

DATA SCIENCE PROJECT

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Subgroup: - Coe19

R QUERIES: -

1.Importing library

```
#importing library  
library(dplyr)  
library("tidyr")
```

2.Reading Files

```
#Reading file  
setwd("C:/Users/VISHVAM SALWAN/Downloads/Finanace")  
file <- read.csv("Financial Consumer Complaints.csv")  
file
```

3.Checking N.A Value

```
#Checking na file  
colSums(is.na(file))
```

4.Replacing N.A Values

```
#Replacing NA values  
Consumer.disputed. = complete.cases(file$Consumer.disputed.)  
file$Consumer.disputed.[is.na(file$Consumer.disputed.)] <- "No"  
colSums(is.na(file))  
file <- file %>% fill(Consumer.consent.provided , .direction = 'down')  
colSums(is.na(file))  
head(file)
```

5.Removing Tags(Unwanted) Columns

```
#Removing tags columns  
file <- subset(file, select = -Tags)  
head(file)|
```

6.Filling Empty Column

```
#Filling empty columns  
file <- file %>% fill(Sub.product , .direction = 'down')|
```

7.Dropping Rows With No Dates

```
#Dropping rows with no date  
file<-file %>% drop_na(Date.Sumbited)|
```

8.Filling Empty Columns

```
#Filling empty columns  
file <- file %>% fill(Sub.issue , .direction = 'up')  
|
```

9.Label Encoding

```
#Label Encoding  
file$Submitted.via <- factor(file$Submitted.via)  
file$Submitted.via<-as.numeric(file$Submitted.via)  
head(file$Submitted.via)  
|
```

10.Final Csv File

```
#Final csv file  
write.csv(file,"final.csv", row.names = TRUE)  
|
```

DATASET: -

1.Dataset Before Preprocessing: -

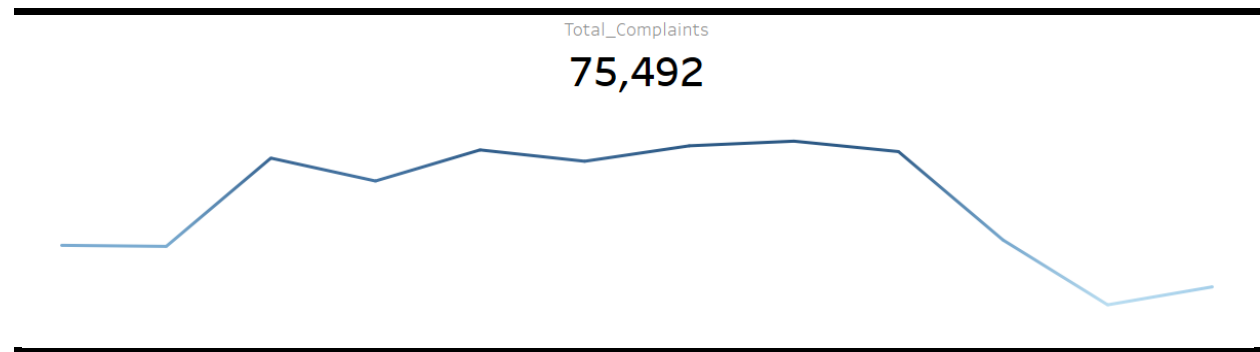
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
1	Complain	Date Submitted	Product	Sub-product	Issue	Sub-issue	Company	Company	State	ZIP code	Tags	Consumer Submitted	Date Received	Company	Timely res	Consumer	
2	2824926	2/24/18	Credit card or prepa	General-purpose cr	Closing your account	Company closed your acc	Cumulus F	FL	33179		Consent n	Web	2/24/18	Closed with	Yes	NA	
3	1515991	NA	Debt collection	Credit card	Improper contact or sha	Contacted employer after	Cumulus F	CA	93561		Consent n	Web	08/12/2015	Closed with	Yes	No	
4	1145261	12/05/2014	Bank account or ser	Checking account	Deposits and withdrawals		Cumulus F	CA	91792		NA	Referral	12/08/2014	Closed with	Yes	No	
5	2573763	7/13/17	Mortgage	Conventional home	Trouble during payment process		Company	Cumulus F	CA	92629		Consent n	Web	7/13/17	Closed with	Yes	NA
6	2573113	7/13/17	Mortgage	Conventional home	Struggling to pay mortgage			Cumulus F	NY	10016		Consent n	Web	7/13/17	Closed with	Yes	NA
7	2406037	3/27/17	Credit card		Billing disputes			Cumulus F	AZ	85323		NA	Referral	3/27/17	Closed with	Yes	No
8	2395777	3/20/17	Debt collection	Mortgage	Cont'd attempts collect	Debt resulted fr	Company	Cumulus F	GA	30519		NA	Referral	3/21/17	Closed with	Yes	No
9	2850771	3/19/18	Checking or savings	Checking account	Managing an account	Deposits and w	Company	Cumulus F	NV	89048		NA	Referral	3/21/18	Closed with	Yes	NA
10	2376685	03/07/2017	Mortgage	Other mortgage	Settlement process and costs		Company	Cumulus F	AZ	85254	Older Ame	Consent n	Web	03/07/2017	Closed with	Yes	No
11	2825857	2/26/18	Credit card or prepa	Store credit card	Closing your account	Company close	Company	Cumulus F	PA	16066		Consent n	Web	2/26/18	Closed with	Yes	NA
12	96200	06/06/2012	Credit card		Billing disputes			Cumulus F	NY	11419		NA	Referral	6/13/12	Closed with	Yes	No
13	2569972	07/10/2017	Checking or savings	Checking account	Managing an account	Deposits and w	Company	Cumulus F	CA	91780		NA	Phone	07/10/2017	Closed with	Yes	NA
14	2825946	2/26/18	Checking or savings	Checking account	Managing an account	Banking errors	Company	Cumulus F	FL	33409		Consent n	Web	2/26/18	Closed with	Yes	NA
15	2396405	3/21/17	Debt collection	Mortgage	False statements or rep	Attempted to cc	Company	Cumulus F	LA	71457		Consent n	Web	3/21/17	Closed with	Yes	No
16	2358491	2/24/17	Credit card		Other fee		Company	Cumulus F	CA	94061		NA	Phone	2/28/17	Closed with	Yes	No
17	474588	08/05/2013	Student loan	Non-federal studen	Problems when you are unable to pay			Cumulus F	NY	10467		NA	Phone	08/08/2013	Closed with	Yes	No
18	2373079	NA	Credit card		Transaction issue		Company	Cumulus F	FL	32966	Older Ame	NA	Phone	03/09/2017	Closed with	Yes	No
19	2827951	2/27/18	Checking or savings	Checking account	Managing an account	Problem using a debit or	Company	Cumulus F	GA	30067		NA	Postal ma	2/27/18	Closed with	Yes	NA
20	2472847	05/01/2017	Mortgage	Other type of mortg	Trouble during payment process		Company	Cumulus F	TX	76109		NA	Referral	05/04/2017	Closed with	Yes	NA
21	2667860	09/09/2017	Mortgage	Other type of mortg	Struggling to pay mortgage			Cumulus F	NJ	8880		NA	Referral	9/15/17	Closed with	Yes	NA
22	2828272	2/28/18	Mortgage	Conventional home	Closing on a mortgage		Company	Cumulus F	CA	906XX		Consent p	Web	2/28/18	Closed with	Yes	NA
23	2826336	2/26/18	Mortgage	FHA mortgage	Trouble during payment process			Cumulus F	CT	6410		Consent w	Web	2/26/18	Closed with	Yes	NA
24	2717586	10/31/17	Checking or savings	Checking account	Closing an account	Company closed your acc	Cumulus F	CA	92101		NA	Referral	11/02/2017	Closed with	Yes	NA	

2. Dataset After Preprocessing: -

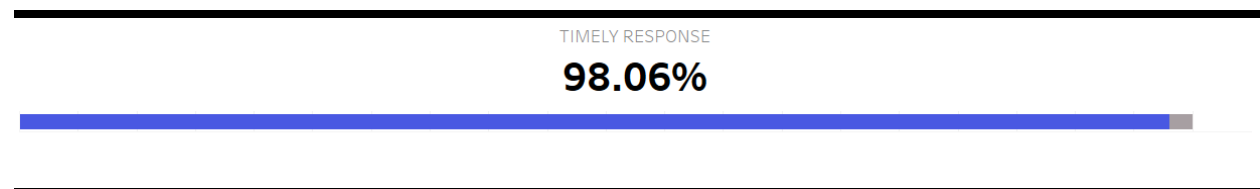
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Complaint	Date Submitted	Product	Sub-product	Issue	Sub-issue	Company	publ	Company	State	ZIP code	Consumer consen	Submitted	Date Received	Company response to consumer	Timely re	Consum
2	2824926	2/24/18	Credit card or General-purpose	Closing your Company	closed your account	Cumulus Financial	FL	33179	Consent not provi	6	2/24/18	Closed with explanation	Yes	No			
3	1145261	12/05/2014	Bank account	Checking account	Deposits and withdrawals	Cumulus Financial	CA	91792	Consent not provi	5	12/08/2014	Closed with explanation	Yes	No			
4	2573763	7/13/17	Mortgage	Conventional home	Trouble during payment proce	Company has	Cumulus Financial	CA	92629	Consent not provi	6	7/13/17	Closed with explanation	Yes	No		
5	2573113	7/13/17	Mortgage	Conventional home	Struggling to pay mortgage		Cumulus Financial	NY	10016	Consent not provi	6	7/13/17	Closed with explanation	Yes	No		
6	2406037	3/27/17	Credit card		Billing disputes		Cumulus Financial	AZ	85323	Consent not provi	5	3/27/17	Closed with explanation	Yes	No		
7	2395777	3/20/17	Debt collecti	Mortgage	Cont'd atten	Debt resulted fr	Company has	Cumulus Financial	GA	30519	Consent not provi	5	3/21/17	Closed with explanation	Yes	No	
8	2850771	3/19/18	Checking or s	Checking account	Managing a	Deposits and wit	Company has	Cumulus Financial	NV	89048	Consent not provi	5	3/21/18	Closed with monetary relief	Yes	No	
9	2376685	03/07/2017	Mortgage	Other mortgage	Settlement process and costs	Company has	Cumulus Financial	AZ	85254	Consent not provi	6	03/07/2017	Closed with explanation	Yes	No		
10	2825857	2/26/18	Credit card or s	Store credit card	Closing your	Company closed	Company has	Cumulus Financial	PA	16066	Consent not provi	6	2/26/18	Closed with non-monetary relief	Yes	No	
11	96200	06/06/2012	Credit card		Billing disputes		Cumulus Financial	NY	11419	Consent not provi	5	6/13/12	Closed with monetary relief	Yes	No		
12	2569972	07/10/2017	Checking or s	Checking account	Managing a	Deposits and wit	Company has	Cumulus Financial	CA	91780	Consent not provi	3	07/10/2017	Closed with explanation	Yes	No	
13	2825946	2/26/18	Checking or s	Checking account	Managing a	Banking errors	Company has	Cumulus Financial	FL	33409	Consent not provi	6	2/26/18	Closed with explanation	Yes	No	
14	2396405	3/21/17	Debt collecti	Mortgage	False staten	Attempted to col	Company has	Cumulus Financial	LA	71457	Consent not provi	6	3/21/17	Closed with explanation	Yes	No	
15	2358491	2/24/17	Credit card		Other fee		Company has	Cumulus Financial	CA	94061	Consent not provi	3	2/28/17	Closed with explanation	Yes	No	
16	474588	08/05/2013	Student loan	Non-federal studt	Problems when you are unable to pay		Cumulus Financial	NY	10467	Consent not provi	3	08/08/2013	Closed with explanation	Yes	No		
17	2827951	2/27/18	Checking or s	Checking account	Managing a	Problem using a debit or ATM ct	Cumulus Financial	GA	30067	Consent not provi	4	2/27/18	Closed with explanation	Yes	No		
18	2472847	05/01/2017	Mortgage	Other type of mort	Trouble during payment proce	Company has	Cumulus Financial	TX	76109	Consent not provi	5	05/04/2017	Closed with explanation	Yes	No		
19	2667860	09/09/2017	Mortgage	Other type of mort	Struggling to pay mortgage		Cumulus Financial	NJ	8880	Consent not provi	5	9/15/17	Closed with explanation	Yes	No		
20	2828272	2/28/18	Mortgage	Conventional home	Closing on a mortgage		Company has	Cumulus Financial	CA	906XX	Consent provided	6	2/28/18	Closed with explanation	Yes	No	
21	2826336	2/26/18	Mortgage	FHA mortgage	Trouble during payment process		Cumulus Financial	CT	6410	Consent withdraw	6	2/26/18	Closed with explanation	Yes	No		
22	2717586	10/31/17	Checking or s	Checking account	Closing an a	Company closed your account	Cumulus Financial	CA	92101	Consent withdraw	5	11/02/2017	Closed with explanation	Yes	No		
23	1877360	4/13/16	Mortgage	Conventional fixe	Credit decision / Underwriting		Company has	Cumulus Financial	RI	2909	Consent not provi	6	4/13/16	Closed with explanation	Yes	Yes	
24	2390283	3/16/17	Credit card		Credit determination		Company has	Cumulus Financial	KY	40222	Consent not provi	6	3/16/17	Closed with monetary relief	No	No	
25	2345691	2/15/17	Credit card		Other fee		Company has	Cumulus Financial	MD	21221	Consent not provi	5	4/19/17	Closed with monetary relief	Yes	No	
26	2828296	2/28/18	Mortgage	Conventional home	Trouble during payment proce	Company has	Cumulus Financial	AZ	85383	Consent not provi	6	2/28/18	Closed with explanation	Yes	No		
27	2392673	3/21/17	Mortgage	Other mortgage	Other		Company has	Cumulus Financial	PA	17236	Consent not provi	2	3/22/17	Closed with explanation	Yes	No	

TABLEAU: -

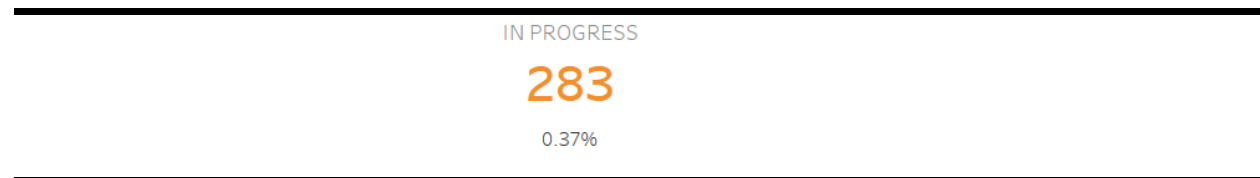
1.Total Complaints: -



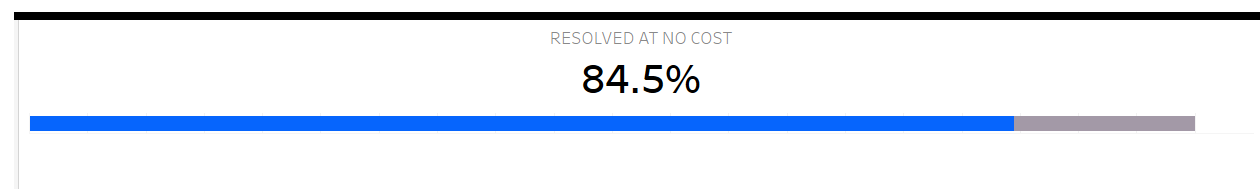
2.Time Response: -



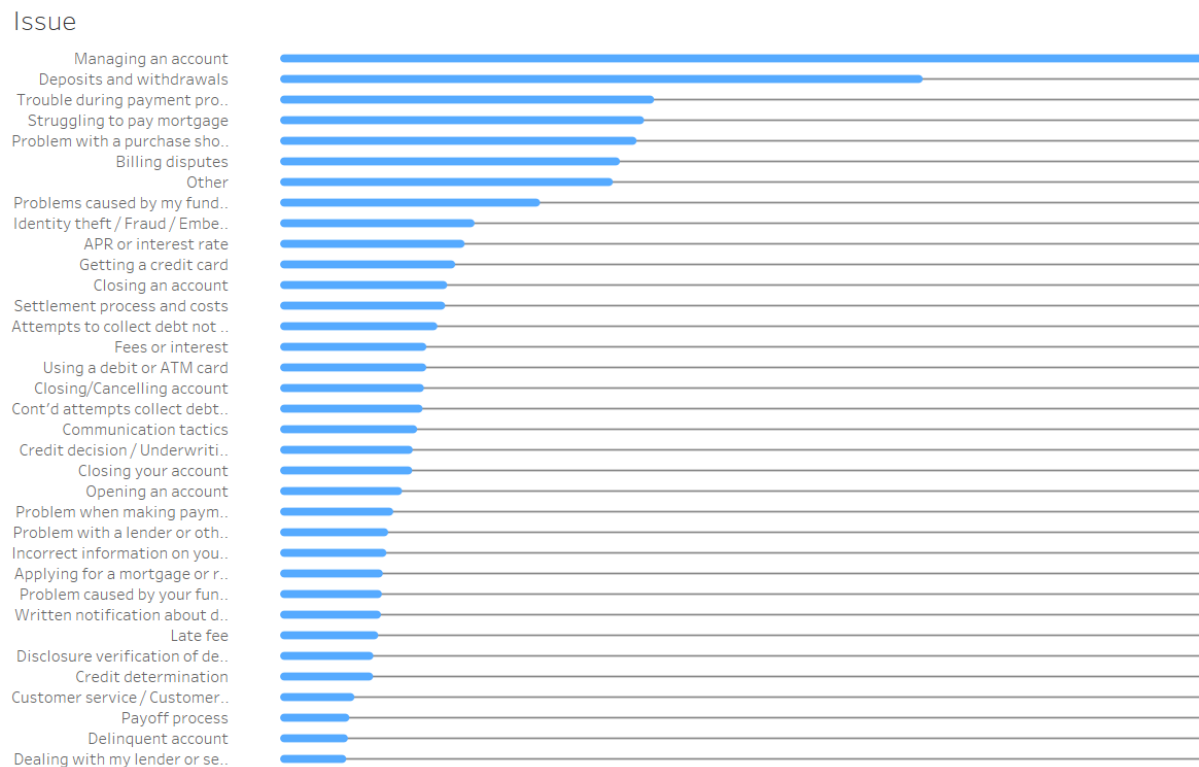
3. In Progress: -



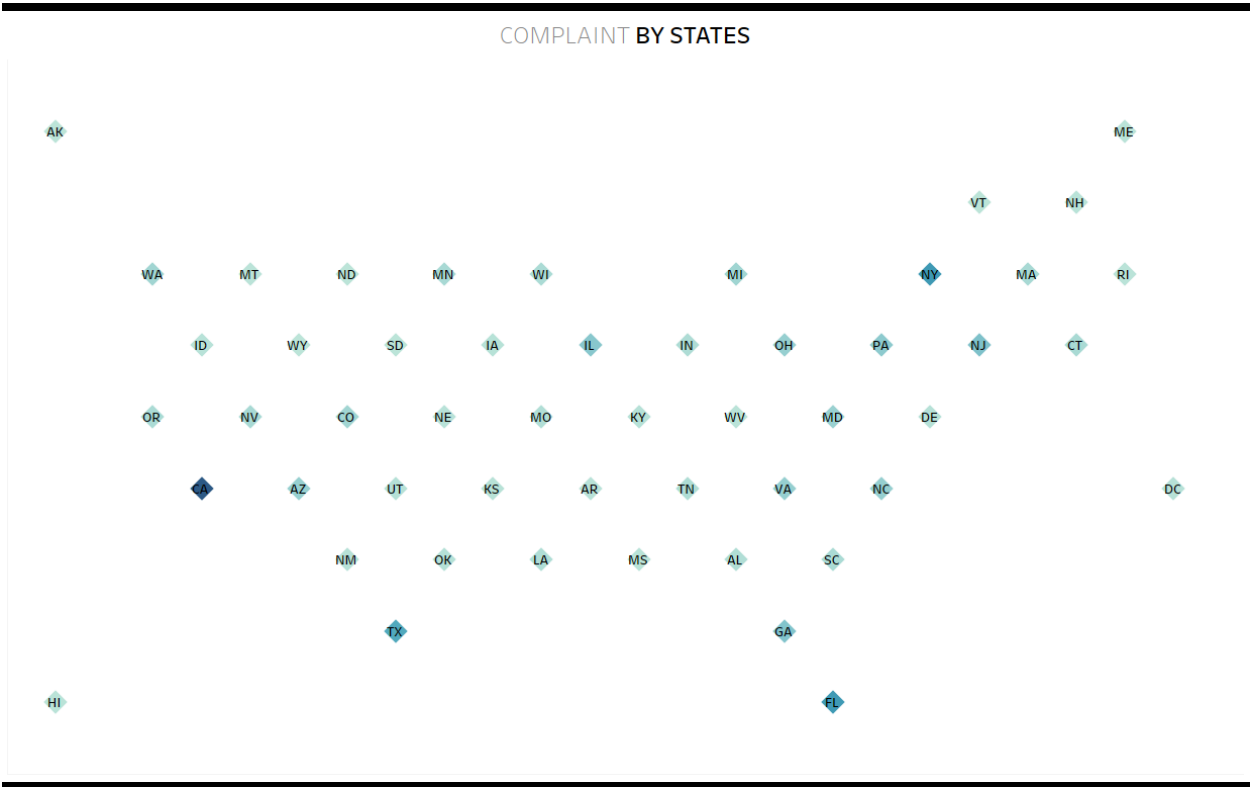
4.Resolved at No Cost: -



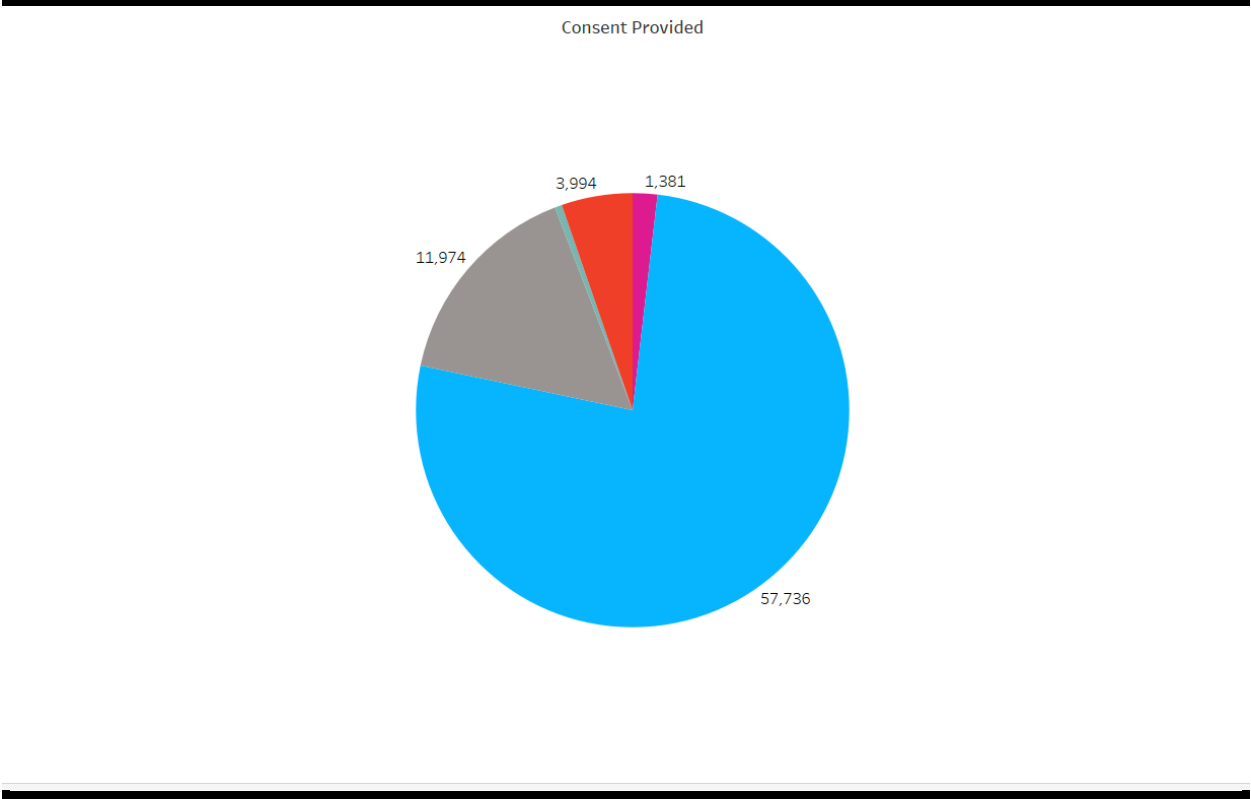
5.Issues: -



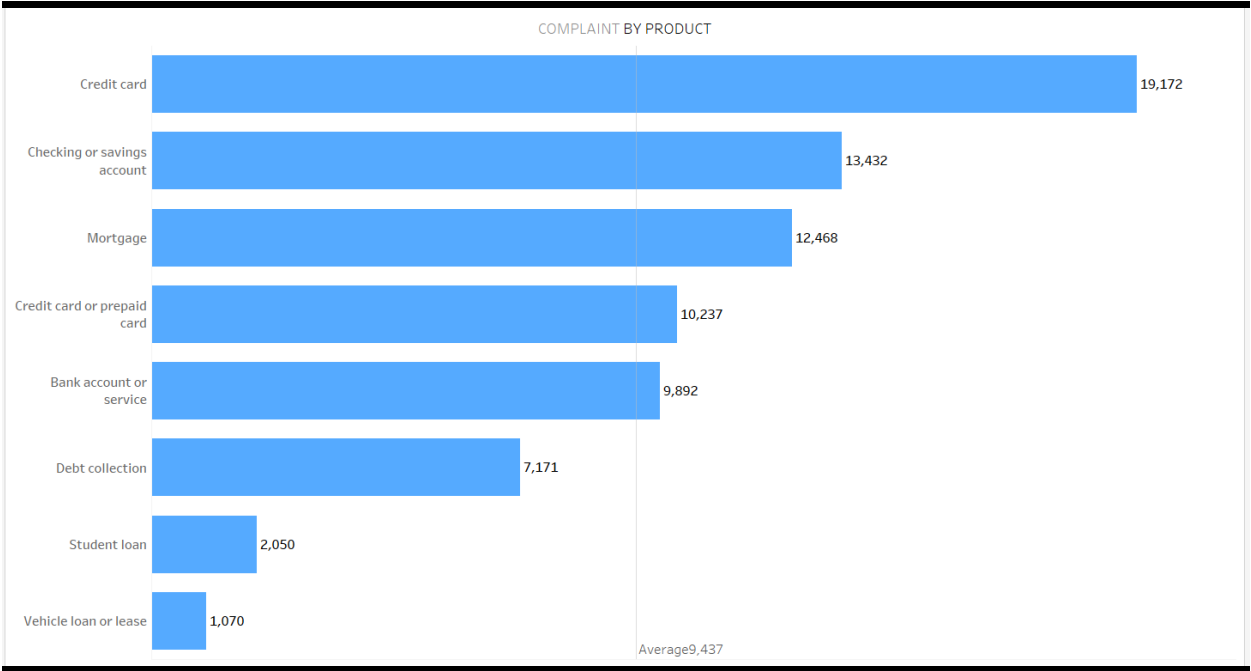
6.Complaint by States: -



7.Consent Provided: -

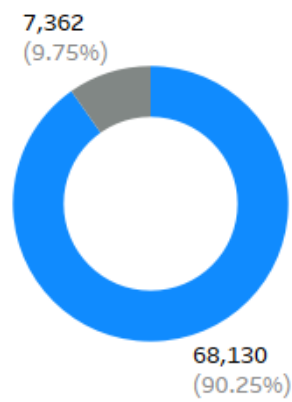


8.Complaint by Product: -



9.% Customer Disputed: -

% CUSTOMER DISPUTED



DASHBOARD: -

FINANCIAL COMPLAINTS|OVERVIEW

Date.Submitted
01-12-2011 G 13-10-2020 D

Total_Complaints

75,492

TIMELY RESPONSE

98.06%

IN PROGRESS

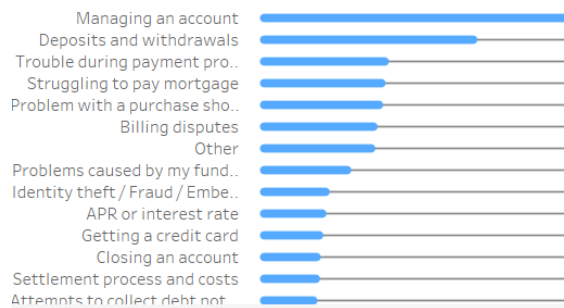
283

0.37%

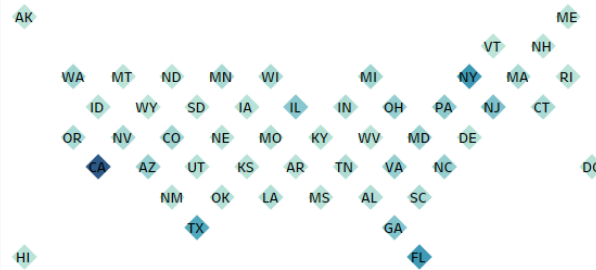
RESOLVED AT NO COST

84.5%

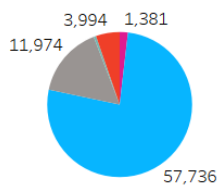
Issue



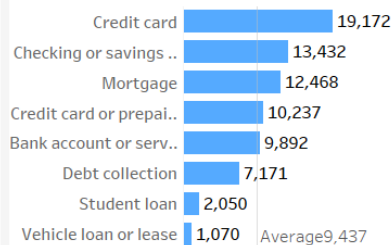
COMPLAINT BY STATES



Consent Provided



COMPLAINT BY PRODUCT



% CUSTOMER DISPUTED

