IS 525 Final Project Report
Consumer Complaint Analysis
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Introduction

The Consumer Complaint Database is a collection of complaints about consumer financial products and services that were sent to companies for response. Over the years, the database has collected some crucial information on consumer experiences in the marketplace. The database offers critical insights for consumers, researchers, Consumer Financial Protection Bureau (CFPB) and the private sector. This is a great example of a responsive government behavior as it gives insights on two-way flow of information.

Complaints can give us insights into problems people are experiencing in the marketplace and help us regulate consumer financial products and services under existing federal consumer financial laws, enforce those laws judiciously, and educate and empower consumers to make informed financial decisions. By submitting a complaint, consumers can be heard by financial companies, get help with their own issues, and help others avoid similar ones. Every complaint provides insight into problems that people are experiencing, helping us identify inappropriate practices and allowing us to stop them before they become major issues. The result: better outcomes for consumers, and a better financial marketplace for everyone.

Data

Every complaint in the database includes a variety of basic information, such as the state and zip code the complaint was filed from, the company involved and the date the complaint was received by the CFPB. Each complaint also includes information on the type of financial product involved, as well as the issue or problem the consumer faced. Data includes the product and issue categories along with the even narrower sub-product and sub-issue categories.

More details such as method of submitting a complaint such as phone, email, fax, postal mail, referral, and web is included in the data. Other important details such as company response to consumer and consumer dispute is also captured. The Consumer Complaint Database is powerful not just for the quantity of complaint data it contains, but for the individual stories told by consumers about their experiences with financial products that is captured in consumer complaint narratives in CFPB parlance. These stories have helped shed light and detail on consumer experiences.

The dataset is obtained from Kaggle.
Consumer Complaint Database | Kaggle

Objective

In today's world, customers satisfaction is extremely important. If a customer has a positive experience they will share this experience with friends, family and connections and it can lead to new business whereas a customer who has negative experience will want to raise a complaint and get his issues sorted as quickly as he can. In this project, we are trying to analyze consumer complaints database to track, categorize and handle customer complaints.

A customer complaint can become very profitable when we can resolve their problems quickly. Furthermore, research also finds that customers whose complaints are handled quicky can often turn into loyal customers and brand advocates.

Results

In this project, we have three dashboards - Complaint Trend Analysis, Complaint Queue and Performance of Products. These dashboards help us in categorizing and tracking consumer complaints.

Dashboard 1 – Complaint Trend Analysis
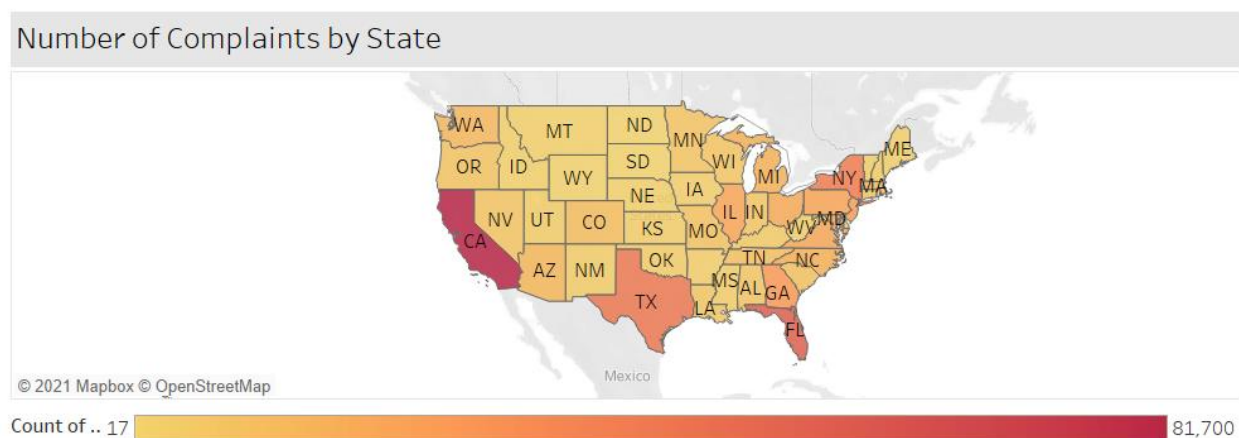
Here, we are analyzing:
1. *Number of complaints by state* – We are analyzing the states in The United States that have maximum complaints using a geographical map. It is clear from the visualization that California, Florida, Texas, and New York have the maximum number of consumer complaints. There could be a variety of reasons for the high numbers in these states. It could be because of the state population, many consumers who opt for financial products and services in these states than the others or many consumers who are submitting complaints to get their issues resolved.
2. *Percentage of consumers disputed* – We are trying to visualize this data using a donut chart. This tells us if a consumer disputed the company's response. Here, we see that around 80% of the consumers did not dispute the response received. With this data, the companies

can understand what percentage of consumers dispute their response and work on fixing them.

3. ***Products for which consumer consent was not provided*** – CFPB does not publish the complaint narrative unless the consumer consents. We are analyzing the products for which consumer consent was not provided using a bar chart. Debt collection, Credit reporting and Mortgage are the top three products consumers did not opt-in to publish their complaint narrative. One reason for this could be that since debt, credit and mortgage are sensitive information consumers do not want to risk their identification being disclosed as CFPB mentions in their website "The Bureau will take reasonable steps to remove personal information from the complaint to minimize (but not eliminate) the risk of re-identification."

4. ***Complaints received Via*** – Here are we are analyzing how the complaint was submitted to the CFPB. CFPB accepts complaints through its website and by telephone, mail, email, fax, and referral. 65% of the consumers submit their complaint via website and around 20% through referral. These are the most frequently used medium for submitting complaints by the consumers.

Dashboard 2 – Complaint Queue
This dashboard gives easy access to a lot of informative information regarding the complaints in the data.
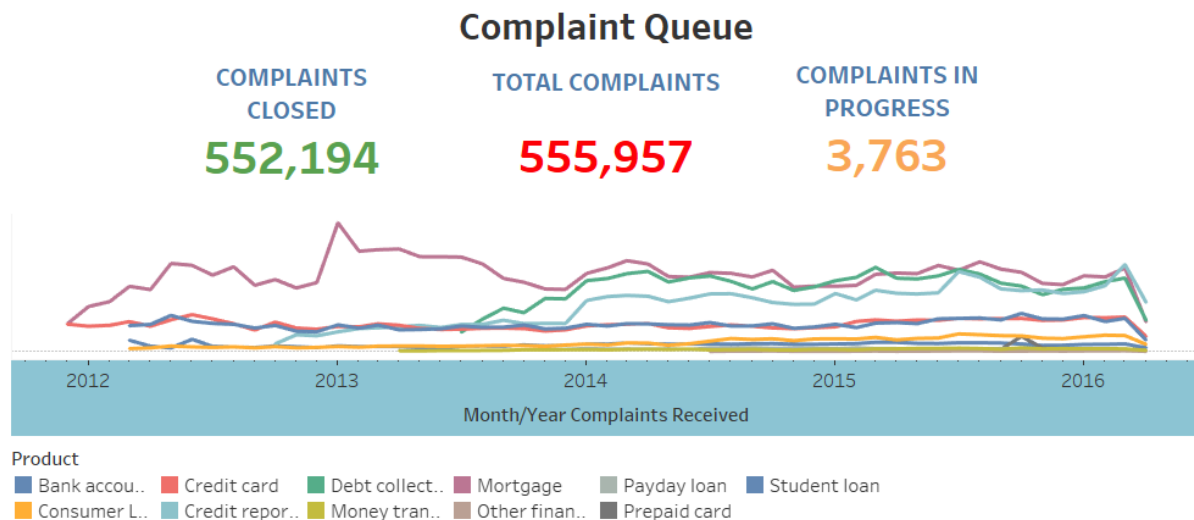
1. ***Complaint Analysis*** - We are visualizing three important information regarding complaints. Total number of complaints, complaints in progress and complaints closed. Three colors red, orange, and green are used respectively to make the visualization more appealing. Next, using the line graph we are analyzing the number of complaints, month, and the year the complaint was received and the associated product with the complaint.

This visualization makes it easy to analyze the number of complaints related to a product for a particular year.

2. ***Top companies with most complaints*** – Here, we are analyzing the top 15 companies that receive the most number of complaints. As per the data, Bank of America, Wells Fargo & Company, JP Morgan Chase & Co are the top three companies with most number of complaints. The graph is interactive as you can hover over the graph in dashboard to view the number of complaints for each of these companies.

3. ***Top companies with untimely response*** – Next, we are analyzing the top 15 companies that provide untimely response. Top three companies with untimely response to consumer complaints are – Mobiloans, LLC, Bank of America and Citibank.

One of the best ways to enhance the performance of all companies and manage customer satisfaction is to get the consumers' complaints and analyze them in order to fix them. These complaints represent the consumers' behavior to the companies and how these companies respond to them. Since customer satisfaction is the main goal for all companies, these visualizations will help companies achieve this goal by handling consumer complaints.

Dashboard 3 – Performance of the Products

Here we are analyzing the performance of the products based on number of complaints received in a year, the different category of issues within a product and the count of issues. When we enable the filters for the graphs, we can visualize the complaints and issues related to the products based on the year. Hence, we can hover over the dashboard and choose different products to visualize different aspects of the data. To analyze this let's take the below example from the dashboard.

Performance of the Products
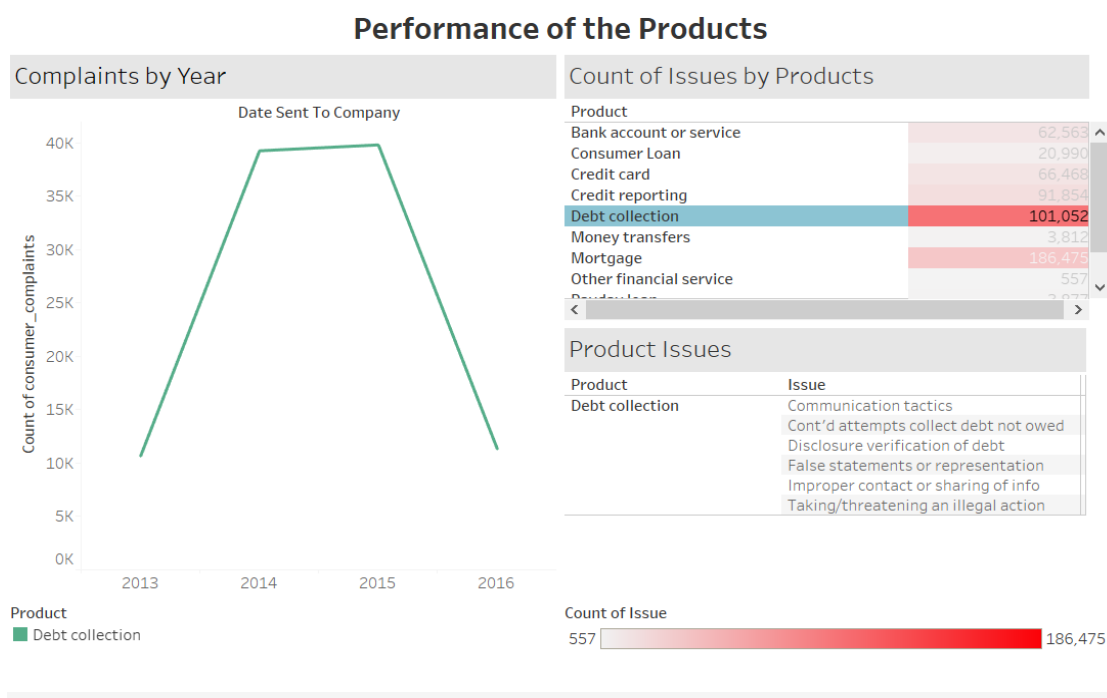
Let's analyze the product – Debt collection. The issues related to the product Debt collection are – communication tactics, cont'd attempts collect debt not owed, disclosure verification of debt, false statements or representation, improper contact or sharing of info and taking/threatening an illegal action. The total number of issues in Debt collection is 101,052. The total number of consumer complaints in the year 2013 is 10,656 and the consumer complaints in the year 2015 is 39,813 (visible on the dashboard).

Companies can use this feedback to analyze which products and issues receive more consumer complaints and how they can track and manage them efficiently on an annual basis. They can also draw insights to understand complaints related to which products and issues should be worked on to make customer experience better.

Challenges encountered:

Due to the huge volume of the dataset, there were some performance issues while loading and working on the data. Initially, I had some difficulty in understanding ways to build a story around the data available. To fix this, I took some time to analyze how this information can be presented visually so it can make an impact to the audience. I read more articles about consumer complaints and realized that this data is extremely powerful and can be used to handle large number of complaints. I have tried to visualize the details that would help companies track and manage consumer complaints and I have built a story around this issue. I also faced some issues while adding filters to my dashboard, but I was able to quickly resolve them using some help available on the tableau website.

References:

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