



Evaluating Microcredit: Effects of the 5Cs of Credit Analysis and Entrepreneur Characteristics on Loan Performance among MSMEs in Yogyakarta

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KEYWORDS

Credit Policy, Non-Performing Loans, 5Cs of Credit Analysis, Policy Effectiveness, Entrepreneurial Finance

ABSTRACT

Micro, small, and medium enterprises (MSMEs) have a significant role in the national economy, creating jobs opportunities, increasing Gross Domestic Product (GDP), and promoting credit stability during times of crisis. However, MSMEs frequently face obstacles when attempting to access financial resources. Although the Indonesia government has implemented several measures to support MSMEs, such as the credit relaxation policy, the risk of loan non-performance loan remains tangible. This study seeks to identify the dominant factors underpinning MSMEs' failure to repay their loans focusing on 5Cs of credit analysis and characteristics of individual entrepreneurs. This study finds that the principles identified in the 5Cs of credit analysis are significantly and negatively correlated with non-performing loans, while the characteristics of individual entrepreneurs is not significantly correlated. Of the 5Cs of credit analysis, capacity and collateral are identified as the most determinant factors behind non-performing loans, though this finding differs from those of several previous studies. Meanwhile this study provides important insight which will enable the banking industry and policymakers to mitigate the credit risks experienced by MSMEs and promote the future sustainability of this sector.

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Introduction

Micro, small, and medium enterprises (MSMEs) have a significant important role in the Indonesian economy with contributing significantly to job creation, Gross Domestic Product (GDP), and exports. MSMEs employ more than 97% of the Indonesian workforce and account for more than 61% of the country's GDP (Kelly et al., 2023). MSMEs have proven highly resilient with the fact that MSMEs contribut

to the recovery of Indonesian economy following the 1998 financial crisis (Kurniawati & Setiawan, 2019; Nugraha & Hendrati, 2023). During Covid-19 pandemic, once again MSMEs assisted to stabilize the national economy with rapidly adapting to difficult conditions.

Despite their important contributions to the Indonesian economy, MSMEs continue to challenge significant difficulties (Abraham & Schmukler, 2017; Chebukhanova & Blokhina, 2020; Judijanto, 2024; Pekmezovic & Walker, 2016; Rifa'i, 2013; Rossi et al., 2015; Wulandari et al., 2020). Complicated administrative procedures, strict requirements for credit access, and low levels of financial literacy all limit MSMEs' ability to access financial resources (OJK, 2024). In May 2024, Indonesia's conventional public banks had IDR 6,990.945 trillion in outstanding loans, with only IDR 1,468.779 trillion – approximately 21% of all loans – allocated to MSMEs. The Indonesian government has recognized MSMEs' limited access to capital and this situation has been exacerbated by the beginning of Covid-19 pandemic in 2020. To promote the growth of MSMEs, government issued several pro-MSMEs credit relaxation policies, such as Regulation of Coordinating Minister for the Economy No. 6/ 2020, which allows microcredit to be issued to MSMEs using simpler administrative requirements.

Microcredit is characterized by small loan amounts, short terms, and minimal collateral, but due to several factors, it is rather considered high risk (Song et al., 2022). Study by Rafaella and Prabowo (2022) ,which investigating the factors contributing to loan non-performance, identified that business risks, disasters (both natural and non-natural), and individual loanees' characteristics as contributing factors. Meanwhile, Nursyahriana et al. (2017) likewise identified several factors which are correlated with non-performance, including loanees' character and capacity, economic conditions, and collateral. Banks frequently have difficulty in assessing the quality of MSMEs during the loan process, as such enterprises often have poor financial records. The risks experienced by MSMEs are also evidenced by the rate of non-performing loans in KUR as microcredit program (4.27%), almost twice the general non-performance rate (2.35%).

Hypotheses Development

5Cs of Credit Analysis

Credit analysis refers to the process through which certain factors are considered when determining whether a loan should be approved. These factors are known as the 5Cs which specify as character, capacity, capital, collateral, and condition of the economy. All of that are considered when ascertaining whether loanees will be able to repay their debts (Izzalqurny et al., 2022; Lailiyah, 2014). The first factor is "character", which refers to the sense of commitment and responsibility possessed by the loanee. Among the most important information considered during the evaluation of a potential loanee's character is their credit history and their

references (Moulton, 2007). Included as the important factors are previous loan repayment, management conditions, compliance with existing regulations, loanee reputation, and general finances (Croux et al., 2020; Hariastuti et al., 2022; Roy & Shaw, 2021; Tran, 2024). In Indonesia, the integrity and credibility of loanees is evaluated based on the credit history in the Bank Indonesia's Debtor Information System (*Sistem Informasi Debitur*, SID) or the information provided by credible parties, such as suppliers, buyers, or business associations (Wulandari, 2021). Gaganis et al. (2023) shows that social norms and perceptions are important factors in credit repayment. This is in line with previous studies conducted by Beaulieu (1994); (Ding et al., 2009) found that the character of the debtor gives nuance to the repayment of credit and understanding it gives creditors the opportunity to avoid bad credit. Contrary to this, Even-Tov et al. (2024) have found that the relationship between the borrower and his or her partner is more influential than the character of one individual. Caloia (2024) has found that despite good character, macroeconomic conditions and institutional rules can make it a bad debt. Based on the previous studies, this study wants to prove whether the relationship between character and bad credit in small businesses in Indonesia is still relevant. So the hypothesis is built as follows.

H1a: Character is significantly and negatively correlated with loan non-performance among MSMEs.

The second and third factors are capacity and capital referring to a loanee's ability to repay a loan by the end of its term (Kodongo & Kendi, 2013). Capacity can be assessed based on various factors, such as potential effect of the loan on business growth, usage for investment, and macro-economic conditions which affect MSMEs (Aydin & Kim, 2024; Karas & Režňáková, 2023; Nair & Gopal, 2024). Meanwhile, capital is an important component for the development and innovation of MSMEs and its prevalence is often associated with the level of public trust (Batrancea et al., 2022; Ström et al., 2025). O'Toole and Slaymaker (2021) stated that it is important to pay attention to capacity and capital turnover instruments such as the debt and income ratio to avoid payment failure. Conversely, Xiao and Kim (2022) argue that despite generally reducing stress, financial capacity may paradoxically increase stress among those with debt delinquency, as able-bodied individuals may be more concerned about their financial situation. (Caloia, 2024); Tran (2024) argue that income levels, economic conditions and macroprudential policies such as loan to income and loan to value significantly affect household repayment capacity and debt levels, especially for low-income individuals and first-time buyers. (Gong et al., 2024); Mikhed et al. (2024) argue that despite good capacity, income manipulation and behavioral factors such as impulsivity can increase credit risk, leading to rapid debt accumulation and higher default rates, especially when credit constraints are relaxed. This study builds the following hypothesis.

H1b: Capacity is significantly and negatively correlated with loan non-performance among MSMEs.

H1c: Capital is significantly and negatively correlated with loan non-performance among MSMEs.

The fourth factor is collateral to assure creditors of a loanee's intent and provides security (Usanti et al., 2019). Benjamin (1996) notes that credit and risk are inexorably intertwined so there must be an attempt to reduce the risk of non-performance. Collateral provides an alternative means of loan repayment thus its value must be equal or greater to the amount borrowed. Collateral provides creditors with a second way out, that is an alternative means of collecting their money when loanees prove incapable of fulfilling their obligations (Garvin et al., 2021; Thalib et al., 2017). Evaluation of collateral serves to determine its sufficiency to cover the amount borrowed, which also includes its value, stability, and potential liquidity, as well as the legality of using this collateral to mitigate risks (Ferretti & Ferretti, 2016). Based on the description above, the hypothesis is constructed as follows.

H1d: Collateral is significantly and negatively correlated with loan non-performance among MSMEs.

The fifth factor is condition of the economy, that is a macro-evaluation which examines the general economy and its implications for business prospects (Simon & Simon-András, 2019). Macro-economic factors influence MSMEs' general ability to access credit from banks. The specific conditions of their sector must be considered by banks as well, as this mitigates any risks which may stem from general health of the economy (Kochański, 2019). Despite its difficulties, creditors must be certain that potential loanees are active in a healthy sector, thereby minimizing risks (Glukhov, 2014). (Bams et al., 2021); Everett and Watson (1998) have found that economic shocks related to customer industries can lead to increased default rates among small businesses. This is because small business industries often rely on a wider customer base. Other economic conditions factors found in previous studies include credit availability, bank behavior, structural factors, and government policies. During economic downturns, small banks tend to reduce their loan portfolios, leading to small business contraction and increased defaults (Hancock & Wilcox, 1998; Patti et al., 2001). In addition, credit crunches limit small businesses' access to funding when economic conditions worsen. Government policies, such as liquidity support during the COVID-19 pandemic, may delay small business bankruptcies, but they also have the potential to create a bankruptcy gap that impacts long-term economic recovery. In addition, structural constraints such as low managerial capacity and lack of capital exacerbate small business bankruptcies, especially during periods of economic downturn (Dörr et al., 2022; Hall, 1992). Based on the description above, the hypothesis is constructed as follows.

H1e: Condition of the economy is significantly and negatively correlated with loan non-performance among MSMEs.

Characteristics of Individual Entrepreneurs

Study by Brockhaus and Horwitz (2002) prove the need for achievement, locus of control, innovation, and self-efficacy are all indicators which strongly influence entrepreneurs' success. They provide empirical evidence in which the locus of control correlates positively with higher levels of achievement. Consequently, MSMEs' success is informed by the availability of information as well as individuals' entrepreneurial spirit and confidence in their ability to succeed. Meanwhile, according to Szirmai et al. (2011), innovation refers to acts and processes which introduce new methods, means, or instruments, thereby affecting the process through which business is conducted.

Locus of control refers to individuals' belief in their ability to control events in their lives. The internal locus refers to individuals' belief in personal control, while the external locus refers to individuals' belief that external factors influence their ability to succeed (Steca et al., 2009). Salamanca et al. (2020); (Wang et al., 2008) have found that individuals with a stronger locus of control tend to engage proactively in risk assessment and thus exhibit lower risk perceptions. They are more cautious or conservative in making decisions including those that result in future losses such as bad debts. Based on (Altman et al., 2023), Omega Score, a new predictor of SME default, highlights the importance of management-related variables in predicting credit default. While it does not directly address locus of control, it suggests that management characteristics, which may include psychological traits such as locus of control, are important in assessing credit risk. Thus this study formulates the following hypothesis.

H2a: Locus of control is significantly and negatively correlated with loan non-performance among MSMEs.

Furthermore, individuals' capacity for innovation is influenced by their internal locus of control and their faith in their ability to succeed. Schjoedt and Shaver (2012) also argue that individuals' belief in their capacity to succeed also informs their competence and predicts their innovativeness. Strober et al. (2019) states that individuals' belief in success affects their confidence which enable them to identify and use opportunities, as well as implement innovations. Meanwhile, argument by (Bygrave, 1993) shows that belief in success will inform individuals' ability to identify opportunities, create innovations, and act with flexibility. According to Bilal et al. (2022) SME owners with a strong individual entrepreneurial orientation, characterized by innovation, risk taking, and proactivity, are more sensitive to recognizing and exploiting financial opportunities including access to finance, and have the potential to reduce the risk of credit default by securing necessary funds. but on the contrary, innovative SMEs often face higher credit constraints compared to non-innovative ones. This causes banks to tend to be more

selective in providing loans to them, especially those involved in various innovation typologies, which can increase the possibility of credit default if financial needs are not met (Brancati, 2015; Brown et al., 2022; Nguyen et al., 2020; Wu et al., 2016). This literature debate forms the basis for formulating the following hypothesis.

H2b: Capacity for innovation is significantly and negatively correlated with loan non-performance among MSMEs.

Moreover, self-efficacy refers to individuals' belief in their ability to achieve success and overcome challenges. Bandura (2009) argues that individuals with high levels of self-efficacy tend to have greater confidence in their ability in performing and controlling themselves when encountering difficult situations. In other words, self-efficacy refers to individuals' motivation for success. It also informs their ability to think, act, and motivate themselves (Deliana, 2023; Sánchez-Rosas et al., 2022). According to Duarte et al. (2019), entrepreneurs with high self-efficacy are more likely to take calculated risks and anticipate the consequences of their actions, which can lead to better financial management and reduce the likelihood of credit default. But on the other hand, self-efficacy causes overconfidence which can lead to increased risk-taking behavior. This can be manifested in the form of excessive borrowing which can increase the possibility of default (Puglisi et al., 2022). Thus, this study builds the following hypothesis.

H2c: Self-efficacy is significantly and negatively correlated with loan non-performance among MSMEs.

The need for achievement refers to individuals' ability to realize their goals during times of great difficulty (Lavrijsen et al., 2023). When there is a need for achievement, individuals tend to enjoy new challenges and rarely feel satisfied with their prior achievements (Liu & Nesbit, 2024). The need for achievement drives individuals to try new things and learn new skills. Liu and Nesbit (2024) offers an opinion that individuals' need for achievement is part of a continuing learning process which allows them to achieve expertise and improve their performance. SME owners with a high need for achievement tend to implement best and effective business practices, also proactive risk management, which can improve the financial health of the company and reduce the risk of default (Altman et al., 2023; Chakabva & Tengeh, 2023).

Research Method

This study applies a quantitative approach by using partial least squares structural equation modeling (PLS-SEM) to examine the correlations between the studied variables. This study also uses a survey which was distributed to micro-entrepreneurs in the Special Administrative Region of Yogyakarta, selected due to its high density of MSMEs and relatively large number of non-performing microcredit loans. Yogyakarta covers an area of 3,133.15 km², and home to 235,899 MSMEs. According to a 2024 report by Bank Indonesia, rate of loan non-

performance is higher in Yogyakarta than the national average with a net rate of 3.19% and a gross rate of 3.62% – far above the national average of 0.82% (net) and 2.90% (gross).

In this study, 321 questionnaires as sample were collected with 315 to be analyzed using SmartPLS. PLS-SEM can be used to estimate complex relationships, allowing predictions without imposing strict restrictions on data or requiring specific ties (Chin, et.al., 2008; Dijkstra, 2010). More specifically, PLS-SEM allows determinants to be ascertained by directly evaluating the scores of latent variables using flexible residual covariant structures to identify factors and making predictions based on small sample sizes, asymmetric distribution, and interdependent observation (Chin, 1998; Wetzels, et.al., 2009). All informants in this study received a micro-loan which was varied from 0 to 20 million rupiah in the amount, were active in the food and clothing sectors (the largest sectors in Yogyakarta), and operated their businesses for at least one year.

Data Analysis

In this study, data are analyzed using the embedded two-staged approach which allows the identification of the second order score dimensions of the 5Cs of credit analysis and the characteristics of individual entrepreneurs. By using this model, the scores of latent variables are used to measure the influence of the 5Cs and the characteristics of individual entrepreneurs. The first stage construction is discussed below.

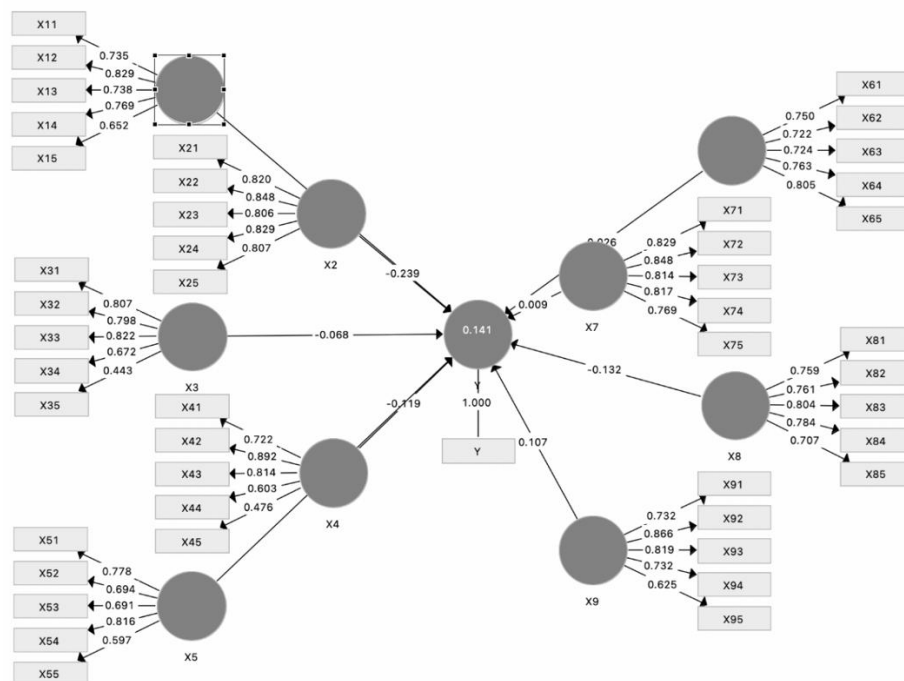


Figure 1 First Stage Construction

In the above figure 1, variables X1-X5 are used as metrics for measuring the 5Cs, while variables X6-X9 are used as metrics for measuring the characteristics of individual entrepreneurs. The outer loading value is subsequently verified to determine the strength of the correlation between the indicator and the represented construction. The outer loading value used in this study is 0.7. As shown in the above figure, several indicators do not meet this outer loading value: X13, X15, X35, X44, X45, X54, X55, and X62. Consequently, these indicators have been removed from the model to be produced the following construction.

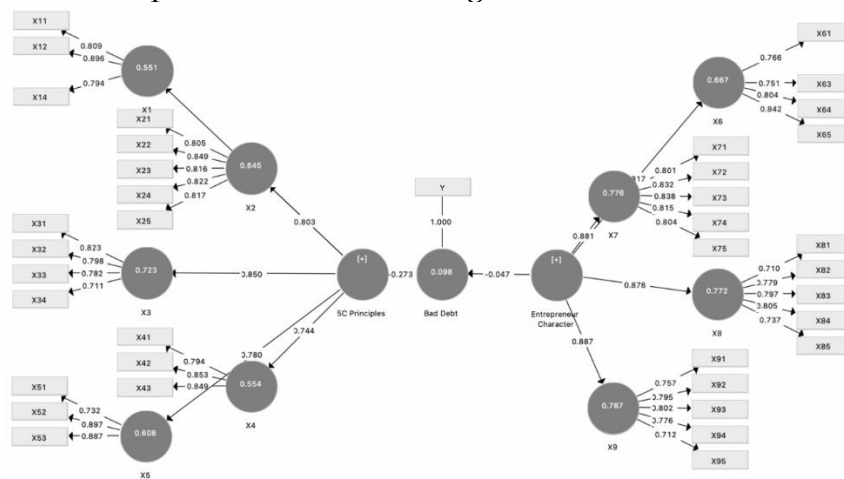


Figure 2 Second Stage Construction

The above figure 2 shows the model after removing the indicators which fall below the loading factor. Consequently, the latent variables X1-X5 are used as measures of the 5Cs of credit analysis and the latent variables X6-X9 are used as measures of the characteristics of individual entrepreneurs. Below is the final model described on figure 3.

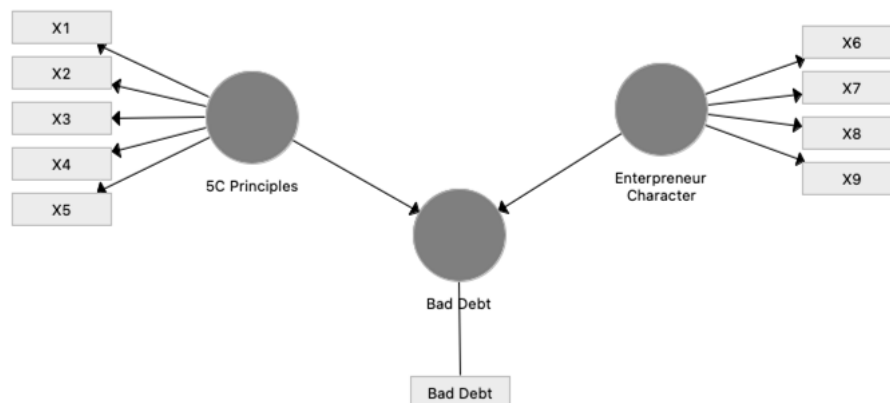


Figure 3 Final Model

Descriptive Statistics

Descriptive statistics are used to summarize and describe data collected through quantitative approaches. Descriptive statistics for this study are presented in table 1 below.

Table 1 Descriptive Statistics

Variable	Mean	Median	Min	Max
X1 (Character)	4.29	4	1	5
X2 (Capacity)	3.86	4	1	5
X3 (Capital)	4.06	4	2	5
X4 (Collateral)	4.15	4	2	5
X5 (Condition of the Economy)	4.09	4	2	5
X6 (Locus of Control)	4.18	4	1	5
X7 (Capability for Innovation)	4.16	4	2	5
X8 (Self-Efficacy)	4.15	4	2	5
X9 (Need for Achievement)	4.1	4	2	5
Y (Non-Performing Loan)	1.29	1	1	4

Validity and Reliability

The model is evaluated based on the loading factor, average variance extracted (AVE), and discriminant validity values. Meanwhile, the loading factor refers to the correlation between the latent variables and the indicators in the model; if the value of the loading factor is greater than 0.7, the indicator adequately represents the construction. As seen in table 2 below, the latent variables of all variable are each more than 0.7. The average variance extracted (AVE) is used to determine how well an indicator represents the latent variables, with an AVE greater than 0.5 indicating that an indicator effectively represents the latent variable, and an AVE less than 0.5 indicating that an indicator does not effectively represent the latent variable.

Table 2 Latent Variable

Variable	Entrepreneur Character	Non-Performing Loans	5Cs of Credit Analysis
Y (Non-Performing Loan)		1.000	
X1 (Character)			0.7501
X2 (Capacity)			0.7967
X3 (Capital)			0.8630
X4 (Collateral)			0.7776
X5 (Condition of the Economy)			0.7692
X6 (Locus of Control)	0.8354		
X7 (Capability for Innovation)	0.8643		
X8 (Self-Efficacy)	0.8959		
X9 (Need for Achievement)	0.8711		

Composite Reliability and Convergent Validity

During the second stage, the model is evaluated based on its internal consistency and its composite reliability (Joreskog, 1971). Composite reliability should have a value greater than 0.7 which indicating that an instrument is reliable and has a high level of consistency. The table 3 below shows that the composite reliability value of each variable is greater than 0.7 to indicate that each instrument is consistent in measuring the studied variables.

Table 3 Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Entrepreneur Characteristics	0.8902	0.9025	0.9236	0.7516
Non-Performing Loans	1	1	1	1
5Cs of Credit Analysis	0.8542	0.8753	0.8937	0.6277

Third is establishing the convergent validity of each construction. The validity metric used to evaluate convergent validity is the average variance extracted (AVE). To be acceptable, AVE must be at least 0.5. As shown in the table 3 above, AVE value for each variable is greater than 0.5; consequently, convergent validity is established.

Discriminant Validity

The fourth stage of the model evaluation process is determining its discriminant validity, which is used to determine the extent to which a construction differs from other constructions within the structural model. Discriminant validity is measured by comparing AVE of every construction, establishing the correlation of constructions in the same quadrant. All constructions are measured reflectively in the structural model. The variation between all constructions must not exceed the value of AVE. As seen at table 4 bellow, all value of discriminant validity are established.

Table 4 Discriminant Validity

	Entrepreneur Characteristics	Non- Performing Loans	5Cs of Credit Analysis
Entrepreneur Characteristics	0.8670		
Non-Performing Loans	-0.2682	1	
5Cs of Credit Analysis	0.6097	-0.3306	0.7923

Evaluation of the Structural Model

To evaluate the structural relationship, collinearity must be examined to ensure that there is no regression bias. This process resembles the evaluation of the formative

measurement model, though the latent variable score of the exogeneous construction is used to evaluate VIF value. VIF value of greater than 5 indicates that an issue with collinearity may exist among the predictive constructs (Mason & Perreault, 1991; Becker, et.al. 2015). Ideally, VIF value should be 3 or lower. If collinearity is a problem, the common response is to create a higher-order model which is supported by existing theory (Hair, et.al., 2017).

Table 5 Colinearity Statistics

	VIF
Y (Non-Performing Loan)	1
X1 (Character)	1.6731
X2 (Capacity)	1.6674
X3 (Capital)	2.4476
X4 (Collateral)	1.7616
X5 (Condition of the Economy)	2.0186
X6 (Locus of Control)	2.0739
X7 (Capability for Innovation)	2.5425
X8 (Self-Efficacy)	2.6515
X9 (Need for Achievement)	2.8716

The above table 5 indicates that all VIF values are less than 5. Consequently, collinearity is not a problem.

Results

To test the research model is also to test the hypotheses. The below table explores the influence of the 5Cs of credit analysis and the characteristics of individual entrepreneurs on loan non-performance. The original sample value shows a channel coefficient between the tested variables. Positive values indicate a positive correlation, while negative values indicate a negative correlation. The sample mean refers to the mean of the channel coefficient identified in testing. Meanwhile, standard deviation refers to the extent to which values deviate from the mean. In this context, it shows the extent to which the channel coefficient deviates from the sample bootstrap. T statistics indicate the statistical significance of the channel coefficient, the higher the T statistics value, the greater the statistical significance of the channel coefficient. As for P values, it also indicates the significance of the correlation between variables, that the lower the P values, the more statistically significant the correlation between the variables. In this study, significance is identified at a level of significance of 95% (1.96). Consequently, the 5Cs of credit analysis are found to have a significant influence on loan performance. Significance is also supported by the P values in which the P values are lower than

the alpha level so the correlation may be deemed significant. Also this study found that a level of significance of 95% is used, with an alpha level of 5% (0.05). Therefore, the application of the model to microcredit recipients in Yogyakarta produces the following results.

Table 6 Research Result

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
5Cs of Credit Analysis → Non-Performing Loans	-0.3294	-0.3313	0.0813	4.0509	0.0001
Entrepreneur Characteristics → Non- Performing Loans	-0.0014	-0.0064	0.0972	0.0147	0.9883

This study also tested the latent variables representing the 5Cs of credit analysis and the characteristics of individual entrepreneurs vis-à-vis their influence on loan non-performance. This test is intended to determine what dominant variables most significantly influence loan performance. Below is the testing model presented.

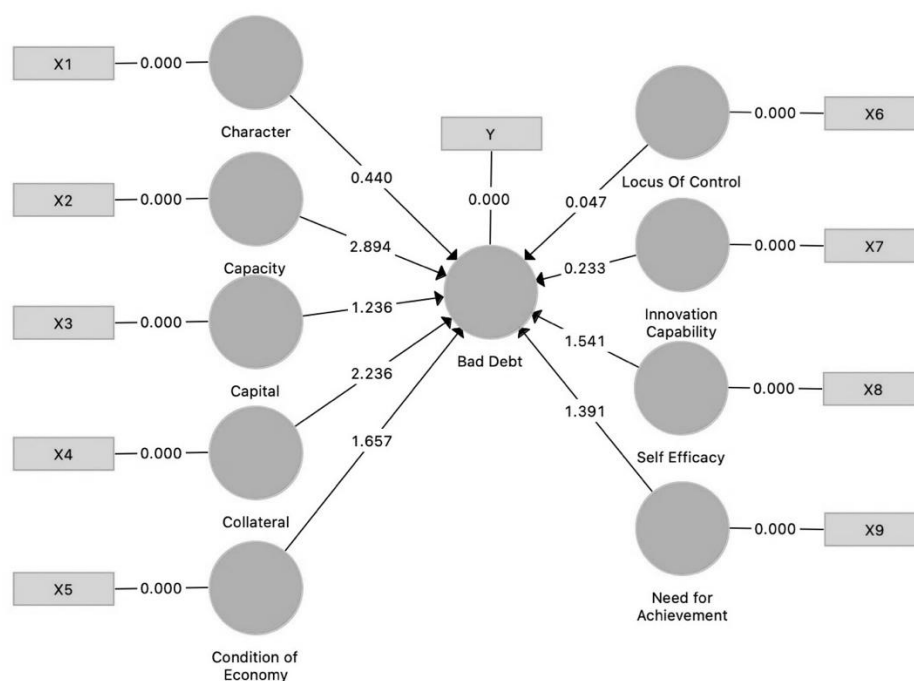


Figure 4 Testing Model Latent Variable

The above figure 4 shows the model used to test the latent variables X1 through X9. The results of testing are presented in table 6 below.

Table 6 SEM Variable Test Result

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
X1 (Character) > Y (Loan Non-Performance)	-0.0284	-0.0314	0.0638	0.4455	0.656
X2 (Capacity) > Y (Loan Non-Performance)	-0.2622	-0.2583	0.089	2.946	0.0032
X3 (Capital) > Y (Loan Non-Performance)	-0.11	-0.1163	0.0894	1.2303	0.2186
X4 (Collateral) > Y (Loan Non-Performance)	-0.1451	-0.1366	0.0644	2.2517	0.0244
X5 (Condition of the Economy) > Y (Loan Non-Performance)	0.1481	0.1442	0.0903	1.6404	0.101
X6 (Locus of Control) > Y (Loan Non-Performance)	0.0052	0.011	0.1141	0.0452	0.964
X7 (Capability for Innovation) > Y (Loan Non-Performance)	-0.0266	-0.0265	0.1163	0.2288	0.819
X8 (Self-Efficacy) > Y (Loan Non-Performance) > Y (Loan Non-Performance)	-0.1521	-0.1487	0.099	1.5366	0.1245
X9 (Need for Achievement)	0.1683	0.1647	0.1223	1.376	0.1689

This testing has identified two latent variables with a significant and negative influence on loan non-performance, to be specific capacity (X2) and collateral (X4), with P values of 0.0244 and 0.0032, respectively. These results support two hypotheses, specifically H1b (capacity is significantly and negatively correlated with loan non-performance) and H1d (collateral is significantly and negatively correlated with loan non-performance). Interestingly, this study has identified latent variables which are positively (but not significantly) correlated with loan non-performance, particularly condition of the economy, locus of control, and need for achievement. In the context of this study, results which are not statistically significant indicate that insufficient evidence exists to support any influence between the variables. Nevertheless, despite the lack of statistical significance, this positive correlation may have important practical or theoretical implications.

Conclusion

This study has examined the correlation between the 5Cs of credit analysis and the characteristics of individual entrepreneurs on loan non-performance. The findings show a significant and negative correlation between the 5Cs of credit analysis and loan non-performance; in other words, higher values in the 5Cs of credit analysis will reduce the risk of loan non-performance. This supports the findings of previous studies which have shown the importance of the 5Cs of credit

analysis in mitigating the risk of non-performance (Izzalqurny et al., 2022; Ritonga & Rahmani, 2023). Intriguingly, this study has not found any significant correlation between the characteristics of individual entrepreneurs and loan non-performance. Although these characteristics do influence the success of MSMEs, there is no empirical evidence that they are correlated with entrepreneurs' repayment of their loans (Rahmawati et al., 2023).

Further testing was conducted to identify the dominant factors and latent variables. Two variables were identified as having a significant and positive effect on loan non-performance, specifically capacity and collateral. These results support two hypotheses, that is H1b and H1d, while the remaining hypotheses are rejected. The findings of this study contradict those of (Saputra et al., 2020), who found that collateral does not affect loan performance. This study has been limited to Indonesia; consequently, future research should be broader in scope, extending its surveys to cover other developing countries. Regarding the findings of which capacity and collateral influence loan performance, future research could confirm this by using a different approach (perhaps a qualitative approach) to explore the extent to which capacity and collateral significantly affect loan performance.

This study highlights the importance of more focused policies in supporting credit sustainability for MSMEs. Policy makers can consider strengthening credit guarantee programs by adjusting capacity requirements if collateral as a major factor influencing non-performing loans has been eliminated. In addition, credit relaxation policies can be re-evaluated to be more effective in reducing default risks, by providing incentives for banks to conduct more comprehensive credit assessments. For the banking industry, these findings are useful for improving the credit evaluation system for MSMEs by emphasizing more on the capacity and main collateral in the form of businesses owned by the borrower. Banks can also strengthen post-credit monitoring mechanisms to reduce the risk of problematic credit.

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