# "A Study on Identification of Important Parameters for the Credit Scores on the Generation of Retail Loans with reference to Gujarat State"

e-ISSN: 2395-0056

p-ISSN: 2395-0072

Ms. Mauli Bodiwala<sup>1</sup>, Dr. Margie Parikh<sup>2</sup>

<sup>1</sup>Research Scholar, B.K. School of Business Management, Gujarat University, Ahmedabad, Gujarat <sup>2</sup>Professor, B.K. School of Business Management, Gujarat University, Ahmedabad, Gujarat.

\*\*\*

#### **Abstract**

Credit scoring is a crucial aspect of retail lending, influencing loan approval decisions, interest rates, and credit limits. Understanding the parameters that contribute to credit scores is essential for effective risk assessment and loan management. This study investigates the important parameters for credit scores in the generation of retail loans in Gujarat State, focusing on the cities of Ahmedabad, Surat, Vadodara, and Rajkot. A sample size of 110 bankers from these cities was selected using stratified random sampling, ensuring representation across various demographics. The research design employed a cross-sectional approach to capture a snapshot of credit scoring perceptions and practices. Through a mixed-methods approach, including literature review, surveys, and statistical analysis, key parameters influencing credit scores were identified and analysed. The findings shed light on the nuanced factors shaping creditworthiness assessment in the retail lending landscape of Gujarat State. The study's implications extend to lenders, policymakers, and consumers, offering insights to enhance credit risk management and financial inclusion efforts.

Key Words: Credit Score, Lending facility, factors for the credit lending facility, Banks, Financial institutions.

#### 1. Introduction

In today's dynamic financial landscape, retail loans play a pivotal role in fulfilling diverse consumer needs, ranging from purchasing homes and vehicles to funding education and personal expenses. At the heart of retail lending lies the assessment of creditworthiness, a process wherein financial institutions evaluate the risk associated with extending credit to individual borrowers. Central to this assessment is the concept of credit scores, numerical representations of an individual's creditworthiness derived from various financial data points.

The importance of credit scores in the retail lending process cannot be overstated. They serve as key determinants in loan approval decisions, interest rate calculations, and credit limit assignments. A higher credit score typically translates to better loan terms and lower borrowing costs, whereas a lower score may result in limited access to credit or higher interest rates. Therefore, understanding the factors that influence credit scores is paramount for both lenders and borrowers alike.

Despite the widespread acknowledgment of the significance of credit scores, the precise parameters that contribute to their generation remain a subject of ongoing research and debate. While traditional metrics such as income level, payment history, and debt-to-income ratio are well-established factors in credit scoring models, emerging trends and evolving consumer behaviours necessitate a deeper exploration into additional variables that may influence creditworthiness.

This research paper aimed to contribute to this ongoing discourse by identifying and examining the important parameters for credit scores in the context of retail loans. Through a comprehensive analysis of existing literature, empirical data, and expert insights, this study seeks to shed light on the multifaceted nature of credit scoring and its implications for retail lending practices.

#### 2. Literature Review

(Shankar, S., 2019) mentioned that with an emphasis on the credit rating system put in place in 2000, this chapter discusses the typical funding issues that micro, small, and medium-sized companies in India confront as well as some significant steps made to solve them. Based on interviews with rating agencies and MSMEs, it analysed the scheme's benefits and drawbacks. According to the report, the government subsidies offered under the plan have played a significant role in encouraging MSMEs to obtain credit ratings, which has the effect of decreasing information asymmetry with banks and facilitating loan availability. This is because credit rating is a costly process. Making use of the information gathered from MSME lending and credit rating in the nation by building a credit risk database is essential given the substantial amount of

© 2024, IRJET | Impact Factor value: 8.226 | ISO 9001:2008 Certified Journal | Page 2353

## **International Research Journal of Engineering and Technology (IRJET)**

Volume: 11 Issue: 04 | Apr 2024

www.irjet.net

e-ISSN: 2395-0056 p-ISSN: 2395-0072

unbanked MSMEs in the nation. Without depending on subsidies, lenders will then have access to the aggregated data produced to make better lending decisions for MSMEs.

(Abdou, H. A., & Pointon, J., 2011) defined that in recent decades, credit scoring has gained widespread recognition as a fundamental instrument for evaluating various organizations and has been extensively studied across several domains, including banking and accounting. In domains such as categorization and prediction, where statistical methods have traditionally been applied, alternative scoring approaches are being employed. The literature looks into performance evaluation criteria as well as advanced and conventional methods. In general, this paper's main goal was to conduct an exhaustive analysis of 214 books, papers, and theses that deal with credit scoring applications in a variety of fields, but mostly in banking and finance. Using a thorough analysis of various statistical methods and performance evaluation standards, this study also sought to understand how credit scoring has grown in significance and to pinpoint the crucial factors in the creation of a scoring model. Their review of literature revealed that there was no overall best statistical technique used in building scoring models and the best technique for all circumstances does not yet exist. Also, the applications of the scoring methodologies have been widely extended to include different areas, and this subsequently can help decision makers, particularly in banking, to predict their clients' behaviour.

(Karlan, D., & Zinman, J., 2010) examined that one of the main components of financial development strategy is increasing the availability of commercial credit. There isn't as much agreement on whether giving more people access to consumer credit benefits borrowers—especially when those loans have high interest rates. Research demonstrating behavioral biases that may lead to overborrowing is a major source of the public's mistrust over "unproductive," "usurious" lending. By conducting a field experiment and gathering other data, we calculate the effects of increasing consumer loan availability at a 200% annual percentage rate (APR). For borrowers, the randomly assigned marginal loans resulted in substantial net gains in a variety of outcomes. Additionally, there is some proof that the loans were lucrative.

#### 3. Research Methodology

#### 3.1. Problem Identification

In this research, the researcher has basically made a sincere attempt for the identification of the important factors for the credit score evaluation for the disbursement of the loan for the needy people who are visiting to the banks and financial institutions for their requirement of generation of credit for their own purpose either for the buying the real estate property, buying long term projects or might me for the meeting past obligations for the individual residing in the major cities of Gujarat states i.e. Ahmedabad, Vadodara, Surat and Rajkot in the opinion of the bankers of the public sector, private sector, co-operative banks, Regional Rural banks and other financial institutions.

#### 3.2. Research Objectives

Here, the researcher has made a sincere attempt for the identification for the important factor for the generation of the loan facilities based on the creditability of the individual who are looking for the financial help for any reason. Based on this, the objectives of the research are mentioned below:

- To study the demographic profile of the individual who are looking for the credit facilities for the loans from the selected cities of Gujarat state.
- To find out the important factors for the generation of the credit facilities for the individuals by the banks and financial institutions from the Gujarat State as per the opinion of the bankers

#### 3.3. Sample Size of the Research

To find out the important factors for the generation of the credit facilities for the individuals by the banks and financial institutions from the Gujarat State as per the opinion of the bankers, total 100 samples from the selected cities i.e. Ahmedabad, Surat, Rajkot and Vadodara.

#### 3.4. Sampling Techniques of the Research

Here the attempt was made by the researcher for the identification of the important factors for the credit score generation from the credit lending facilities that have been processed from the banks and financial institutions from the individuals from the selected cities of Gujarat State, the researcher need the experienced bankers for the sample selection to give their opinion on this topic and due to which the researcher has adopted stratified random sampling where the group of experienced bankers have been selected for the receiving the real time response for their opinion towards it.

# **International Research Journal of Engineering and Technology** (IRJET)

Volume: 11 Issue: 04 | Apr 2024 www.irjet.net p-ISSN: 2395-0072

e-ISSN: 2395-0056

#### 3.5. Research Design

To find out the important parameters for the evaluation of credit generation activities for the granting the loan facilities for the individuals who are visiting to the banks and other financial institutions from the Gujarat State, the researcher has used the descriptive cross-sectional study as a part of the collection of the samples from the experienced bankers who are working in the loan disbursement department.

#### 4. Data Analysis and Interpretation

Table 1: Demographic Profile of the Bankers from the Gujarat State

| Demographic Profile (Bankers: Gujarat State) |                       |                         |                           |                        |             |
|--|-----------------------|-------------------------|---------------------------|------------------------|-------------|
| Gender                                       | Male                  | Female                  |                           |                        |             |
|  | 65 (59.09%)           | 45 (40.90%)             |                           |                        |             |
| Age  | Less than 30<br>Years | 30 - 45 Years           | 46 - 60 Years             | Above 60 Years         |             |
|  | 22 (20.0%)            | 36 (32.73%)             | 34 (30.91%)               | 18 (16.36%)            |             |
| Education<br>Qualification                   | Graduation            | Post -<br>Graduation -  | Doctorate                 | Professional<br>Degree | Others      |
|  | 21 (19.09%)           | 54 (49.09%)             | 19 (17.27%)               | 10 (09.09%)            | 06 (05.45%) |
| Income<br>(Rs.)                              | Less than Rs. 25,000  | Rs. 25,000 - Rs. 50,000 | Rs. 50,001 - Rs. 1,00,000 | Above Rs. 1,00,000     |             |
|  | 31 (28.18%)           | 34 (30.91%)             | 28 (25.46%)               | 17 (15.45%)            |             |
| City of Residence                            | Ahmedabad             | Surat                   | Vadodara                  | Rajkot                 |             |
|  | 30 (27.27%)           | 30 (27.27%)             | 25 (22.73%)               | 25 (22.73%)            |             |

(Source: Research Result)

The table mentioned above is the representation of the demographic profile of the bankers from the selected cities of Gujarat State i.e. Ahmedabad, Surat, Vadodara and Rajkot from the Gujarat State. From the point of view of Gender, it had been noted that the majority of bankers in the sample are male, comprising 59.09% of the total respondents, while females constitute 40.90%. This indicates a gender imbalance in the banking profession in Gujarat State, with males being more represented. From the point of view of age parameters of the bankers, the largest proportion falling in the age range of 30-45 years (32.73%), followed closely by those aged 46-60 years (30.91%) which suggested a mix of experienced professionals and mid-career individuals in the banking sector. From the point of view of educational qualification parameters of the bankers, majority of bankers have attained post-graduation qualifications (49.09%), followed by graduation (19.09%). This suggests a high level of educational attainment among bankers in Gujarat State, with a significant proportion holding advanced degrees. From the point of view of monthly income parameters of the bankers, highest proportion falls in the income range of Rs. 25,000 - Rs. 50,000 (30.91%), followed closely by Rs. 50,001 - Rs. 1,00,000 (25.46%). This indicates a diverse range of income levels among bankers in the state and in case of the city of residence for the bankers, highest responses have been taken from the two metropolitan cities of Gujarat State i.e. Ahmedabad and Surat with the 30 (27.27%) from each of the city and from the Vadodara and Rajkot 25 (22.73%) responses respectively from each of the city separately.

Table 2: Statements for the Important Factors for the generation of credit Scores on the Generation of Retail Loans

| Statements   | Mean Score |
|--|------------|
| The applicant's credit history strongly influences their credit score.                     | 3.33       |
| Timely repayment of previous loans significantly enhances an applicant's creditworthiness. | 2.28       |



# $\textbf{International Research Journal of Engineering and Technology} \ (\texttt{IRJET})$

Volume: 11 Issue: 04 | Apr 2024

www.irjet.net

e-ISSN: 2395-0056 p-ISSN: 2395-0072

| Stability in the applicant's employment status positively impacts their credit score.  | 2.48 |
|--|------|
| A higher income level positively affects the applicant's credit score.   | 3.47 |
| The applicant's debt-to-income ratio is a crucial factor in determining their creditworthiness.                                | 3.78 |
| The length of the applicant's credit history is an important consideration for their credit score.                             | 2.98 |
| Having a diverse credit mix, including both revolving and instalment accounts, improves the credit score.                      | 3.24 |
| The utilization rate of the applicant's available credit lines affects their credit score.                                     | 3.96 |
| The presence of any outstanding debts negatively impacts the applicant's credit score.   | 3.57 |
| Consistently making minimum payments on credit accounts helps maintain a good credit score.                                    | 3.65 |
| The number of recent credit inquiries can have a negative impact on the credit score.  | 2.25 |
| Any history of bankruptcy significantly lowers the applicant's credit score.   | 3.22 |
| Demonstrating responsible credit management, such as avoiding maxing out credit cards, positively influences the credit score. | 2.58 |
| The presence of any delinquent accounts negatively affects the credit score.   | 3.69 |
| A long-standing relationship with a financial institution can positively impact the credit score.                              | 4.11 |
| Regularly monitoring and reviewing one's credit report helps maintain a healthy credit score.                                  | 3.59 |
| Being listed as an authorized user on a credit account can positively impact the credit score.                                 | 3.65 |
| The frequency of credit utilization, such as monthly credit card balances, affects the credit score.                           | 2.47 |
| The applicant's ability to manage and pay off multiple debts simultaneously affects their credit score.                        | 3.96 |
| The frequency of credit applications within a short period can negatively impact the credit score.                             | 3.32 |
| Research Result)   |      |

(Source: Research Result)

The table mentioned above represents the Statements for the Important Factors for the generation of credit Scores on the Generation of Retail Loans. It has been noted that,

The statements which have received the highest importance in the opinion of the bankers are mentioned below in the table

Volume: 11 Issue: 04 | Apr 2024

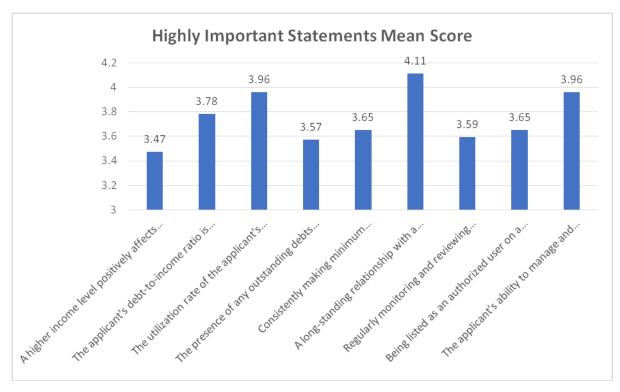
www.irjet.net

Table 3: Highly Important Statements for the Bankers for the generation of credit Scores on the Generation of Retail Loans

| Highly Important Statements  | Mean Score |
|--|------------|
| A higher income level positively affects the applicant's credit score                                  | 3.47       |
| The applicant's debt-to-income ratio is a crucial factor in determining their creditworthiness         | 3.78       |
| The utilization rate of the applicant's available credit lines affects their credit score              | 3.96       |
| The presence of any outstanding debts negatively impacts the applicant's credit score                  | 3.57       |
| Consistently making minimum payments on credit accounts helps maintain a good credit score             | 3.65       |
| A long-standing relationship with a financial institution can positively impact the credit score       | 4.11       |
| Regularly monitoring and reviewing one's credit report helps maintain a healthy credit score           | 3.59       |
| Being listed as an authorized user on a credit account can positively impact the credit score          | 3.65       |
| The applicant's ability to manage and pay off multiple debts simultaneously affects their credit score | 3.96       |

(Source: Research Result)

Figure 1: Highly Important Statements for the Bankers for the generation of credit Scores on the Generation of **Retail Loans** 



(Source: Research Result)

e-ISSN: 2395-0056

p-ISSN: 2395-0072

Volume: 11 Issue: 04 | Apr 2024

www.irjet.net

e-ISSN: 2395-0056 p-ISSN: 2395-0072

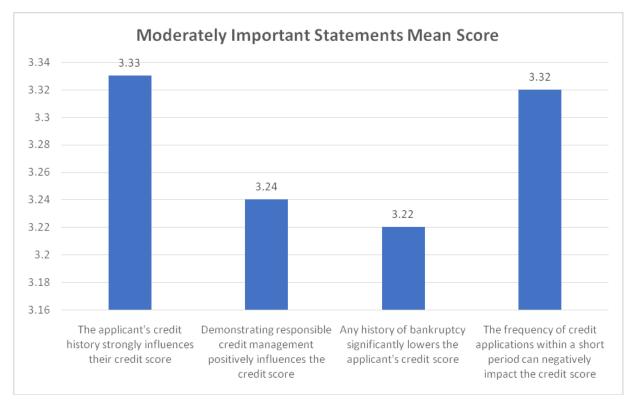
From the above table and charts for the highlyimportant Statements for the Bankers for the generation of credit Scores on the Generation of Retail Loans, it had been noted that the highest number of weightages that have been given from the bankers from the selected cities of Gujarat State i.e. Ahmedabad, Surat, Vadodara and Rajkot to the "A long-standing relationship with a financial institution can positively impact the credit score" followed by the "The applicant's ability to manage and pay off multiple debts simultaneously affects their credit score".

Table 4: Moderately Important Statements for the Bankers for the generation of credit Scores on the Generation of Retail Loans

| Moderately Important Statements   | Mean Score |
|---|------------|
| The applicant's credit history strongly influences their credit score                             | 3.33       |
| Demonstrating responsible credit management positively influences the credit score                | 3.24       |
| Any history of bankruptcy significantly lowers the applicant's credit score                       | 3.22       |
| The frequency of credit applications within a short period can negatively impact the credit score | 3.32       |

(Source: Research Result)

Figure 2: Moderately Important Statements for the Bankers for the generation of credit Scores on the Generation of Retail Loans



(Source: Research Result)

From the above table and charts for the highlyimportant Statements for the Bankers for the generation of credit Scores on the Generation of Retail Loans, it had been noted that the moderately number of weightages that have been given from the bankers from the selected cities of Gujarat State i.e. Ahmedabad, Surat, Vadodara and Rajkot to the "The applicant's credit history strongly influences their credit score" followed by the "The frequency of credit applications within a short period can negatively impact the credit score".



Volume: 11 Issue: 04 | Apr 2024

www.irjet.net

p-ISSN: 2395-0072

e-ISSN: 2395-0056

Table 5: Low Important Statements for the Bankers for the generation of credit Scores on the Generation of Retail Loans

| Low Important Statements  | Mean Score |
|---|------------|
| Timely repayment of previous loans significantly enhances an applicant's creditworthiness                                     | 2.28       |
| Stability in the applicant's employment status positively impacts their credit score  | 2.48       |
| The length of the applicant's credit history is an important consideration for their credit score                             | 2.98       |
| The number of recent credit inquiries can have a negative impact on the credit score  | 2.25       |
| Demonstrating responsible credit management, such as avoiding maxing out credit cards, positively influences the credit score | 2.58       |
| The frequency of credit utilization, such as monthly credit card balances, affects the credit score                           | 2.47       |

(Source: Research Result)

Figure 3: Low Important Statements for the Bankers for the generation of credit Scores on the Generation of Retail Loans



(Source: Research Result)

From the above table and charts for the highlyimportant Statements for the Bankers for the generation of credit Scores on the Generation of Retail Loans, it had been noted that the low number of weightages that have been given from the bankers from the selected cities of Gujarat State i.e. Ahmedabad, Surat, Vadodara and Rajkot to the "The length of the applicant's credit history is an important consideration for their credit score" followed by the "Demonstrating responsible credit management, such as avoiding maxing out credit cards, positively influences the credit score".

## **International Research Journal of Engineering and Technology** (IRJET)

Volume: 11 Issue: 04 | Apr 2024 www.irjet.net p-ISSN: 2395-0072

e-ISSN: 2395-0056

#### 5. Findings, Conclusions and Suggestions of the Study

From the above study for the revelation for the important factors for the bankers for the consideration of the credit limit of an individual from the selected cities of Gujarat State i.e. Ahmedabad, Surat, Vadodara and Rajkot. It had been noted that the highest number of responses that have been received from the male bankers who are having the maturity age ranging from the 30 to 50 years with the moderate level of income status i.e. from the Rs. 50,000 to Rs. 1,00,000 and residing majorly in the two metropolitan cities of Gujarat State i.e. Ahmedabad and Surat. With the consideration of the important factors for the bankers for the taking into consideration of the credit facility for the individuals for the granting the loans to them, the highest amount of importance has been given by the banking system to the long terms relationship of the consumers with the bank and financial institutions and applicant's ability to manage and pay off multiple debts simultaneously in the Gujrat state. Hence, it has been observed that the majority of the lending facilities that have been provided by the bankers to their consumers through their personal contact and by knowing their financial stability as a part of measuring their creditability.

#### References

- Shankar, S. (2019). The Role of credit rating agencies in addressing gaps in micro and small enterprise financing: The Case of India. In Unlocking sme finance in asia (pp. 72-87). Routledge.
- Abdou, H. A., & Pointon, J. (2011). Credit scoring, statistical techniques and evaluation criteria: a review of the literature. Intelligent systems in accounting, finance and management, 18(2-3), 59-88.
- Karlan, D., & Zinman, J. (2010). Expanding credit access: Using randomized supply decisions to estimate the impacts. The Review of Financial Studies, 23(1), 433-464.
- Hurley, M., & Adebayo, J. (2016). Credit scoring in the era of big data. Yale JL & Tech., 18, 148.
- Aduda, J., Magutu, P. O., & Wangu, G M. (2012). The relationship between credit scoring practices by commercial banks and access to credit by small and medium enterprises in Kenya.
- Soni, K., & Desai, M. (2019). Behavior of Investor's towards Different Investment Boulevard in the Market: Surat City, Gujarat, India. Emerging Trends in International Business and Commerce, 209.
- DeYoung, R., Glennon, D., & Nigro, P. (2008). Borrower–lender distance, credit scoring, and loan performance: Evidence from informational-opaque small business borrowers. Journal of Financial Intermediation, 17(1), 113-143.
- Berger, A. N., Frame, W. S., & Miller, N. H. (2005). Credit scoring and the availability, price, and risk of small business credit. Journal of money, credit and banking, 191-222.
- Abdullah, M. A., Ahmad, A., Nayan, N. A. M., Azhar, Z., & Ahmad, A. R. (2020). Credit risk assessment models of retail microfinancing: The case of a Malaysian national savings bank's branch. International Journal of Financial Research, 11(3), 73-83.
- Crook, J. N., Edelman, D. B., & Thomas, L. C. (2007). Recent developments in consumer credit risk assessment. European Journal of Operational Research, 183(3), 1447-1465.
- Jacobson, T., Lindé, J., &Roszbach, K. (2005). Credit risk versus capital requirements under Basel II: are SME loans and retail credit really different?. Journal of Financial Services Research, 28, 43-75.
- Leyshon, A., & Thrift, N. (1999). Lists come alive: electronic systems of knowledge and the rise of credit-scoring in retail banking. Economy and society, 28(3), 434-466.
- Siddiqi, N. (2012). Credit risk scorecards: developing and implementing intelligent credit scoring (Vol. 3). John Wiley & Sons.
- Soni, K. (2017). Impact of foreign direct investment in India on insurance industry. International Journal of Emerging Research in Management & Technology, 6(6), 1-12.
- Karlan, D., & Zinman, J. (2011). Microcredit in theory and practice: Using randomized credit scoring for impact evaluation. Science, 332(6035), 1278-1284.
- Anderson, R. A. (2022). Credit intelligence and modelling: Many paths through the forest of credit rating and scoring. Oxford University Press.
- Kennedy, K. (2013). Credit scoring using machine learning.