Bank Loan Monitoring Analytics Query Document

Dashboard Link

BANK LOAN REPORT | SUMMARY

KEY PERFORMANCE INDICATOR (KPI) REQUIREMENT

Problem Statement 1.1: Total Loan Applications

- Total Loan Applications :

  Query:

  ```
  SELECT
      COUNT(id) AS Total_Loan_Applications
  FROM
      financial_loan;
  ```

total_loan_applications bigint
38576

- MONTH TO DATE Total_Loan_Applications (LAST MONTH):

  Query:

  ```
  SELECT
      COUNT(id) AS MTD_Total_Loan_Applications
  FROM
      financial_loan
  WHERE
      EXTRACT(MONTH FROM issue_date) = 12
      AND EXTRACT(YEAR FROM issue_date) = 2021;
  ```

mtd_total_loan_applications bigint
4314

- PREVIOUS MONTH TO DATE Total_Loan_Applications (PREVIOUS MONTH):

  Query:

```
SELECT
    COUNT(id) AS PMTD_Total_Loan_Applications
FROM
    financial_loan
WHERE
    EXTRACT(MONTH FROM issue_date) = 11
    AND EXTRACT(YEAR FROM issue_date) = 2021;
```

pmtd_total_loan_applications bigint
4035

Problem Statement 1.2: Total Funded Amount:

- Total_Funded_Amount:

  Query:

```
SELECT
    SUM(loan_amount) AS Total_Funded_Amount
FROM
    financial_loan;
```

total_funded_amount bigint
435757075

- MONTH TO DATE Total_Funded_Amount (LAST MONTH):

  Query:

```
SELECT
    SUM(loan_amount) AS MTD_Total_Funded_Amount
FROM
    financial_loan
WHERE
    EXTRACT(MONTH FROM issue_date) = 12
    AND EXTRACT(YEAR FROM issue_date) = 2021;
```

mtd_total_funded_amount bigint
53981425

- PREVIOUS MONTH TO DATE Total_Funded_Amount (PREVIOUS MONTH):

  Query:

  ```
  SELECT
      SUM(loan_amount) AS PMTD_Total_Funded_Amount
  FROM
      financial_loan
  WHERE
      EXTRACT(MONTH FROM issue_date) = 11
      AND EXTRACT(YEAR FROM issue_date) = 2021;
  ```

pmtd_total_funded_amount bigint
47754825

Problem Statement 1.3: Total Amount Received

- Total_Amount_Received:

  Query:

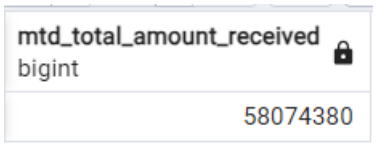
  ```
  SELECT
      SUM(total_payment) AS Total_Amount_Received
  FROM
      financial_loan;
  ```

total_amount_received bigint
473070933

- MONTH TO DATE Total_Amount_Received (LAST MONTH) ---

  Query:

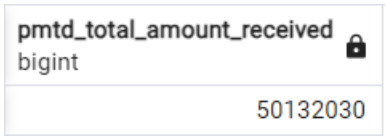
  ```
  SELECT
      SUM(total_payment) AS MTD_Total_Amount_Received
  FROM
      financial_loan
  WHERE
      EXTRACT(MONTH FROM issue_date) = 12
      AND EXTRACT(YEAR FROM issue_date) = 2021;
  ```



- PREVIOUS MONTH TO DATE Total_Amount_Received (PREVIOUS LAST MONTH):

  Query:

```
SELECT
        SUM(total_payment) AS PMTD_Total_Amount_Received
FROM
        financial_loan
WHERE
        EXTRACT(MONTH FROM issue_date) = 11
        AND EXTRACT(YEAR FROM issue_date) = 2021;
```



Problem Statement 1.4: Average Interest Rate

- Average Interest Rate:

  Query:

```
SELECT
        ROUND(AVG(CAST(int_rate AS numeric)), 4) * 100 AS Avg_Interest_Rate
FROM
        financial_loan;
```

- MONTH TO DATE Average Interest Rate (LAST MONTH) :

  Query:

```
SELECT
        ROUND(AVG(CAST(int_rate AS numeric)), 3) * 100 AS MTD_Average_Interest_Rate
FROM
        financial_loan
WHERE
```

EXTRACT(MONTH FROM issue_date) = 12

AND EXTRACT(YEAR FROM issue_date) = 2021;

- PREVIOUS MONTH TO DATE Average Interest Rate (PREVIOUS MONTH):

  Query:

  SELECT

  ROUND(AVG(CAST(int_rate AS numeric)), 3) * 100 AS PMTD_Average_Interest_Rate

  FROM

  financial_loan

  WHERE

  EXTRACT(MONTH FROM issue_date) = 11

  AND EXTRACT(YEAR FROM issue_date) = 2021;

Problem Statement 1.5: Average Debt_to_Income_ratio

- Average Debt_to_Income_ratio:

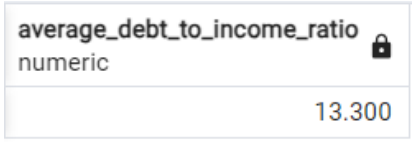
  Query:

  SELECT

  ROUND(AVG(CAST(dti AS numeric)), 3) * 100 AS Average_Debt_to_Income_ratio

  FROM

  financial_loan;



- MONTH TO DATE Debt_to_Income_ratio (LAST MONTH) :

  Query:

  SELECT

  ROUND(AVG(CAST(dti AS numeric)), 3) * 100 AS MTD_Average_ Debt_to_Income_ratio

```
FROM
        financial_loan
WHERE
        EXTRACT(MONTH FROM issue_date) = 12
        AND EXTRACT(YEAR FROM issue_date) = 2021;
```

mtd_average_debt_to_income_ratio numeric
13.700

- PREVIOUS MONTH TO DATE Average Debt_to_Income_ratio (PREVIOUS MONTH):

  Query:

```
SELECT
        ROUND(AVG(CAST(dti AS numeric)), 3) * 100  AS PMTD_Average_ Debt_to_Income_ratio
FROM
        financial_loan
WHERE
        EXTRACT(MONTH FROM issue_date) = 11
        AND EXTRACT(YEAR FROM issue_date) = 2021;
```

pmtd_average_debt_to_income_ratio numeric
13.300

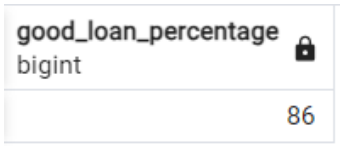
GOOD LOAN vs BAD LOAN ISSUED

Problem Statement 2.1: Good Loan

- Good_Loan_Percentage:

  Query:

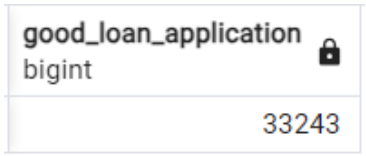
```
SELECT
   (COUNT(CASE WHEN loan_status = 'Fully Paid' OR loan_status = 'Current'
      THEN
         id
      END)*100)
   /
   COUNT(id) AS Good_Loan_Percentage
FROM
   financial_loan;
```



- Good_Loan_Application:

  Query:

```
SELECT
        COUNT(id) AS Good_Loan_Application
FROM
        financial_loan
WHERE
        loan_status = 'Fully Paid'
        OR loan_status = 'Current';
```



- Good_Loan_Funded_Amount:

  Query:

```
SELECT
        SUM(loan_amount) AS Good_Loan_Funded_Amount
FROM
        financial_loan
WHERE
        loan_status = 'Fully Paid'
        OR loan_status = 'Current';
```

- Good_Loan _Amount_Received:

  Query:

```
SELECT
        SUM(total_payment) AS Good_Loan_Amount_Received
FROM
        financial_loan
```

```
WHERE
        loan_status = 'Fully Paid'
        OR loan_status = 'Current';
```

good_loan_amount_received bigint
435786170

Problem Statement 2.2: Bad Loan

- Bad_Loan_Percentage:

  Query:

```
SELECT
  (COUNT(CASE WHEN loan_status = 'Charged Off'
    THEN
      id
    END)*100)
  /
  COUNT(id) AS Bad_Loan_Percentage
FROM
  financial_loan;
```

bad_loan_percentage bigint
13

- Bad_Loan_Application:

  Query:

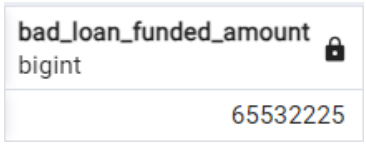
```
SELECT
        COUNT(id) AS Bad_Loan_Application
FROM
        financial_loan
WHERE
        loan_status = 'Charged Off';
```

bad_loan_application bigint
5333

- Bad_Loan_Funded_Amount:

  Query:

```
SELECT
        SUM(loan_amount) AS Bad_Loan_Funded_Amount
FROM
        financial_loan
WHERE
        loan_status = 'Charged Off';
```

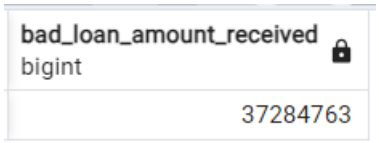


bad_loan_funded_amount bigint
65532225

- Bad_Loan_Amount_Received:

  Query:

```
SELECT
        SUM(total_payment) AS Bad_Loan_Amount_Received
FROM
        financial_loan
WHERE
        loan_status = 'Charged Off';
```



bad_loan_amount_received bigint
37284763

MEASURE ANALYSING

Problem Statement 3.1: Loan Status:

- Loan Status:

  Query:

```
SELECT
        loan_status,
        COUNT(id) AS Total_Loan_Applications,
        SUM(total_payment) AS Total_Amount_Received,
        SUM(loan_amount) AS Total_Funded_Amount,
        ROUND(AVG(CAST(int_rate AS numeric)), 2) * 100 AS Interest_Rate,
```

```
    ROUND(AVG(CAST(dti AS numeric)), 2) * 100 AS Debt_to_Income_Ratio
FROM
    financial_loan
GROUP BY
    loan_status;
```

	loan_status character varying (20)	total_loan_applications bigint	total_amount_received bigint	total_funded_amount bigint	interest_rate numeric	debt_to_income_ratio numeric
1	Current	1098	24199914	18866500	15.00	15.00
2	Fully Paid	32145	411586256	351358350	12.00	13.00
3	Charged Off	5333	37284763	65532225	14.00	14.00

- Loan Status by MTD & PMTD:

Query:

```
SELECT
    loan_status,
    SUM(CASE WHEN EXTRACT(MONTH FROM issue_date) = 12 AND EXTRACT(YEAR FROM issue_date) = 2021 THEN total_payment END) AS MTD_Total_Amount_Received,
    SUM(CASE WHEN EXTRACT(MONTH FROM issue_date) = 11 AND EXTRACT(YEAR FROM issue_date) = 2021 THEN total_payment END) AS PMTD_Total_Amount_Received,
    SUM(CASE WHEN EXTRACT(MONTH FROM issue_date) = 12 AND EXTRACT(YEAR FROM issue_date) = 2021 THEN loan_amount END) AS MTD_Total_Funded_Amount,
    SUM(CASE WHEN EXTRACT(MONTH FROM issue_date) = 11 AND EXTRACT(YEAR FROM issue_date) = 2021 THEN loan_amount END) AS PMTD_Total_Funded_Amount
FROM
    financial_loan
GROUP BY
     loan_status;
```

	loan_status character varying (20)	mtd_total_amount_received bigint	pmtd_total_amount_received bigint	mtd_total_funded_amount bigint	pmtd_total_funded_amount bigint
1	Charged Off	5324211	3994065	8732775	7511175
2	Current	4934318	3717514	3946625	2867975
3	Fully Paid	47815851	42420451	41302025	37375675

BANK LOAN REPORT | OVERVIEW

DEMOGRAPHIC ANALYSIS

Problem Statement 4.1: Analysis by Month:

Query:

```
SELECT
    EXTRACT(MONTH FROM issue_date) AS Month_Number,
    TO_CHAR(issue_date, 'Month') AS Month_Name,
    COUNT(id) AS Total_Loan_Applications,
    SUM(loan_amount) AS Total_Funded_Amount,
    SUM(total_payment) AS Total_Amount_Received
FROM
    financial_loan
GROUP BY
    EXTRACT(MONTH FROM issue_date),
    TO_CHAR(issue_date, 'Month')
ORDER BY
    EXTRACT(MONTH FROM issue_date);
```

month_number numeric	month_name text	total_loan_applications bigint	total_funded_amount bigint	total_amount_received bigint
1	January	2332	25031650	27578836
2	February	2279	24647825	27717745
3	March	2627	28875700	32264400
4	April	2755	29800800	32495533
5	May	2911	31738350	33750523
6	June	3184	34161475	36164533
7	July	3366	35813900	38827220
8	August	3441	38149600	42682218
9	September	3536	40907725	43983948
10	October	3796	44893800	49399567
11	November	4035	47754825	50132030
12	December	4314	53981425	58074380

Problem Statement 4.2: Analysis by State:

Query:

```
SELECT
    address_state AS State,
    COUNT(id) AS Total_Loan_Applications,
    SUM(loan_amount) AS Total_Funded_Amount,
```

```
    SUM(total_payment) AS Total_Amount_Received
FROM
    financial_loan
GROUP BY
    address_state
ORDER BY
    address_state;
```

	state character varying (2)	total_loan_applications bigint	total_funded_amount bigint	total_amount_received bigint
1	AK	78	1031800	1108570
2	AL	432	4949225	5492272
3	AR	236	2529700	2777875
4	AZ	833	9206000	10041986
5	CA	6894	78484125	83901234
6	CO	770	8976000	9845810
7	CT	730	8435575	9357612
8	DC	214	2652350	2921854
9	DE	110	1138100	1269136
10	FL	2773	30046125	31601905
11	GA	1355	15480325	16728040
12	HI	170	1850525	2080184
13	IA	5	56450	64482
14	ID	6	59750	65329
15	IL	1486	17124225	18875941
16	IN	9	86225	85521
17	KS	260	2872325	3247394
18	KY	320	3504100	3792530
19	LA	426	4498900	5001160
20	MA	1310	15051000	16676279
21	MD	1027	11911400	12985170

Problem Statement 4.3: Analysis by TERM:

Query:

```
SELECT
    term AS Term,
    COUNT(id) AS Total_Loan_Applications,
    SUM(loan_amount) AS Total_Funded_Amount,
    SUM(total_payment) AS Total_Amount_Received
FROM
    financial_loan
GROUP BY
    term
ORDER BY
    term;
```

	term character varying (20)	total_loan_applications bigint	total_funded_amount bigint	total_amount_received bigint
1	36 months	28237	273041225	294709458
2	60 months	10339	162715850	178361475

Problem Statement 4.4: Analysis by Employee Length:

Query:

```
SELECT
        emp_length AS Employee_Length,
        COUNT(id) AS Total_Loan_Applications,
        SUM(loan_amount) AS Total_Funded_Amount,
        SUM(total_payment) AS Total_Amount_Received
FROM
        financial_loan
GROUP BY
        emp_length
ORDER BY
        emp_length;
```

	employee_length character varying (20)	total_loan_applications bigint	total_funded_amount bigint	total_amount_received bigint
1	< 1 year	4575	44210625	47545011
2	1 year	3229	32883125	35498348
3	10+ years	8870	116115950	125871616
4	2 years	4382	44967975	49206961
5	3 years	4088	43937850	47551832
6	4 years	3428	37600375	40964850
7	5 years	3273	36973625	40397571
8	6 years	2228	25612650	27908658
9	7 years	1772	20811725	22584136
10	8 years	1476	17558950	19025777
11	9 years	1255	15084225	16516173

Problem Statement 4.5: Analysis by Purpose:

Query:

```
SELECT
        purpose AS PURPOSE,
        COUNT(id) AS Total_Loan_Applications,
        SUM(loan_amount) AS Total_Funded_Amount,
        SUM(total_payment) AS Total_Amount_Received
FROM
        financial_loan
```

```
GROUP BY
        purpose
ORDER BY
        purpose;
```

	purpose character varying (50)	total_loan_applications bigint	total_funded_amount bigint	total_amount_received bigint
1	car	1497	10223575	11324914
2	credit card	4998	58885175	65214084
3	Debt consolidation	18214	232459675	253801871
4	educational	315	2161650	2248380
5	home improvement	2876	33350775	36380930
6	house	366	4824925	5185538
7	major purchase	2110	17251600	18676927
8	medical	667	5533225	5851372
9	moving	559	3748125	3999899
10	other	3824	31155750	33289676
11	renewable_energy	94	845750	898931
12	small business	1776	24123100	23814817
13	vacation	352	1967950	2116738
14	wedding	928	9225800	10266856

Problem Statement 4.6: Analysis by House Ownership:

Query:

```
SELECT
        home_ownership AS Home_Ownership,
        COUNT(id) AS Total_Loan_Applications,
        SUM(loan_amount) AS Total_Funded_Amount,
        SUM(total_payment) AS Total_Amount_Received
FROM
        financial_loan
GROUP BY
        home_ownership
ORDER BY
        home_ownership;
```

	home_ownership character varying (20)	total_loan_applications bigint	total_funded_amount bigint	total_amount_received bigint
1	MORTGAGE	17198	219329150	238474438
2	NONE	3	16800	19053
3	OTHER	98	1044975	1025257
4	OWN	2838	29597675	31729129
5	RENT	18439	185768475	201823056

Problem Statement 4.7: Analysis by Grade:

Query:

```
SELECT
    grade AS Grade,
    COUNT(id) AS Total_Loan_Applications,
    SUM(loan_amount) AS Total_Funded_Amount,
    SUM(total_payment) AS Total_Amount_Received
FROM
    financial_loan
GROUP BY
    grade
ORDER BY
    grade;
```

	grade character	total_loan_applications bigint	total_funded_amount bigint	total_amount_received bigint
1	A	9689	84252225	88051563
2	B	11674	130703975	140775015
3	C	7904	87456450	95973518
4	D	5182	63920800	70823891
5	E	2786	44165100	49164151
6	F	1028	18910450	21016738
7	G	313	6348075	7266057