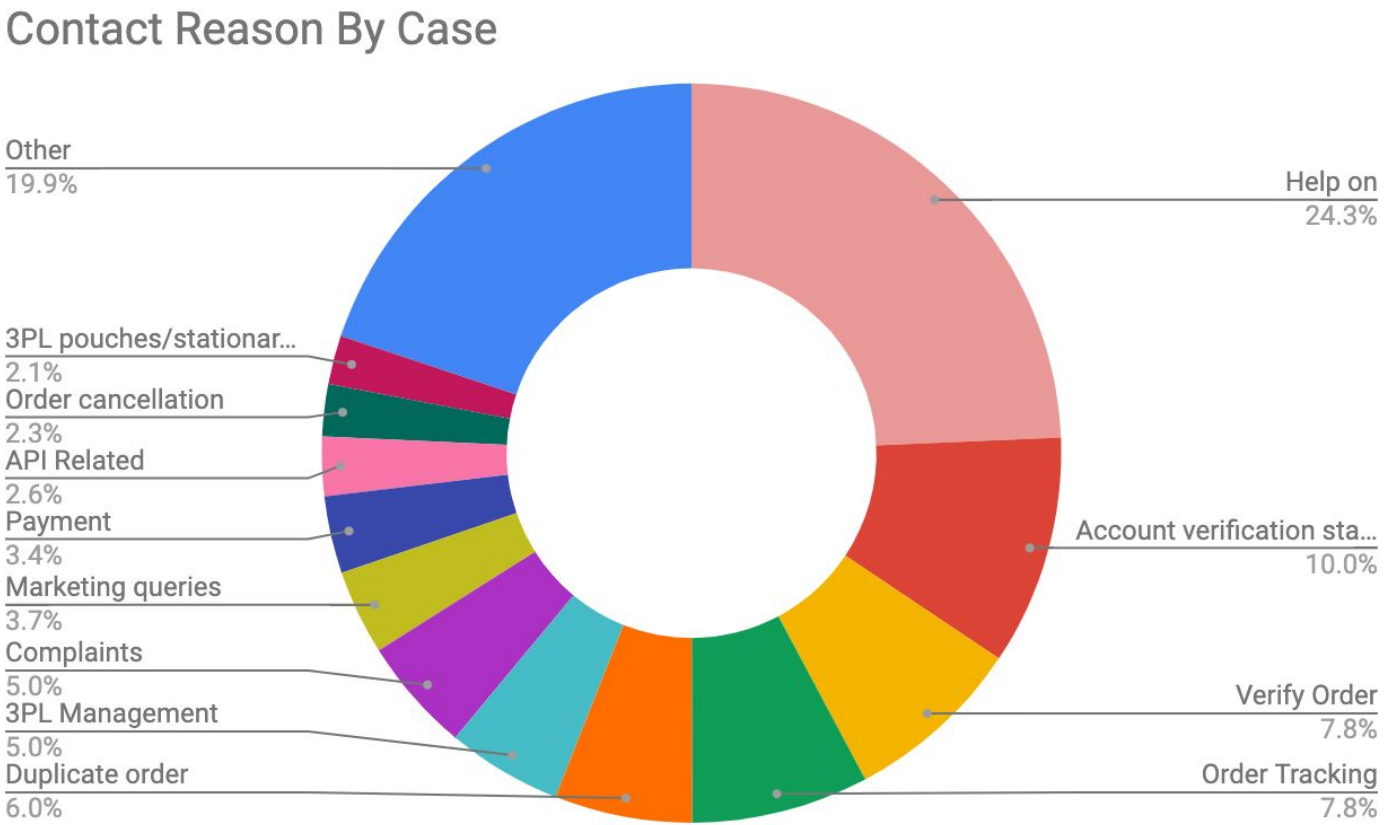
Compare Group Case Survey Result

Seller Dispute and Seller Resolution have the highest bad survey results. However, it is not sizable.
We do not need to improve those groups immediate, but we still need to monitor to not let result worsen.

We can put more emphasis on improving sizable groups, such as Seller Chat, Seller Inbound, and Seller OB.

Case Group	Bad	Good	Total
TH_Admin	21.95%	78.05%	0.98%
TH_Content	15.63%	84.38%	0.77%
TH_Seller CI	0.00%	100.00%	0.12%
TH_Seller Chat	14.94%	85.06%	36.58%
TH_Seller Digital	26.01%	73.99%	14.84%
TH_Seller Dispute	34.29%	65.71%	0.84%
TH_Seller FBL	20.69%	79.31%	0.70%
TH_Seller Inbound	14.95%	85.05%	24.38%
TH_Seller Incident	14.29%	85.71%	0.17%
TH_Seller Legal	22.12%	77.88%	2.49%
TH_Seller OB	14.19%	85.81%	14.36%
TH_Seller Resolution	34.34%	65.66%	2.37%
TH_Seller SQC	11.86%	88.14%	1.41%
Total	**17.33%**	**82.67%**	**100.00%**

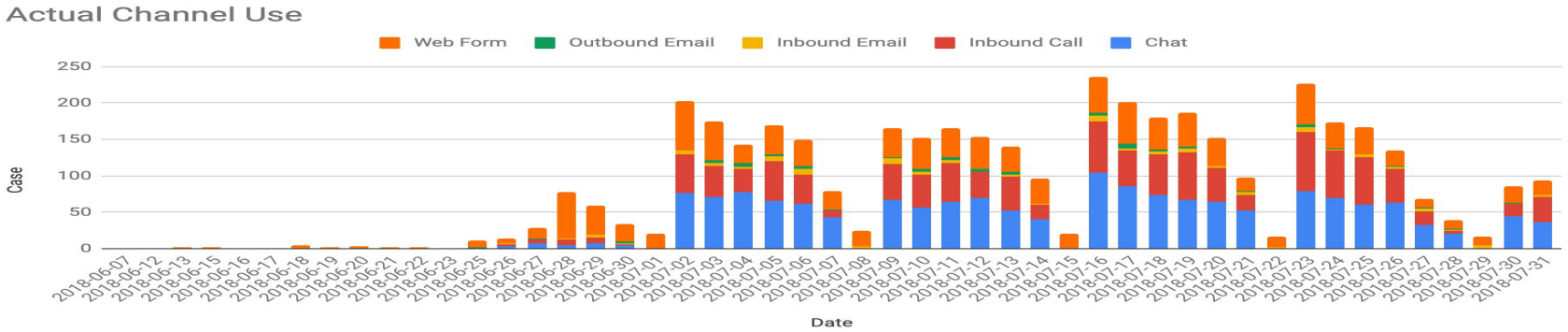
Top-10 Contact Reason by Case

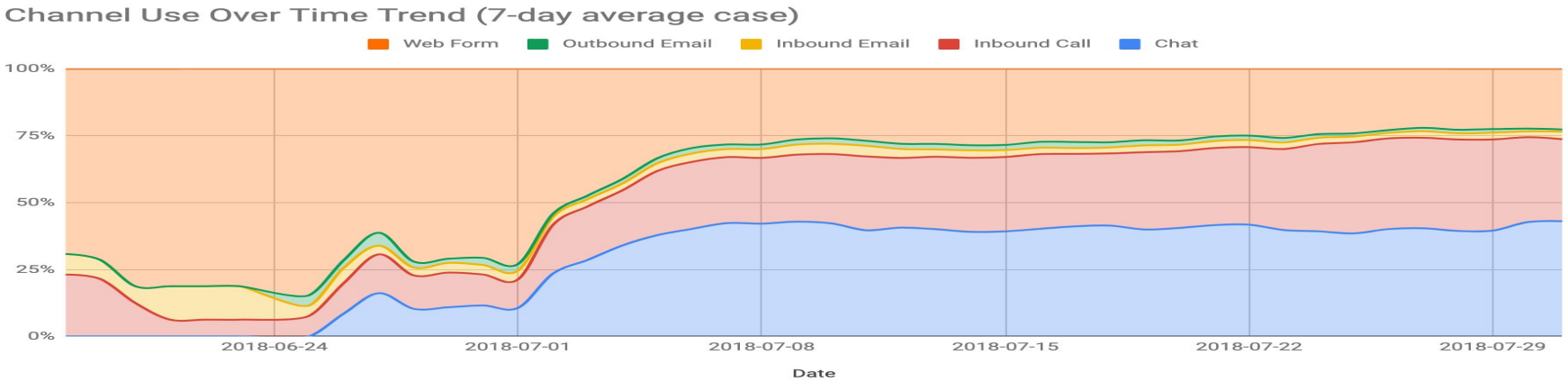


What subject was mentioned

Channel Use Overtime

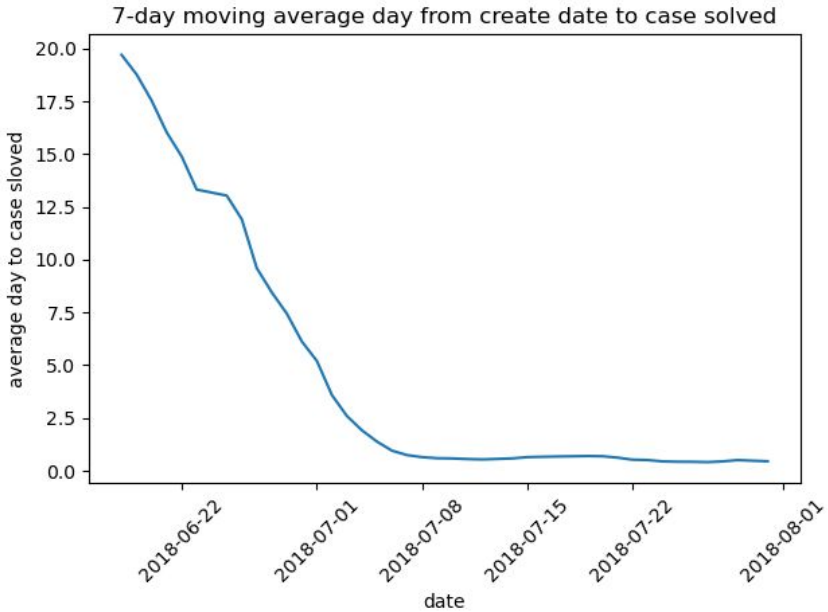
We can see the growing trend of chat and inbound call.

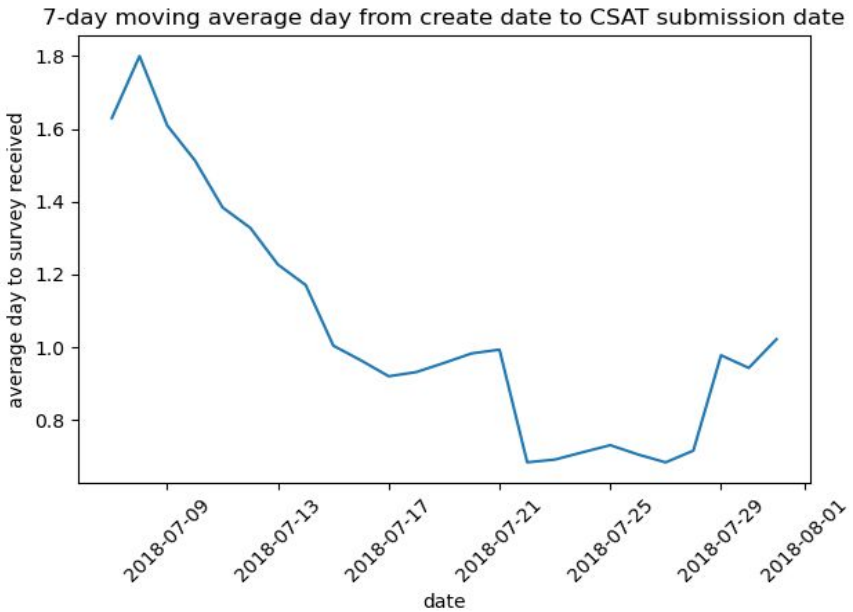




Day to case close and survey received

The time to solve a case is faster overtime. The time to receive a survey has increase during July 2018 - August 2018. However, it is still within a day.





Kompruch Benjaputharak

Appendix

Seller and customer stat summary

```
In [7]: df_m.describe()
```

Out[7]:

	Total Incoming_cus	Total Answered_cus	Number of Cases Solved_cus	Productivity_cus	CSAT_cus	Total Incoming_sell	Total Answered_sell	Number of Cases Solved_sell	Productivity_sell	CSAT_sell
count	31.000000	31.000000	31.000000	31.000000	31.000000	31.000000	31.000000	31.000000	31.000000	31.000000
mean	1341.161290	1152.709677	1096.483871	7.767419	0.847274	589.193548	515.032258	479.419355	3.158118	0.900470
std	736.672568	567.720659	504.314642	3.610174	0.136106	306.104276	262.644815	263.122503	1.528024	0.113897
min	0.000000	0.000000	60.000000	0.000000	0.333300	0.000000	0.000000	16.000000	0.000000	0.333333
25%	1020.000000	920.500000	846.500000	7.695000	0.847250	437.500000	375.500000	298.500000	3.226219	0.883587
50%	1489.000000	1370.000000	1247.000000	9.050000	0.886800	699.000000	606.000000	576.000000	3.669333	0.911765
75%	1625.500000	1497.000000	1412.000000	9.870000	0.918750	817.000000	697.500000	665.500000	4.088801	0.938943
max	3073.000000	1870.000000	1711.000000	11.310000	0.985300	923.000000	800.000000	862.000000	5.240000	1.000000

Seller and customer correlation

In [22]:
```
corrMatrix2 = df_cus.corr()
corrMatrix2
```

Out[22]:

	Total Incoming	Total Answered	Number of Cases Solved	Productivity	CSAT
Total Incoming	1.000000	0.954591	0.940804	0.704574	0.620912
Total Answered	0.954591	1.000000	0.988156	0.806348	0.717570
Number of Cases Solved	0.940804	0.988156	1.000000	0.796421	0.710624
Productivity	0.704574	0.806348	0.796421	1.000000	0.799257
CSAT	0.620912	0.717570	0.710624	0.799257	1.000000

In [23]:
```
corrMatrix3 = df_sell.corr()
corrMatrix3
```

Out[23]:

	Total Incoming	Total Answered	Number of Cases Solved	Productivity	CSAT
Total Incoming	1.000000	0.985112	0.948216	0.855366	0.163193
Total Answered	0.985112	1.000000	0.964483	0.872168	0.161465
Number of Cases Solved	0.948216	0.964483	1.000000	0.813050	0.110854
Productivity	0.855366	0.872168	0.813050	1.000000	0.202989
CSAT	0.163193	0.161465	0.110854	0.202989	1.000000

Correlation of two datasets

Many strong positive correlation. However, They do not seem to be related.