

Analysis of Customer Service

RITESH REDDY N.P

Business Objective

- The analysis aims to leverage data-driven approaches to optimize customer service processes, enhance customer experience, and drive overall business growth. By examining historical customer service data, the project seeks to identify patterns, trends, and opportunities for improvement, ultimately leading to enhanced customer loyalty and increased operational efficiency.

Project Goals

- Customer Sentiment Analysis.
- Root Cause Analysis.
- Service Response Time Analysis.
- Customer Segmentation.
- Trends and Patterns Identification.

PROJECT STRUCTURE

- Business awareness.
- Organizing data.
- Calculating the required fields that are important for the analysis.
- Visual representation.
- Gathering all the visual representations in one final sheet(Dashboard).
- Making them interactive and impacting on the clients.

Organizing data

- Data that is being provided might have multiple error or might be missing few important key details , so we should make sure all that are been sorted out and be able to understand every bit of a data to make a good analyses.

customer_name	sentiment	csat_score	call_timestamp	reason	city	state	channel	response_time	call_duration_in_minutes	call_center
Analise Gairdner	Neutral	7	10/29/2020	Billing Question	Detroit	Michigan	Call-Center	Within SLA	17	Los Angeles/CA
Crichton Kiddley	Very Positive		10/5/2020	Service Outage	Spartanburg	South Carolina	Chatbot	Within SLA	23	Baltimore/MD
Averill Brundrett	Negative		10/5/2020	Billing Question	Gainesville	Florida	Call-Center	Above SLA	45	Los Angeles/CA
Noreen Laffina	Very Negative	1	10/17/2020	Billing Question	Portland	Oregon	Chatbot	Within SLA	12	Los Angeles/CA
Toma Van der Beken	Very Positive		10/17/2020	Payments	Fort Wayne	Indiana	Call-Center	Within SLA	23	Los Angeles/CA
Kaylyn Enlen	Neutral	5	10/26/2020	Billing Question	Salt Lake City	Utah	Call-Center	Within SLA	25	Baltimore/MD
Phillipe Bouring	Neutral	8	10/16/2020	Billing Question	Tyler	Texas	Chatbot	Within SLA	31	Baltimore/MD
Krysta de Tocqueville	Positive		10/21/2020	Billing Question	New York City	New York	Chatbot	Below SLA	37	Los Angeles/CA
Oran Lifsey	Very Negative		10/1/2020	Billing Question	Dallas	Texas	Email	Below SLA	37	Baltimore/MD
Port Ingall	Neutral		10/7/2020	Billing Question	Cincinnati	Ohio	Chatbot	Within SLA	12	Baltimore/MD
Ella Cristoforo	Negative		10/9/2020	Billing Question	Everett	Washington	Chatbot	Within SLA	35	Los Angeles/CA
Aubrey Surcombe	Negative		10/11/2020	Billing Question	Huntington	West Virginia	Web	Within SLA	18	Los Angeles/CA
Nicole Fareweather	Very Positive		10/1/2020	Billing Question	Portland	Oregon	Call-Center	Within SLA	30	Baltimore/MD
Melesa Ricardot	Positive	7	10/10/2020	Billing Question	Springfield	Massachusetts	Chatbot	Within SLA	20	Denver/CO
Odell Catheseyd	Very Negative		10/6/2020	Payments	Hyattsville	Maryland	Call-Center	Below SLA	22	Baltimore/MD
Dani Stanfield	Negative	4	10/26/2020	Billing Question	New York City	New York	Chatbot	Within SLA	28	Baltimore/MD
Margarette Jehaes	Negative		10/1/2020	Billing Question	Huntsville	Alabama	Email	Above SLA	36	Baltimore/MD
Noni Greatrakes	Neutral		10/30/2020	Billing Question	Wichita	Kansas	Call-Center	Above SLA	37	Baltimore/MD
Genik Archell	Negative		10/26/2020	Billing Question	Lansing	Michigan	Web	Within SLA	41	Baltimore/MD
Tammie Bettinson	Very Negative		10/11/2020	Payments	Lansing	Michigan	Call-Center	Within SLA	9	Chicago/IL
Errol Follos	Neutral		10/17/2020	Billing Question	Fort Wayne	Indiana	Chatbot	Below SLA	27	Baltimore/MD



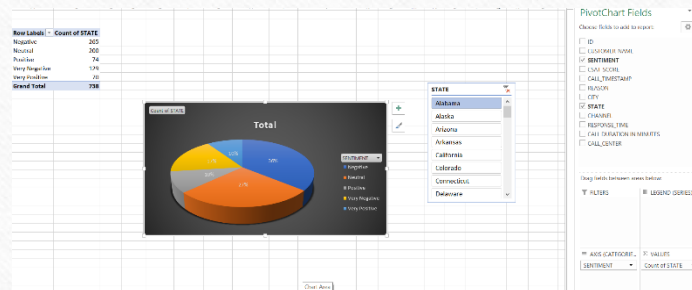
ID	CUSTOMER_NAME	SENTIMENT	CSAT_SCORE	CALL_TIMESTAMP	REASON	CITY	STATE	CHANNEL	RESPONSE_TIME	CALL_DURATION_IN_MINUTES	CALL_CENTER
1	QOK-5707609-w-020481-FU	Neutral		10/29/2020	Billing Question	Detroit	Michigan	Call-Center	Within SLA	17	Los Angeles/CA
2	QOK-72219678-w-102139-KY	Very Positive		10/5/2020	Service Outage	Spartanburg	South Carolina	Chatbot	Within SLA	23	Baltimore/MD
3	QOK-30629932-A-023015-ID	Negative		10/4/2020	Billing Question	Gainesville	Florida	Call-Center	Above SLA	45	Los Angeles/CA
4	QOK-98807559-1-020008-m7	Very Negative	1	10/17/2020	Billing Question	Portland	Oregon	Chatbot	Within SLA	12	Los Angeles/CA
5	QOK-49401793-O-174482-Fm	Very Positive		10/17/2020	Payments	Fort Wayne	Indiana	Call-Center	Within SLA	23	Los Angeles/CA
6	JVI-79728660-U-224285-4a	Neutral	5	10/26/2020	Billing Question	Salt Lake City	Utah	Call-Center	Within SLA	25	Baltimore/MD
7	AD-95554097-e-185542-PT	Neutral	8	10/16/2020	Billing Question	Tyler	Texas	Chatbot	Within SLA	31	Baltimore/MD
8	TKS-27007618-1-698789-Sw	Positive		10/21/2020	Billing Question	New York City	New York	Chatbot	Below SLA	37	Los Angeles/CA
9	KNG-44599118-p-344473-ZU	Very Negative		10/1/2020	Billing Question	Dallas	Texas	Email	Below SLA	37	Baltimore/MD
10	RLC-44108207-2-285141-VS	Neutral		10/7/2020	Billing Question	Cincinnati	Ohio	Chatbot	Within SLA	12	Baltimore/MD
11	ES-02069323-O-647077-TB	Negative		10/9/2020	Billing Question	Everett	Washington	Chatbot	Within SLA	35	Los Angeles/CA
12	ZON-32874873-e-786499-KJ	Negative		10/11/2020	Billing Question	Huntington	West Virginia	Web	Within SLA	18	Los Angeles/CA
13	JDP-35147568-w-630120-3I	Very Positive		10/2/2020	Billing Question	Portland	Oregon	Call-Center	Within SLA	30	Baltimore/MD
14	DPT-56483462-p-373409-CQ	Positive	7	10/10/2020	Billing Question	Springfield	Massachusetts	Chatbot	Within SLA	20	Denver/CO
15	ZCV-95861196-p-333622-9r	Very Negative		10/6/2020	Payments	Hyattsville	Maryland	Call-Center	Below SLA	22	Baltimore/MD
16	BEJ-69711449-V-758715-cp	Negative	4	10/18/2020	Billing Question	New York City	New York	Chatbot	Within SLA	28	Denver/CO
17	DEC-83767217-S-314070-4R	Negative		10/1/2020	Billing Question	Huntsville	Alabama	Email	Above SLA	36	Baltimore/MD
18	KNI-64106333-Y-138117-19	Neutral		10/30/2020	Billing Question	Wichita	Kansas	Call-Center	Above SLA	37	Baltimore/MD
19	GKH-08532516-2-756137-Bw	Negative		10/26/2020	Billing Question	Lansing	Michigan	Web	Within SLA	41	Baltimore/MD
20	DUI-19977844-M-356042-CQ	Very Negative		10/11/2020	Payments	Lansing	Michigan	Call-Center	Within SLA	9	Chicago/IL
21	AEO-82123259-p-882390-6G	Neutral		10/12/2020	Billing Question	Fort Wayne	Indiana	Chatbot	Below SLA	27	Baltimore/MD
22	YOB-40492230-M-009287-TB	Negative	5	10/9/2020	Billing Question	Hayward	California	Email	Within SLA	27	Baltimore/MD
23	GZD-50459532-O-178569-D2	Very Negative	2	10/3/2020	Billing Question	Santa Barbara	California	Chatbot	Within SLA	20	Chicago/IL

Visual representation

- Every data sets that needs to be compared can be done using pivot tables and pivot chart for data visualization purpose.
- My six comparisons for data visualization are as follows:
- SENTIMENT ANALYSIS.
- REASON ANALYSIS.
- CHANNEL ANALYSIS.
- SLA ANALYSIS.
- CALL CENTER ANALYSIS.
- CSAT SCORE ANALYSIS.

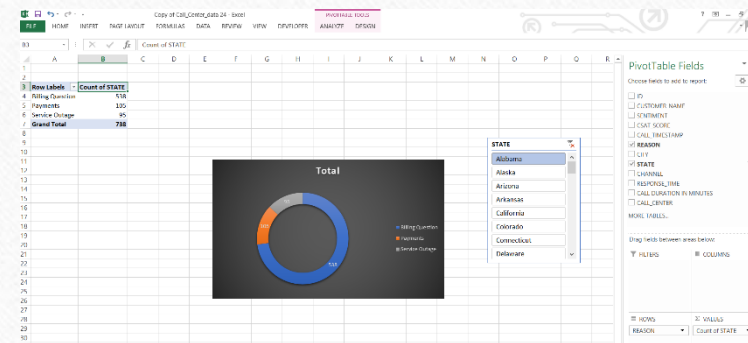
SENTIMENT ANALYSIS

- I have used pie chart (Pivot chart) for sentiment analysis.
- Where the data of sentiments is given in the rows area and the states data is given in the values area in the pivot table.
- Now we can get the overall sentiments on a whole and also by using the pivot slicer we can visually look at the state wise sentiments data. And through slicer it is interactive too.



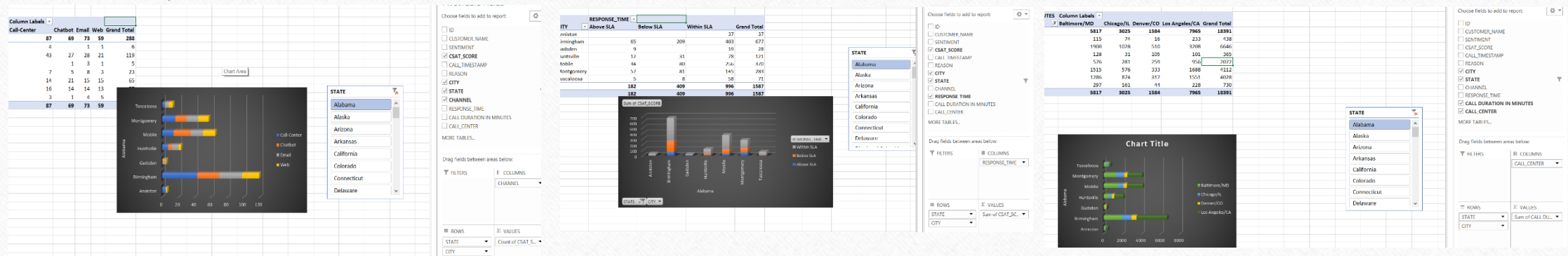
REASON ANALYSIS

- I have used doughnut chart to show the reason analysis.
- Where the data of reasons is given in the rows area and the states data is given in the values area in pivot table.
- Now we can get the overall reasons on a whole and also by using the pivot slicer we can visually look into the state wise reasons data.



CHANNEL ANALYSIS,SLA ANALYSIS,CALL CENTER ANALYSIS

- These analysis are done using column chart and bar chart.
- They delivery multiple information in one chart and these charts.
- These chart better be used with the slicer where these charts provide the information state



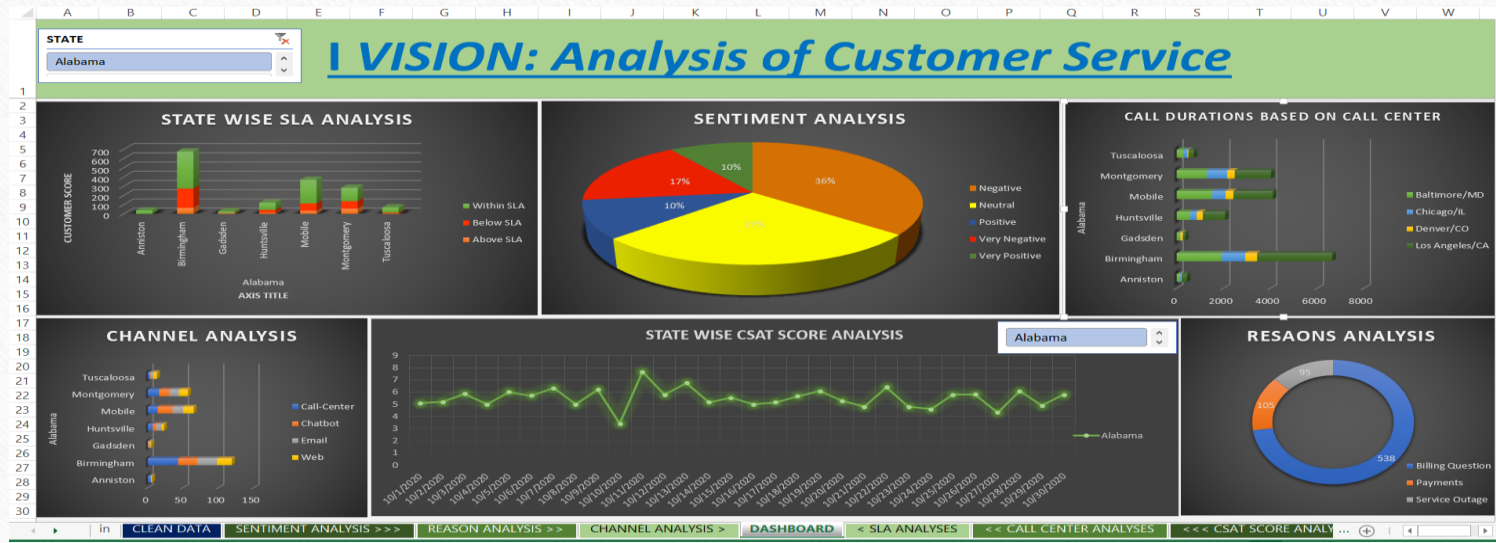
CSAT SCORE ANALYSIS

- For customer satisfaction score I have used line chart.
- The data this provides is the customers average rating on scale of 1 – 10 state wise throughout the dates given.



FINAL DASHBOARD

Every chart that has been created can be put together for the final dashboard and could make it interactive so that clients have better visual understanding



THANK YOU