

BANKING FINANCIAL



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INTRODUCTION:

The banking dataset plays a vital role financial growth and customer trust .This project uses a banking complaints with the details of product type ,issues etc ..,The customers have multiple ways to complaint issues such as web ,Phone, email and posted mail etc ..,these complaints is crucial for improving customer satisfaction and service quality .Managing and analyzing the these factors.

OBJECTIVES:

- ❖ Identify the most common issues faced by customers.
- ❖ Measures company responses and resolution effectiveness.
- ❖ Highlights region with higher complaint volumes.
- ❖ Provides proper insights that can help banks improve financial services.
- ❖ Evaluate the different submission details.
- ❖ Identify the most common loan product.

TABE DESIGN:

	Field	Type	Null	Key	Default	Extra
►	ComplaintID	int	YES		NULL	
	datereceived	text	YES		NULL	
	Product	text	YES		NULL	
	Subproduct	text	YES		NULL	
	Issue	text	YES		NULL	
	Subissue	text	YES		NULL	
	Company	text	YES		NULL	
	State	text	YES		NULL	
	ZIPcode	text	YES		NULL	
	consent	text	YES		NULL	
	Submitted	text	YES		NULL	
	Datesent	text	YES		NULL	
	response	text	YES		NULL	
	consumerdis...	text	YES		NULL	
	Company...	text	YES		NULL	

SQL QUERIES:


SELECT- It fetches the data in the table using the select query.

 Select * from banking;

ComplaintID	datereceived	Product	Subproduct	Issue	Subissue
2738619	27-11-2017	Mortgage	Conventional home mortgage	Trouble during payment process	
2933849	12-06-2018	Mortgage	Conventional home mortgage	Trouble during payment process	
1165653	21-12-2014	Mortgage	Conventional fixed mortgage	Loan modification, collection, foreclosure	
3316943	24-07-2019	Credit reporting, credit repair services, or other...	Credit reporting	Incorrect information on your report	Information belongs to someone else
3157550	20-02-2019	Payday loan, title loan, or personal loan	Installment loan	Struggling to pay your loan	
3068834	07-11-2018	Mortgage	Conventional home mortgage	Trouble during payment process	
1236640	10-02-2015	Mortgage	Other mortgage	Loan modification, collection, foreclosure	
1249267	20-02-2015	Mortgage	Conventional fixed mortgage	Loan servicing, payments, escrow account	
538930	23-09-2013	Mortgage	Conventional fixed mortgage	Loan servicing, payments, escrow account	
625914	09-12-2013	Mortgage	Conventional fixed mortgage	Loan modification, collection, foreclosure	

❖ It fetches all the columns from banking table.

WHERE- return the row where the data is.

 Select * from banking where product = 'mortgage';

3 • `select * from banking where product = 'mortgage';`

ComplaintID	datereceived	Product	Subproduct	Issue	Subissue	Company
2738619	27-11-2017	Mortgage	Conventional home mortgage	Trouble during payment process		NATIONSTAR MORTGAGE LLC
2933849	12-06-2018	Mortgage	Conventional home mortgage	Trouble during payment process		NATIONSTAR MORTGAGE LLC
1165653	21-12-2014	Mortgage	Conventional fixed mortgage	Loan modification, collection, foreclosure		NATIONSTAR MORTGAGE LLC
3068834	07-11-2018	Mortgage	Conventional home mortgage	Trouble during payment process		Community Loan Servicing, LLC (formerly known...
1236640	10-02-2015	Mortgage	Other mortgage	Loan modification, collection, foreclosure		NATIONSTAR MORTGAGE LLC
1249267	20-02-2015	Mortgage	Conventional fixed mortgage	Loan servicing, payments, escrow account		NATIONSTAR MORTGAGE LLC
538930	23-09-2013	Mortgage	Conventional fixed mortgage	Loan servicing, payments, escrow account		NATIONSTAR MORTGAGE LLC
625914	09-12-2013	Mortgage	Conventional fixed mortgage	Loan modification, collection, foreclosure		NATIONSTAR MORTGAGE LLC
563802	19-10-2013	Mortgage	Conventional adjustable mortgage (ARM)	Loan modification, collection, foreclosure		NATIONSTAR MORTGAGE LLC
164306	01-10-2012	Mortgage	FHA mortgage	Loan servicing, payments, escrow account		NATIONSTAR MORTGAGE LLC

❖ Returns the rows where product is mortgage

DISTINCT-To get the unique value.

Select distinct product from banking;

❖ It retrieves the unique product

COUNT- The count is get the count of each row

 Select count (product) from banking;

Result Grid		Filter Rows:
	product	
	Mortgage	
	Credit reporting, credit repair services, or other...	
	Payday loan, title loan, or personal loan	
	Debt collection	
	Checking or savings account	
	Bank account or service	
	Student loan	
	Vehicle loan or lease	
	Consumer Loan	
	Credit card or prepaid card	
	Credit reporting	

Result Grid		Filter Rows:	Export:
	count(product)		
	102495		

❖ It returns the count of the dataset.

COUNT & DISTINCT- I used for unique values count.

🔍 Select count (distinct subproduct) as products from banking;

Result Grid		Filter Rows:	Export:
	products		
	76		

❖ It retrieves unique subproducts count.

ORDER BY- To get the values in the respective order.

🔍 Select * from banking order by datereceived;

24 • `select * from banking_order by datereceived; -- ascending order of date`

ComplaintID	datereceived	Product	Subproduct	Issue	Subissue	Company
9027	01-01-2012	Mortgage	FHA mortgage	Application, originator, mortgage broker		BANK OF AMERICA, NATIONAL ASSOCIATI
9002	01-01-2012	Credit card		Payoff process		CITIBANK, N.A.
219469	01-01-2013	Bank account or service	Checking account	Making/receiving payments, sending money		BANK OF AMERICA, NATIONAL ASSOCIATI
221163	01-01-2013	Mortgage	Reverse mortgage	Loan modification, collection, foreclosure		WELLS FARGO & COMPANY
219470	01-01-2013	Mortgage	Other mortgage	Loan servicing, payments, escrow account		REGIONS FINANCIAL CORPORATION
216178	01-01-2013	Bank account or service	Checking account	Problems caused by my funds being low		BANK OF AMERICA, NATIONAL ASSOCIATI
221179	01-01-2013	Consumer Loan	Vehicle loan	Managing the loan or lease		TOYOTA MOTOR CREDIT CORPORATION
215978	01-01-2013	Credit reporting		Incorrect information on credit report	Information is not mine	Experian Information Solutions Inc.
219453	01-01-2013	Mortgage	Other mortgage	Loan modification, collection, foreclosure		WELLS FARGO & COMPANY
219466	01-01-2013	Mortgage	Other mortgage	Loan modification, collection, foreclosure		NATIONSTAR MORTGAGE LLC

❖ It retrieves the datereceived columns in ascending order.

🔍 Select * from banking_order by datereceived desc;

25 • `select * from banking_order by datereceived desc; -- descending order`

ComplaintID	datereceived	Product	Subproduct	Issue	Subissue	Company
9027	01-01-2012	Mortgage	FHA mortgage	Application, originator, mortgage broker		BANK OF AMERICA, NATIONAL ASSOCIATI
9002	01-01-2012	Credit card		Payoff process		CITIBANK, N.A.
219469	01-01-2013	Bank account or service	Checking account	Making/receiving payments, sending money		BANK OF AMERICA, NATIONAL ASSOCIATI
221163	01-01-2013	Mortgage	Reverse mortgage	Loan modification, collection, foreclosure		WELLS FARGO & COMPANY
219470	01-01-2013	Mortgage	Other mortgage	Loan servicing, payments, escrow account		REGIONS FINANCIAL CORPORATION
216178	01-01-2013	Bank account or service	Checking account	Problems caused by my funds being low		BANK OF AMERICA, NATIONAL ASSOCIATI
221179	01-01-2013	Consumer Loan	Vehicle loan	Managing the loan or lease		TOYOTA MOTOR CREDIT CORPORATION
215978	01-01-2013	Credit reporting		Incorrect information on credit report	Information is not mine	Experian Information Solutions Inc.
219453	01-01-2013	Mortgage	Other mortgage	Loan modification, collection, foreclosure		WELLS FARGO & COMPANY
219466	01-01-2013	Mortgage	Other mortgage	Loan modification, collection, foreclosure		NATIONSTAR MORTGAGE LLC

❖ It retrieves the datereceived columns in descending order.

🔍 Select * from where subproduct='checking account' order by complaintID;

ComplaintID	datereceived	Product	Subproduct	Issue	Subissue	Company	State
853	22-05-2012	Bank account or service	Checking account	Problems caused by my funds being low		BBVA FINANCIAL CORPORATION	CA
900	22-05-2012	Bank account or service	Checking account	Deposits and withdrawals		U.S. BANCORP	CO
3459	14-03-2012	Bank account or service	Checking account	Using a debit or ATM card		JPMORGAN CHASE & CO.	CA
17464	12-03-2012	Bank account or service	Checking account	Deposits and withdrawals		U.S. BANCORP	CA
17699	19-03-2012	Bank account or service	Checking account	Account opening, closing, or management		BANK OF AMERICA, NATIONAL ASSOCIATION	GA
17716	20-03-2012	Bank account or service	Checking account	Problems caused by my funds being low		ALLY FINANCIAL INC.	FL

❖ It retrieves the subproduct is checking account based on the order of complainID.

GROUP BY- The group by is counts the subproducts in each products

🔍 Select product ,count(subproduct) as pro from banking group by product;

Result Grid		Filter Rows:	Export:
product	pro		
▶ Mortgage	19008		
Credit reporting, credit repair services, or other...	36916		
Payday loan, title loan, or personal loan	1226		
Debt collection	16868		
Checking or savings account	5990		
Bank account or service	2451		
Student loan	2754		
Vehicle loan or lease	1527		
Consumer Loan	772		
Credit card or prepaid card	7407		
Credit reporting	3304		

❖ It retrieves the counts subproducts in each product.

MULTIPLE COLUMNS IN GROUP BY:

🔍 Select submitted, response, count(*) as counts from banking group by submitted, response;

Result Grid		Filter Rows:	Export:
submitted	response	counts	
▶ Web	Yes	79843	
Referral	Yes	10460	
Phone	Yes	5642	
Phone	No	134	
Postal mail	Yes	3654	
Web	No	1300	
Fax	Yes	1207	
Referral	No	165	
Email	Yes	17	
Postal mail	No	57	
Fax	No	16	

❖ It retrieves the count of the responses based on submitted.

Is Null: To get the columns that does not have the value.

🔍 select product, Subissue from banking where Subissue is not null;

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
product	Subissue			
▶ Mortgage				
Mortgage				
Mortgage				
Credit reporting, credit repair services, or other...	Information belongs to someone else			
Payday loan, title loan, or personal loan				
Mortgage				
Mortgage				
Mortgage				
Mortgage				
Mortgage				
Mortgage				

- ❖ It retrieves the null values in the subissue column.

Is Not Null: To get the columns that does have values.

🔍 Select product,subproduct from banking where subproduct is not null;



Result Grid		Filter Rows:	Export:	Wrap Cell Content:
product	subproduct			
▶ Mortgage	Conventional home mortgage			
Mortgage	Conventional home mortgage			
Mortgage	Conventional fixed mortgage			
Credit reporting, credit repair services, or other...	Credit reporting			
Payday loan, title loan, or personal loan	Installment loan			
Mortgage	Conventional home mortgage			
Mortgage	Other mortgage			
Mortgage	Conventional fixed mortgage			
Mortgage	Conventional fixed mortgage			
Mortgage	Conventional fixed mortgage			
Mortgage	Conventional adjustable mor...			

- ❖ It retrieves the values in subproduct values.

LOGICAL OPERATORS:


AND-it filters rows where both conditions are true.



🔍 Select company,submitted from banking where company='NATIONSTAR MORTGAGE LLC' and submitted='Web' ;

Result Grid   Filter Rows: <input type="text"/>	
company	submitted
▶ NATIONSTAR MORTGAGE LLC	Web
NATIONSTAR MORTGAGE LLC	Web
NATIONSTAR MORTGAGE LLC	Web
NATIONSTAR MORTGAGE LLC	Web
NATIONSTAR MORTGAGE LLC	Web
NATIONSTAR MORTGAGE LLC	Web
NATIONSTAR MORTGAGE LLC	Web
NATIONSTAR MORTGAGE LLC	Web
NATIONSTAR MORTGAGE LLC	Web
NATIONSTAR MORTGAGE LLC	Web

❖ It retrieves the company name and the complaint is submitted on web.

OR- it returns rows where the one condition is true.

 Select consumerdispute,companyresponse from banking where consumerdispute="yes" or companyresponse='closed with explanation';

Result Grid   Filter Rows: <input type="text"/>	
consumerdispute	companyresponse
▶ Unknown	Closed with explanation
Unknown	Closed with explanation
No	Closed with explanation
Unknown	Closed with explanation
Unknown	Closed with explanation
Unknown	Closed with explanation
Yes	Closed with explanation
Yes	Closed with explanation
No	Closed with explanation
No	Closed with explanation

❖ It retrieves the consumerdispute=yes or companyresponse=closed with explanation.

View

A view is like a virtual table.

create view responses as select issue,subissue,company,companyresponse from banking where issue='Loan modification,collection,foreclosure';

 select * from responses;

Result Grid Filter Rows: Export: Wrap Cell Content: Fetch rows:				
	issue	subissue	company	companyresponse
	Loan modification,collection,foreclosure		NATIONSTAR MORTGAGE LLC	Closed with explanation
	Loan modification,collection,foreclosure		NATIONSTAR MORTGAGE LLC	Closed with explanation
▶	Loan modification,collection,foreclosure		NATIONSTAR MORTGAGE LLC	Closed with explanation
	Loan modification,collection,foreclosure		NATIONSTAR MORTGAGE LLC	Closed with explanation
	Loan modification,collection,foreclosure		NATIONSTAR MORTGAGE LLC	Closed with explanation
	Loan modification,collection,foreclosure		NATIONSTAR MORTGAGE LLC	Closed with explanation
	Loan modification,collection,foreclosure		NATIONSTAR MORTGAGE LLC	Closed without relief
	Loan modification,collection,foreclosure		NATIONSTAR MORTGAGE LLC	Closed with explanation
	Loan modification,collection,foreclosure		NATIONSTAR MORTGAGE LLC	Closed with explanation
	Loan modification,collection,foreclosure		NATIONSTAR MORTGAGE LLC	Closed with explanation
	Loan modification,collection,foreclosure		NATIONSTAR MORTGAGE LLC	Closed with explanation

- ❖ Created responses table in banking which holds the issue,subissue , company and companyresponse.

STORED PROCEDURE:

- Created a procedure for receiveddate and sentdate as to understand the datedifference between the customer and the company. How fast we responded to the complaints.

 delimiter \$\$

```
create procedure receive_sent()
```

```
begin
```

```
    select  complaintID,datereceived,datesent,datediff(str_to_date (datesent,'%d-%m-%Y'),str_to_date(datereceived,'%d-%m-%Y')) as
```

```
    com_received from banking;
```

```
    select datereceived,datesent,
```

```
    day(str_to_date(datereceived ,'%d-%m-%Y')) as rday,
```

```
    month(str_to_date(datereceived ,'%d-%m-%Y')) as rmonth,
```

```
    year(str_to_date(datereceived ,'%d-%m-%Y')) as ryear,
```

day(str_to_date(datesent ,'%d-%m-%Y')) as sday,

month(str_to_date(datesent ,'%d-%m-%Y')) as smonth,

year(str_to_date(datesent ,'%d-%m-%Y')) as syear from banking;

end \$\$

delimiter ;

call receive_sent();

Result Grid				
Filter Rows:		Export:		
complaintID	datereceived	datesent	com_received	
2738619	27-11-2017	27-11-2017	0	
2933849	12-06-2018	12-06-2018	0	
1165653	21-12-2014	21-12-2014	0	
3316943	24-07-2019	24-07-2019	0	
3157550	20-02-2019	20-02-2019	0	
3068834	07-11-2018	07-11-2018	0	
1236640	10-02-2015	13-02-2015	3	
1249267	20-02-2015	20-02-2015	0	
538930	23-09-2013	24-09-2013	1	
625914	09-12-2013	10-12-2013	1	
563802	19-10-2013	21-10-2013	2	
164306	01-10-2013	01-10-2013	0	

❖ Duration of the received and sentdate using the datedifference.

Result Grid								
Filter Rows:		Export:		Wrap Cell Content:		Fetch		
datereceived	datesent	rday	rmonth	ryear	sday	smonth	syear	
27-11-2017	27-11-2017	27	11	2017	27	11	2017	
12-06-2018	12-06-2018	12	6	2018	12	6	2018	
21-12-2014	21-12-2014	21	12	2014	21	12	2014	
24-07-2019	24-07-2019	24	7	2019	24	7	2019	
20-02-2019	20-02-2019	20	2	2019	20	2	2019	
07-11-2018	07-11-2018	7	11	2018	7	11	2018	
10-02-2015	13-02-2015	10	2	2015	13	2	2015	
20-02-2015	20-02-2015	20	2	2015	20	2	2015	
23-09-2013	24-09-2013	23	9	2013	24	9	2013	
09-12-2013	10-12-2013	9	12	2013	10	12	2013	
19-10-2013	21-10-2013	19	10	2013	21	10	2013	
01-10-2013	01-10-2013	1	10	2013	1	10	2013	

FUNCTION:

delimiter \$\$

create function company_details(id int)

returns varchar(50)

deterministic

begin

declare details varchar(50);

select concat(company,state,ZIPcode) into details

from banking

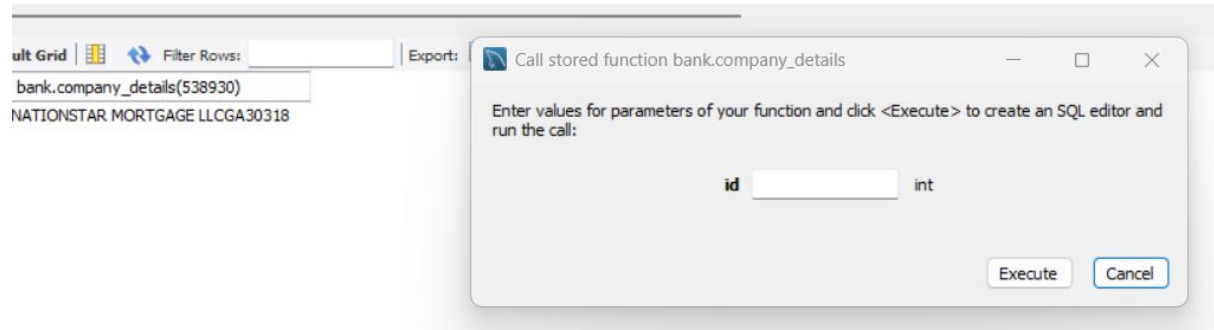
where complaintID=id;

return details;

end \$\$

delimiter ;

```
• select bank.company_details(538930);  
?
```





CONCLUSION:

The analysis shows that most complaints are concentrated in mortgage loan ,credit reporting/repair and debt collection.on otherside consumer loan and payday loans are attract the least complaints compared to other products.And most of complaints submitted in web,followed by phone.the preffered mode of complaints submission ,and improving folloe up on refferals can further enhance customer satisfaction.