Comcast Telecom Consumer Complaints Project

by Ashish Roy

Description: Comcast is an American global telecommunication company. The firm has been providing terrible customer service. They continue to fail when it comes to basic customer promises to improve. Only last month the company promised to fix its customer service issues. It's 2015 and they are still receiving customer complaints. The existing dataset will consist of complaints received at public customer complaints filed against Comcast. It will help us to pin down what is wrong with Comcast's customer service.

```
Version 1.0.0
Author - Ashish Roy
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```

```
dataset_name,cmt=Comcast_telecom_complaints_data.csv# #Descriptive the dataset
```

data

```
data_ext=cmt.ext
```

data head: Below line runs

```
cmt.head(5)
```

	Ticket #	Customer Complaint	Date	Date_month_year	Time	Received Via	City	State	Zip code	Day of Week	Hour
0	250635	Comcast cable internet speeds	22-Apr-15	22-Apr-15	07:59:00 PM	Customer Care Call	Abingdon	Maryland	21009	Clover	
1	223441	Payment delay because refund was processed late	04-Aug-15	04-Aug-15	10:26:00 AM	Internet	Acworth	Georgia	30101	Clover	
2	242732	Speed and Service	18-Apr-15	18-Apr-15	07:26:00 AM	Internet	Acworth	Georgia	30101	Clover	
3	277346	Comcast Billing Slow Speed and service	05-Jul-15	5-Jul-15	08:00:00 AM	Internet	Acworth	Georgia	30101	Clover	
4	307274	Spotty service	26-May-15	26-May-15	12:26:00 AM	Internet	Acworth	Georgia	30101	Clover	

2234 rows × 11 columns

data head: Below line runs

```
cmt.head(5).transpose()
```

	0	1	2	3	4
Ticket #	250635	223441	242732	277346	307274
Customer Complaint	Comcast cable internet speeds	Payment delay because refund was processed late	Speed and Service	Comcast Billing Slow Speed and service	Spotty service
Date	22-Apr-15	04-Aug-15	18-Apr-15	05-Jul-15	26-May-15
Date_month_year	22-Apr-15	04-Aug-15	18-Apr-15	5-Jul-15	26-May-15
Time	07:59:00 PM	10:26:00 AM	07:26:00 AM	08:00:00 AM	12:26:00 AM
Received Via	Customer Care Call	Internet	Internet	Internet	Internet
City	Abingdon	Acworth	Acworth	Acworth	Acworth
State	Maryland	Georgia	Georgia	Georgia	Georgia
Zip code	21009	30101	30101	30101	30101
Day of Week	Clover	Clover	Clover	Clover	Clover
Hour					

```
cmt.describe()
```

	Zip code
count	2234.000000
mean	32796.550323
std	2890.179427
min	30004.000000
25%	30310.000000
50%	32771.000000
75%	33065.000000
max	99223.000000

data info:

```
cmt.info()
```

```
<class'pandas.core.frame.dataframe'>
rangeindex: 2234 entries, 0 to 2233
data columns (total 11 columns):
ticket # 2234 non-null int64
customer complaint 2234 non-null object
date 2234 non-null object
date_month_year 2234 non-null object
time 2234 non-null object
received via 2234 non-null object
city 2234 non-null object
state 2234 non-null object
zip code 2234 non-null int64
day of week 2234 non-null object
hour 0 non-null float64
dtypes: float64(1), int64(2), object(8)
memory usage: 192.0+ kb
```

Below is an null or missing values, and only the "zip code" of int type and all other

data columns

```
cols=['ticket #', 'customer complaint', 'date', 'date_month_year', 'time',
'received via', 'city', 'state', 'zip code', 'day of week',
'hour']
cmt.dropna(subset=cols)
```

data dtypes

```
cmt.dtypes
```

```
ticket # int64
customer complaint object
date object
date_month_year object
time object
received via object
city object
state object
zip code int64
day of week object
hour float64
dtype: object
```

Plotted chart preparation

```
data=cmt[['ticket #', 'received via']]
```

```
data=data[['ticket #', 'received via']].groupby('received via').count().sort_values(ascending=False)
```

```
data.plot.bar(rot=0,color=['b'],figsize=(12,7),title='Number of complaints monthly')
```

```
plt.xlabel('received via',fontsize=20)
plt.ylabel('number of complaints',fontsize=20)
```

```
plt.savefig('/home/ashish/desktop/comcast complaints monthly', dpi=300)
```

```
plt.show()
```

The above graph shows the number of complaints received monthly

```
data=cmt[['ticket #', 'received via']].groupby('received via').count().sort_values(ascending=False)
```

```
data.plot.pie(figsize=(12,7),subplots=True,autopct='%1.1f%%',shadow=True,startangle=90,
labels=data.index,colors=['r','g','b','y'],
title='Number of complaints monthly')
```

```
plt.savefig('/home/ashish/desktop/comcast complaints monthly', dpi=300)
```

```
plt.show()
```

The above graph shows the graph of number of complaints monthly

Provide a name and the frequency of complaints types

```
cmt=cmt[['ticket #', 'customer complaint']]
```

```
cmt.groupby('customer complaint').count().sort_values(ascending=False)
```

```
Number of Complaints types
customer complaints types
```

comcast	141
comcast data cap	30
comcast internet	29
comcast data caps	23
comcast billing	12
inability to add service	1
throttling service and unreasonable data caps	1
comcast internet data cap fee	1
comcast blocking files gps on sony playstation devices	1
billing and threats	1

1748 rows × 1 columns

```
cmt=cmt[['ticket #', 'time']]
```

```
cmt.groupby('time').count().head(5).transpose()
```

```
Number of Complaints
```

	12:00:00 AM	12:01:00 AM	12:02:00 AM	12:03:00 AM	12:04:00 AM
ticket #	1	1	1	1	1

```
cmt=cmt[['ticket #', 'received via']]
```

```
cmt.groupby('received via').count()
```

received via	ticket #
internet	1117
customer care call	1116
mailed	1
office	1

```
cmt=cmt[['ticket #', 'city']]
```

```
cmt.groupby('city').count.head(5).transpose()
```

```
Number of Complaints
```

	abingdon	acworth	acworth	acworth	acworth
ticket #	1	1	1	1	1

```
cmt=cmt[['ticket #', 'state']]
```

```
cmt.groupby('state').count.head(5).transpose()
```

```
Number of Complaints
```

	alabama	alaska	arizona	arkansas	california
ticket #	17	2	52	11	164

```
cmt=cmt[['ticket #', 'zip code']]
```

```
cmt.groupby('zip code').count.head(5).transpose()
```

```
Number of Complaints
```

	30004	30021	30022	30026	30028
ticket #	1	1	1	1	1

```
cmt=cmt[['ticket #', 'day of week']]
```

```
cmt.groupby('day of week').count.head(7).transpose()
```

```
Number of Complaints
```

	friday	monday	saturday	sunday	thursday
ticket #	1	1	1	1	1

```
cmt=cmt[['ticket #', 'hour']]
```

```
cmt.groupby('hour').count.head(5).transpose()
```

```
Number of Complaints
```

	nan
ticket #	0

```
cmt=cmt[['ticket #', 'date']]
```

```
cmt.groupby('date').count.head(5).transpose()
```

```
Number of Complaints
```

	1-aug-15	1-jun-15	10-aug-15	10-jun-15	11-aug-15
ticket #	1	1	1	1	1

```
cmt=cmt[['ticket #', 'date_month_year']]
```

```
cmt.groupby('date_month_year').count.head(5).transpose()
```

```
Number of Complaints
```

	1-aug-15	1-jun-15	10-aug-15	10-jun-15	11-aug-15
ticket #	1	1	1	1	1

```
cmt=cmt[['ticket #', 'received via']]
```

```
cmt.groupby('received via').count()
```

received via	ticket #
internet	1117
customer care call	1116
mailed	1
office	1

```
cmt=cmt[['ticket #', 'customer complaint']]
```

```
cmt.groupby('customer complaint').count.head(5).transpose()
```

```
Number of Complaints
```

| | 2-day service | 2nd service | 3 hours | 3rd service | 4 hours