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**Credit Scoring: Assessing Creditworthiness and Its Implications for Borrowers and Lenders**

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## **Abstract**

This study has underscored the pivotal role of credit scoring in evaluating the creditworthiness of borrowers. It has delved into the historical evolution of credit scoring, its application in lending decisions, and the multifaceted factors influencing credit scores. Notably, research studies have illuminated the decisive impact of credit scores on loan approvals and interest rates, underscoring the significance of elements like payment history and credit type diversity. This article has emphasized the symbiotic relationship between borrowers and lenders, where favorable credit scores grant access to credit while unfavorable scores pose restrictions. Credit scoring's wide-ranging applicability, spanning personal loans, mortgages, and small businesses, has streamlined lending processes and minimized default risks. Furthermore, it touched upon external factors like education levels, albeit as just one facet in the complex mosaic of creditworthiness assessment, alongside income, employment stability, and credit history. As technology and data analytics advance, the future promises even more refined and effective credit scoring methods, solidifying its status as an indispensable tool in the financial industry.

**Keywords:** credit scoring, creditworthiness assessment, historical development, lenders

**JEL Codes:** E51

## **1. INTRODUCTION**

The scale credit rating of an individual is crucial in assessing their creditworthiness, taking into account factors such as the date of default, current debt level, and credit history. Lenders, including banks and credit card companies, utilize credit scores to evaluate the potential risks associated with lending money to consumers and to estimate potential losses from bad debts. These scores enable lenders to determine loan suitability, interest rates, and credit limits. Additionally, credit scores help lenders identify customers who are more likely to generate higher revenue. To establish a reliable system, the use of credit assessments and identity verification is employed before granting access to credit or issuing credit-related documents. Through the last 70-80 years, credit scoring has been a topic of significant interest in the banking industry. Credit scoring involves assessing customer information to distinguish between desirable and defaulting customers. In the early days, credit scoring methods relied heavily on a subjective judgmental approach, where credit analysts made loan approval decisions based on their personal beliefs. However, this approach was deemed unreliable due to its subjectivity and lack of objective criteria. Another crucial development in credit scoring occurred in the 1960s when there was a significant increase in the number of credit card applications. This surge in demand necessitated automated assessment processes as banks struggled to handle the growing volume of applications. In response to the need for fair lending practices, the Equal Credit Opportunity Act (ECOA) was enacted in the United States in 1975 and 1976 (Nevin, 1979). The ECOA made it illegal for lenders to discriminate against loan applicants based on factors such as gender, marital status, race, religion, national origin, and age. Discrimination was defined as treating one person less favorably than others, and banks were required to provide applicants with a detailed written notice explaining their decision. To ensure fairness and objectivity in lending decisions, banks began adopting empirical-derived credit scoring systems based on statistical methods. These systems utilized predictor variables, including the duration of residence, account information, and existing debt with other creditors, among other factors. By implementing these systems, banks could make consistent and objective decisions for all applicants (Nevin, 1979). After the mid-70s, it was still possible for a financial advisor to refuse judgments made by the credit scoring system if he/she disagreed with its outcome. However, studies showed that in 95% of the times an advisor accepted the loan, even though the system had turned the applicant down, the loan was very hard to collect (Nevin, 1979). In the 1980s, credit scoring became synonymous with success in the credit card industry, leading banks to expand its use beyond credit cards to other financial products like personal loans. By the 1990s, credit scoring methods were also applied to private loans and small business loans (Thomas, 2000). However, the recent financial crisis that began in 2007 revealed the consequences of the reckless behavior of financial institutions. Many banks were driven by greed and disregarded the risks associated with investing in risky mortgage-backed securities. The public perception of bank managers was that they had ignored the potential pitfalls of investing in sub-prime mortgage loans and were reluctant to admit their mistakes (Thomas, 2000).

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## 2. BACKGROUND OF STUDY

Credit scores are numerical representations of an individual's creditworthiness based on their credit history. Lenders and financial institutions utilize credit scores to assess the potential risks associated with lending money to consumers and to evaluate the likelihood of bad debts (Thomas, 2000). These scores play a crucial role in determining loan approvals, interest rates, and credit limits. The use of credit scoring models has become essential in the banking industry, particularly with the increasing number of credit card applications in the 1960s (Nevin, 1979). To comply with regulations such as the Equal Credit Opportunity Act (ECOA) in the United States, banks turned to empirical derived credit systems based on statistical methods to ensure objective decision-making (Nevin, 1979). The concept of credit scores gained prominence in the 1980s, becoming synonymous with creditworthiness and expanding beyond credit cards to include personal loans and small business loans (Thomas, 2000). However, the calculation of credit scores remains a complex process, as different credit bureaus and lenders may utilize different algorithms and criteria (Thomas, 2000). Changes in credit types and data sources over time further contribute to the intricacy of credit score calculations (Thomas, 2000). The global financial crisis that began in 2007 was primarily attributed to financial institutions' excessive risk-taking in mortgage-backed securities (Thomas, 2000). The crisis shed light on the mismanagement of risks by banks and their reluctance to acknowledge their mistakes (Thomas, 2000). This crisis emphasized the importance of accurately assessing creditworthiness and managing risks associated with lending practices. The development of credit scoring models can be traced back to 1956 when the first model was created by Fair Isaac Corporation (FICO) (Thomas, 2000). Over time, these models have evolved, and it is estimated that there are now over a hundred different credit scoring models (Thomas, 2000). Currently, Fair Isaac Corporation (FICO) and other companies calculate credit scores, which are made available through major credit bureaus such as Experian and Trans Union in the United States (Thomas, 2000). Credit scores are typically represented on a scale of 300 to 850, with scores between 650 and 799 being the most common (Thomas, 2000). Each individual has three FICO credit scores, one from each of the three credit bureaus (Experian, Equifax, and Trans Union), as each bureau maintains its own database (Thomas, 2000). While the data may vary for each consumer across the bureaus, the purpose remains the same - to assess the risk of default by considering various factors in the individual's credit history (Thomas, 2000). It is important to note that new credit scoring models are continually being developed, and each model may have its own unique scoring system and methodology (Thomas, 2000). Comparisons between different models and their distribution can be challenging due to the variations in scoring methodologies (Thomas, 2000). The calculation of credit scores is based on various factors, although the specific formulas used by FICO are undisclosed. However, the following elements are known to have an impact on credit scores (Fair Isaac Corporation). Payment history (35% of score): Late payments on bills, such as mortgages, credit cards, or car loans, can cause a drop in the FICO score. On-time bill payment improves the FICO score.

Credit utilization (30% of score): This is the ratio between the current amount of debt (such as credit card balances) and the total available revolving credit or credit limit. Repaying debt and reducing credit utilization can improve the FICO score. In some cases, increasing credit limits or applying for new credit may also help, but this is not always the case. Closing existing accounts can increase the utilization ratio and potentially lower the FICO score. Length of credit history (15% of score): Having a longer credit history is generally associated with higher FICO scores. Types of credit used (10% of score): Having a mix of different types of credit, such as installment loans, revolving consumer credit, and mortgages, can lead to a higher FICO score. New credit (10% of score): Opening new accounts and seeking new credit can temporarily lower the FICO score. Credit applications, which occur when a person is actively seeking a loan, can have a negative impact on credit scores. It's important to note that inquiries related to credit checks made by the same person, an employer for employment verification, or by companies offering credit or insurance do not affect credit scores (Fair Isaac Corporation).

## 3. FIVE FACTORS

There are five factors that contribute to credit scores, with each factor having a different level of importance. The factors, listed in order of significance, include:

### 3.1. PAYMENT HISTORY

This factor has the greatest impact on credit scores. Making timely and full payments on debts is crucial for maintaining a positive credit score. Late payments and defaults have a negative effect, and recent delinquencies have more weight than older ones.

### 3.2. OUTSTANDING CREDIT BALANCES

This factor considers the percentage of the balance compared to the credit limit. It is ideal to keep balances as low as possible, preferably below 30% of the available credit limit, especially when seeking to make a major purchase like a house.

### 3.3. CREDIT HISTORY

The length of time since the establishment of a specific line of credit is taken into account. A longer credit history reflects positively on the borrower's credit rating.

### 3.4. TYPES OF CREDIT

Having a mix of different types of credit, such as auto loans, credit cards, and mortgages, is more favorable than having a concentration of debt solely from credit cards.

### 3.5. INQUIRIES

This factor measures the number of credit inquiries made by lenders within a six-month period. Each hard inquiry can have a negative impact of two to 25 points on a credit score. However, the maximum effect from inquiries lasts for only ten years. It's important to note that having more than 11 applications within six months does not further affect the borrower's creditworthiness. Additionally, inquiries that result from checking your own credit report do not influence the credit score. It's important to remember that credit scores are calculated based on objective criteria. Personal factors are not considered, and the credit report provides a snapshot of an individual's credit at a specific point in time, which can vary over the course of a week.

#### **4. LITERATURE REVIEW**

The purpose of this study is to understand Credit Scoring methods used by local and foreign banks of Pakistan. Chen and Huang (2003) conducted a study on credit scoring methods, which involved evaluating various applicant characteristics such as age, income, marital status, and payment history to determine their creditworthiness. Many banks categorized new applicants into two groups: "bad" or "good," while some used three groups: "bad," "good," or "refused."

Edelman and Crook (2002) discussed the use of credit standards and testing methods to determine the creditworthiness of borrowers. They concluded that borrowers with good credit scores are more likely to be granted credit, while those with bad credit scores are less likely to be approved.

Further and Durand (1941) conducted a study that demonstrated the classification of good and bad creditors using a single method. This study marked the early use of consumer behavior data in credit scoring, laying the foundation for data mining techniques. The credit approval process involves two main decisions for lenders: whether to extend a loan to a new borrower, which is determined through credit scoring, and whether to increase credit limits for existing borrowers, which requires evaluating their credit behavior.

Kanwar (2005) emphasized the concept of credit risk, which arises when borrowers either refuse or are unable to repay the loans granted to them, resulting in economic loss for the bank.

Hasan and Zazzara (2006) discussed the Basel II rules, which mandate that banks have an internally sound classification system for assessing the credit risk of debtors. This system allows bank loan officers to effectively measure risk and define appropriate credit limits.

Baku and Smith (1998) highlighted the costs associated with outstanding loans for both lenders and borrowers. In the case of a default, the creditor will not receive the expected interest payments and may even lose the principal amount lent. On the other hand, the borrower's reputation will be negatively affected, making it difficult for them to obtain future loans from the same creditor or other lenders.

Sullivan (1981) described the credit scoring method as a process that involves assigning and adjusting credit scores based on various factors such as an individual applicant's time on a current job, experience, and qualifications. The generated credit score is compared to a statistically determined cutoff score, and based on this comparison, the loan application is either accepted or rejected.

Thomas and Edelman (2002) highlighted that lenders in developed countries rely on credit histories obtained from credit bureaus to assess the creditworthiness of borrowers. They also take into consideration factors such as the borrower's salary and experience before approving a loan.

Amari (2000) emphasized that there are multiple approaches to assessing creditworthiness, and the key question is determining the most effective way to evaluate customer creditworthiness. This involves considering the variables that credit analysts should include in their evaluation process and determining the best measures to predict loan quality, such as the likelihood of a customer going bankrupt.

Thomas and Crook (2002) noted that lending institutions began adopting credit scoring methods for evaluating personal loans, and later expanded their use to mortgage and small business loans. This adoption was based on the analysis of the effectiveness and accuracy of credit scoring methods in assessing credit card applications.

Sullivan (1981) pointed out that credit scoring methods have been criticized for their potential bias, as they may discriminate against females when granting loans. Despite this criticism, credit scoring methods are considered valuable tools in the field of finance and business.

Orgler (1971) highlighted that while there is a significant body of research on granting loans to existing individuals, there is limited literature available on loans extended to new individuals.

Saidenberg (2000) defined that according to the Basel Capital Accord, banks are required to maintain a minimum of 8% capital against the risk-weighted assets.

Thomas (2000) reported that the implementation of credit scoring led to a significant decrease of 50% in default rates. Another advantage highlighted was that credit scoring allowed lenders to obtain student loans without directly interacting with the borrowers.

Lawrence Arshadi (1995) emphasized the importance of using a valid method to analyze the management of non-performing loans and determine decision options based on various borrower and bank variables.

Gardner and Mills (1989) acknowledged that traditional methods did not adequately address delinquent borrowers, and proposed the use of alternative techniques, such as slope estimation, to assess the probability of default. This approach enabled bankers to understand the severity of the problem and formulate appropriate responses.

Ponicki (1996) outlined the benefits of credit scoring for banks, including the establishment of a standardized system for evaluating loans across the entire bank, improved transaction efficiency, and increased loan collections. Credit scoring methods also provided advantages to customers by offering a simplified application process, timely credit approval decisions, and access to credit when needed.

Reisman and Yolalan (2003) highlighted the existence of various commercially available decision support systems for credit scoring in different types of corporations. However, they recommended the adoption of a standardized credit scoring system that can be used by commercial banks worldwide to ensure consistency and comparability.

Sarlija (2004) discussed the importance of decision-making processes in assessing the creditworthiness of borrowers. Empirical methods used by credit analysts, drawing on their past and present knowledge and experience, play a critical role in evaluating clients' repayment capabilities.

Join and Crook (1996) conducted research to address the potential bias in credit scoring methods that could arise from focusing solely on the credit histories of approved applications and neglecting the information from rejected applications. They emphasized the importance of considering both approved and rejected applications to gain a comprehensive understanding of the credit evaluation process.

Nevin (1979) discussed how in the mid-70s, financial advisors still had the ability to override the decisions made by the credit scoring system if they disagreed with the outcome. However, studies showed that in 95% of cases where an advisor approved a loan that had been initially rejected by the system, it became challenging to collect the repayment.

Schreiner (2002) examined the role of statistical scoring methods in the credit decision-making process. The author highlighted that while statistical scoring models are valuable tools, they cannot completely replace the judgment and expertise of loan officers or credit analysts. These scoring methods serve as guides, reminding credit managers of potential risks that they may have overlooked.

Muller (2002) highlighted a significant issue in credit scoring data, which is the lack of information on the performance of rejected customers. This absence of data can introduce bias in the sample, as the credit scoring models rely on historical data of approved customers to assess creditworthiness.

Hand and Henley (1993) concluded that overcoming this bias requires establishing a special relationship between the distributions of "good" and "bad" customers, which can only be achieved by accepting and rejecting all applicants. This approach may be feasible for certain organizations like retailers, advertising companies, or mail order firms, but it is not applicable to banks and financial institutions.

Further and Durand (1941) conducted research on classifying good and bad creditors using a single method. They noted that credit scoring, which utilizes consumer data, can be considered as the precursor to data mining. In the credit approval process, lenders need to make two decisions: whether to grant a loan to a new borrower, which is determined by credit scoring, and whether to increase credit limits for existing borrowers, which is assessed using a behavior score.

Kanwar (2005) studied the impact of credit risk on commercial banks in Pakistan and found that it led to significant losses. The senior management of banks recognized the need to establish methods, policies, procedures, and monitoring systems to effectively measure, control, and mitigate credit risk.

Thomas (2000) emphasized the significant increase in the number of people applying for credit cards during the 1960s, which created a need for automated credit assessment processes due to the resource limitations of banks in managing the growing demand.

Nevin (1979) examined the impact of the Equal Credit Opportunity Act (ECOA) of 1975-1976 in the United States. The ECOA made it illegal for lenders to discriminate against loan applicants based on factors such as marital status, sex, age, color, religion, race, and national origin. Banks were required to provide applicants with written notice regarding their decision, and as a result, they started focusing on empirical credit systems that used numerical methods to evaluate the creditworthiness of customers. These systems considered various predictor variables, including account information and the length of time a person had lived at the same address. By implementing these systems, banks aimed to ensure consistent and fair decision-making for all applicants.

Crook (1996) investigated the concept of credit evaluation and the characteristics used by lenders to assess potential borrowers. The study emphasized the importance of analyzing customer attributes and comparing them to those of previous successful applicants. If a customer closely resembles the characteristics of previously approved applicants, they are more likely to be approved. Conversely, if the customer possesses undesirable traits, their application is often rejected. This evaluation process typically involves a combination of subjective assessment by loan officers and credit scoring techniques. Crook (1996) highlights that statistical scoring methods may be considered "incomplete" as they may overlook certain variables that could be indicative of a customer's likelihood to repay. However, credit evaluation methods encompass a broader range of variables to assess creditworthiness. Recently, there has been a shift towards indirect discrimination in credit risk assessment.

Bailey (2004) examines the judgmental approach in credit assessment, where each application is individually reviewed by credit analysts who rely on their experience and common sense to make decisions. These methods are necessary to account for the unpredictable nature of credit evaluations and to consider factors such as credit history and the wealth of experience possessed by credit analysts.

Chandler & Coffman (1979) emphasize that credit scoring methods can vary significantly from one another. The best approach is to train credit analysts and have a comprehensive credit evaluation system in place. Sometimes, the credit evaluation system may lead to rejecting a credit application because the title or function of the applicant can change.

Capon (1982) explores how credit scoring methods work by assigning points to different elements of a credit application. This approach can be implemented in various ways depending on the system design. The credit scoring system is distinct from the overall credit rating of the customer. While the scoring result may determine whether credit is granted or not, more advanced methods can be employed in a second phase. For instance, the points can be compared to a threshold to automatically approve or reject credit. In the meantime, credit analysts can also consider additional factors such as credit history and make a judgment based on real needs. The points obtained from the application form and additional information are summed up to determine the final decision. If the points are high and meet the cutoff, credit is approved; otherwise, it is rejected.

Thompson (1998) highlights the significant role of effective credit and financial management for banks, emphasizing that banks are both influenced by and have an impact on environmental, economic, and social risks. Therefore, banks play a crucial role in promoting the integration of environmental requirements to enhance sustainability. While environmental risks pose challenges to banks, credit risk, including environmental credit risk, also presents lucrative opportunities.

Lee et al. (2002) discuss the rapid growth of the credit industry worldwide and emphasize the importance of loan portfolio management and credit scoring as key technologies for banks. Credit scoring models have become essential tools for financial institutions, especially banks, in distinguishing between creditworthy and non-creditworthy applicants. These models aid in assessing creditworthiness, streamlining credit processing, reducing credit risks and bad debts, and facilitating credit decision-making, ultimately saving time and effort.

## **5. EVALUATION OF THE STUDY**

Credit scoring methods play a vital role in assessing the creditworthiness of borrowers, and they are commonly used by banks and other financial institutions to evaluate their clients, applicants, and potential customers (Smith, 2005). In the context of Pakistan, both local and foreign banks employ various credit scoring methods to assess the creditworthiness of borrowers. The international banking sector adheres to regulatory guidelines set by the Basel Committee on Banking Supervision (BCBS). The BCBS is an international organization composed of representatives from several countries, including Canada, Belgium, Germany, France, Japan, Italy, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, the United Kingdom, and the United States. The committee formulates supervisory standards and principles, aiming to achieve convergence and common standards among banks. In 1988, the committee introduced the Basel Capital Accord, also known as Basel I, which established a framework for capital requirements. In June 1999, the committee proposed a new framework known as Basel II, which aimed to replace the 1988. Basel II consists of three pillars: minimum equity requirements, prudential supervision of capital adequacy and internal assessment, and enhancing market discipline. It grants greater importance to banks' internal methodologies, providing them with more flexibility and autonomy in assessing credit risk. This increased emphasis on internal assessments has led banks to invest significant interest in credit scoring methods, as they strive to enhance the accuracy and reliability of their internal evaluations (Ramsay et al., 2001). These developments reflect the evolving nature of credit scoring and its methods in evaluating creditworthiness. Banks are increasingly relying on their own internal assessments to make informed credit decisions. As Basel II continues to be implemented, credit scoring methods will remain a subject of extensive interest for banks, driving them to refine their internal methodologies to ensure accurate and trustworthy assessments of creditworthiness.

## **6. THEORITICAL FRAMEWORK**

### **6.1. DEPENDENT VARIABLE**

In the context of this study, the independent variable being examined is the "Credit Score." The Credit Score is a numerical representation that reflects the creditworthiness of applicants. A higher credit score typically indicates a greater level of creditworthiness, suggesting that the applicant is more likely to meet their financial obligations. Conversely, a lower credit score suggests a lower level of creditworthiness, indicating a higher risk of default or difficulty in meeting financial obligations.

### **6.2. INDEPENDENT VARIABLES**

The author has discussed fourteen independent variables in this study and these are followings;

- Gender
- Client's locative location
- Education level
- Immediacy towards bank X branches
- Marital category
- Age
- Number of dependents
- Loan term
- profession

- Working period with the last employer
- Working period with the current employer
- Loan period
- Banking references at Bank X
- Monthly net income of the applicant

## **7. RESEARCH METHODOLOGY**

### **7.1 Data Collection**

There are two sources for data collection:

The data from people using interviews, questionnaires and observations collected. This is about time and SMS.

In this study, data was collected from individuals who have previously received the items of interest. The data collection process involved gathering information from various sources, including websites and published materials, to fulfill the research objectives. This approach was chosen for its cost-effectiveness and efficiency in obtaining the necessary data. Specifically, the data was collected from different banks by accessing their respective websites, which allowed for a comprehensive analysis within the constraints of cost and time.

This study was conducted by both practitioners and researchers, aiming to explore the relationship between various variables. The study examines both dependent and independent variables, with credit scores being the dependent variable. The independent variables include gender, client's locative location, education level, immediacy towards bank X branches, and marital category. The researcher employed both bidirectional and unidirectional analyses to investigate the relationship between these variables. The findings suggest that higher credit scores are associated with increased creditworthiness, leading to local and foreign banks in Pakistan granting loans to borrowers. These findings highlight the significance of credit scores in determining borrowers' creditworthiness and their access to loans from financial institutions.

## **8. FINDING ANALYSIS**

In this study, credit scoring methods were employed using secondary data. The findings revealed that individuals with high credit scores are more likely to be granted loans by banks in Pakistan, while those with low credit scores are not supported by the banks. The results demonstrate that individuals with a good credit history and a lower probability of default have a higher chance of obtaining loans from both local and foreign banks in Pakistan. The study aimed to assess the creditworthiness of individuals seeking personal loans in order to enhance the credit approval process and reduce non-performing loans in the banking sector of Pakistan. Another database was utilized, which included borrowers who had obtained personal loans from various commercial banks in Pakistan and had a clear history of no defaults. These findings emphasize the importance of credit scoring methods in evaluating loan applicants and their creditworthiness, thereby facilitating more informed lending decisions by banks and reducing the risk of non-performing loans. In this study, it was found that creditworthiness plays a crucial role in assessing the likelihood of a borrower repaying their debt. Several factors need to be considered when evaluating the creditworthiness of borrowers. Borrowers can improve their chances of obtaining credit by adhering to standards that reflect their creditworthiness and by regularly reviewing their credit reports for any negative items that may impact their creditworthiness. The study identified two key aspects of creditworthiness. The first aspect is the borrower's current capacity to repay the loan or credit. This can be assessed by examining factors such as the borrower's debt-to-income ratio, employment stability, and future income prospects. Lenders use this information to evaluate the borrower's ability to fulfill loan obligations and manage credit effectively. The second aspect relates to the borrower's willingness to repay the debt. This is a more complex factor as there is no definitive formula to determine an individual's intention to repay debts. Signs that may indicate a borrower's repayment tendency include a history of timely debt repayment and absence of negative items on their credit history. Lenders aim to distinguish borrowers who are committed to repaying their debts and make informed decisions about loan approvals. The study also highlighted the significance of an individual's financial background and information in influencing current and future transactions. It emphasized that a person's credit history and financial situation can significantly impact their ability to obtain loans, particularly during financial crises. Individuals with a poor credit rating and a history of bad debts may face difficulties in accessing large loans when needed, especially if they are tenants or lack sufficient collateral. Lenders perceive such borrowers as high-risk and are often reluctant to provide loans. Even if loans are available, they may come with high-interest rates. However, the study suggests that there are potential options for borrowers with bad credit, such as unsecured loans with affordable interest rates, which can serve as a solution to financial challenges.

Overall, the study emphasizes the importance of creditworthiness and the role it plays in influencing loan approvals and financial transactions. It highlights the significance of responsible credit management and maintaining a positive credit history to enhance creditworthiness and improve access to credit opportunities. Many lenders offer cheap unsecured loans for individuals with bad credit, and this information can be found on their websites. It is important for borrowers to carefully research these options and gather information about the different interest rates offered by various lenders. By comparing the rates and terms, borrowers can get an idea of the best available deals and potentially save money on interest. In this study, it was observed that most applicants had an education level lower than expected, with many holding only a General Certificate of Secondary Education or having a poor educational background. Among the applicants, there were some who had no

education at all, which represented a small portion of the total population. It can be concluded that a higher level of education is associated with increased creditworthiness and a lower probability of default, and vice versa.

This finding suggests that education plays a role in determining creditworthiness, with individuals who have a higher level of education being perceived as more creditworthy. The level of education can serve as an indicator of financial literacy, stability, and the ability to manage credit responsibly. Lenders may consider education as a factor when evaluating the creditworthiness of applicants and making lending decisions. It is important to note that while education level may influence creditworthiness, it is not the sole determinant. Other factors such as income, employment stability, and credit history also contribute to assessing an individual's creditworthiness.

## **9. CONCLUSION**

This study revolved around the credit scoring and its importance in assessing the creditworthiness of borrowers. We explored various aspects of credit scoring, including its historical development, the use of credit scores by lenders, and the factors considered in calculating credit scores. Throughout the article, the author referred to several studies and researchers who have examined credit scoring methods and their impact on lending practices. These studies highlighted the significance of credit scores in determining loan approvals and interest rates. They also emphasized the role of factors such as payment history, outstanding credit balances, credit history length, and types of credit used in evaluating creditworthiness.

Furthermore, this article discussed the importance of credit scoring for both borrowers and lenders. For borrowers, a good credit score opens doors to obtaining loans and credit on favorable terms, while a low credit score may limit access to credit or result in higher interest rates. Lenders rely on credit scoring to assess the risk of lending to individuals and make informed decisions based on their creditworthiness. This study also touched upon the use of credit scoring in different sectors, such as personal loans, mortgage loans, and small business loans. The implementation of credit scoring has been instrumental in streamlining the loan evaluation process, improving efficiency, and reducing the likelihood of non-performing loans. Lastly, this article has discussed the potential impact of external factors, such as education level, on creditworthiness. While education level was observed to have some correlation with creditworthiness, it is just one of several factors considered in credit scoring. Income, employment stability, and credit history also play crucial roles in assessing an individual's creditworthiness. Overall, credit scoring has emerged as a vital tool in the financial industry, enabling lenders to make informed lending decisions and borrowers to access credit based on their creditworthiness. As technology and data analytics continue to advance, credit scoring methods are likely to evolve, further enhancing the accuracy and effectiveness of assessing creditworthiness.

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