MSME LOAN REPAYMENT PERFORMANCE BASED ON BUSINESS OWNERS' DEMOGRAPHICS AND BUSINESS CHARACTERISTICS

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Abstract

Reminding the importance of MSME, academics should examine and comprehend the relevance of the issues faced by micro and small enterprises to obtain comprehensive knowledge. Microfinancing is often linked to significant risk due to the potential for borrower default on loans. This research seeks to furnish practitioners with an in-depth comprehension of the demographic trends and characteristics of MSME owners that affect the challenges associated with loan repayment. Furthermore, it seeks to enhance understanding of the challenges faced by these enterprises. The findings from the Structural Equation Modelling (SEM) Partial Least Squares (PLS) analysis using SmartPLS version 4 to 35 participants indicated that the latent variables, particularly owner demographics, significantly influence loan repayment challenges. Nonetheless, it has been demonstrated that business characteristics do not substantially influence loan repayment challenges.

Keywords: MSME; financing; loan repayment; owner demographics; business characteristics

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) have contributed to both global and local economies. MSMEs significantly contribute to Indonesia's economic development, comprising 99% of all business entities. By 2023, the number of MSMEs reached over 66 million. Micro, Small, and Medium Enterprises (MSMEs) account for 61% of Indonesia's Gross Domestic Product (GDP), amounting to IDR 9,580 trillion. Micro, Small, and Medium Enterprises (MSMEs) employ around 117 million individuals, constituting 97% of the overall workforce. However, MSME still faces challenges such as embracing innovation and technology, digital literacy, productivity, legal compliance or licensing, financing, branding and marketing, human resources, standardization and certification, equitable access to coaching, training, and facilitation, and the establishment of a unified database (Kadin Indonesia, 2025). As a result, it is crucial to assist SMEs in facilitating their expansion.

As MSME financing is still a big hurdle for MSMEs, the availability of funding is a key aspect in the advancement of MSMEs. Past research highlights that external investment addresses the capital requirements of MSMEs and promotes innovation, especially within established companies (Sawitri, 2023). Previous

investigations demonstrate the intermediary function of financial access in the correlation between strategic orientations (including market orientation and technological innovation) and the performance of SMEs. In this perspective, financing serves as a facilitator—when organizations obtain requisite capital, they are more adept at executing plans that promote growth and competitive advantage (Syahdan et al., 2020). Jamal documents a strong positive correlation between finance and SME performance in Pakistan, emphasizing that the implementation of suitable financial methods can markedly improve liquidity management, development prospects, and long-term sustainability (Jamal et al., 2024).

However, the risk of payment is equivalent to financing for MSMEs. MSMEs demonstrate a greater likelihood of loan default than bigger corporations, mostly due to structural, operational, and financial weaknesses. Explanatory variables that are suspected of causing MSMEs to experience the risk of failing to pay credit, which has an impact on subpar Non-Performing Loans (NPL), include debt character factors, financial factors, management factors, operational factors, and market and marketing factors (Luhgiatno et al., 2022). This has led to a significant number of formal financial institutions being hesitant to provide financing for MSMEs.

The owner of MSMEs also plays an important role in MSME's success. Numerous studies have investigated the correlation between owner demographics, business attributes, and loan repayment capacity, yielding insights into the factors that affect this relationship. Research has repeatedly identified demographics—such as age, education, income level, and gender—as critical indicators of loan repayment behavior in small and medium-sized firms (SMEs). Meanwhile, past research has examined diverse owner demographics, such as educational attainment and family size, illustrating their influence on the credit repayment behaviour of micro, small, and medium enterprises (MSMEs) (Nijam, 2016). This paper presents the loan repayment risk matrix, demonstrating the complex nature of loan repayment risk across several demographic characteristics. Moreover, the importance of owner demographics in loan repayment strengthened by the research by Sudarnice (2023) that use the influence of entrepreneurial abilities to mediate the connection between bank financing and SME performance, which is certainly expected to strengthen the ability of the owner to make loan repayment. Microfinancing is often linked to a high level of risk because there is a significant chance of borrowers failing to repay their loans, acknowledges owners' substantial impact on the decision-making process, specifically about financial affairs.

Numerous factors affect MSMEs in meeting their duties, one of which is the nature of the firm. Business characteristics can be discerned from the business's origin, finance sources, and enterprise scale (Indarto & Santoso, 2020). An individual who initiates a business independently is typically more prone to success than one who merely perpetuates a family enterprise, as the learning experience enhances entrepreneurial acumen. The source of financing influences the capital costs incurred by an MSME, and selecting an unsuitable funding source may result in payback default, threatening the business's viability. As operational size expands, financial requirements increase correspondingly, whether derived from internal or external sources. External financing frequently incurs reduced expenses, rendering loans appealing for MSMEs aiming to invest. Therefore, prudent decision-making is crucial when choosing external money to prevent excessive investment that could encumber loan repayment. Consequently, an entrepreneur's capacity to execute judicious financial decisions is crucial for the viability of MSMEs (Abdullah & Mansor, 2018).

Additionally, the influence of business characteristics, such as type of business, socioeconomics, and institutional factors also examined by Kassegn and Endris (2022). Essel et al. (2019) determined that, alongside entrepreneurial and business attributes, external factors including economic conditions, governmental regulations, and institutional support also affect the success of MSMEs. Economic considerations encompass consumer purchasing capacity and competitive dynamics among businesses. Institutional considerations may encompass access to banking services for business finance and the availability of training programs to augment the entrepreneurial competencies of small business owners. Government policies seek to enhance the sustainability of MSMEs through several programs and efforts from various ministries. Other research indicates that business factors encompass demography, personal attributes, entrepreneurial attitude, and entrepreneurial preparedness ((Islam et al., 2011). Demographic attributes encompass age and gender. Studies demonstrate that the optimal age range for entrepreneurial success is between 22 and 44 years, with age positively influencing loan repayment capacity (Silalahi et al., 2021). In the context of gender, men are reported to attain greater entrepreneurial success than women (Kolvereid, 1997). Furthermore, gender positively affects

loan repayment capacity (Silalahi et al., 2021). A study by Putra et al. (2023) indicates that business factors, including service sector categorization, income level, and age, significantly influence the timely repayment of KUR (People's Business Credit) loans at PT. BNI.

Research by Wong et al. (2024; 2018) indicates that funding decisions for Micro, Small, and Medium Enterprises (MSMEs) are affected by multiple aspects, including legal status, industrial sector, business development stage, company size, and export activity. Moreover, prior studies have indicated that financing decisions for MSMEs are influenced by human attitudes, life events, and individual viewpoints. Additional research has examined the moderating influence of financial literacy on loan repayment behavior, as evidenced by a systematic review by Supriyadi et al. (2024). Moreover, numerous research indicates that loan attributes, such as terms and conditions, substantially affect payback rates. Akram et al. (2023) stated that diverse loan characteristics serve as mediating variables between firm performance and repayment challenges, suggesting that advantageous loan conditions can enhance repayment results.

The capacity for loan repayment has been thoroughly examined across diverse contexts, revealing multiple insights and factors that affect borrowers' ability to fulfil their loan commitments. Research indicates that numerous economic and social factors substantially affect loan repayment behaviour. The Ability to Pay Theory posits that borrowers' financial capacity is fundamental to their loan repayment behaviour. The Ability to Pay Theory, a fundamental principle in taxation and public finance, asserts that tax liabilities should correspond to the economic capacity of taxpayers. This argument posits that fairness and equity dictate that persons with more financial means should assume a larger tax burden. This concept underscores two fundamental components: the distribution of fiscal responsibility and the moral and ethical duties of taxpayers to contribute to public goods commensurate with their well-being. Ayoub and Matiku (2022) utilized this theory within the framework of higher education loans in Tanzania, demonstrating that income levels and financial commitments significantly affect borrowers' loan repayment capacity. Additional research has identified a substantial correlation between loan interest rates and the repayment capacity of borrowers, underscoring the significance of borrowers' economic conditions and income in determining repayment performance (Adu et al., 2019).

According to prior research, determinants of loan repayment are categorized into three primary groups: demographic factors, individual business attributes, and institutional factors (O. Olateju, 2024). The factors influencing loan repayment encompass socioeconomic elements, managerial approach, financial literacy, loan attributes, borrower traits, and business classification (Nawai & Shariff, 2012). This study examines the demographic attributes of business proprietors and the characteristics of their enterprises. These two variables are critical determinants that directly affect the managerial and operational competencies of MSMEs. Ethnicity and education level are demographic factors that might affect management and operational competence. Ethnicity constitutes a facet of the demographic attributes of company proprietors. Ethnicities include cultural heritage, value frameworks, or cultural networks that might impact MSMEs in financial management, business operations, and engagement with financial institutions. Some ethnic groups exhibit a strong sense of social solidarity and assist one another in fulfilling debt obligations. Members of specific ethnic groups possess enhanced access to supportive social networks, such as cooperative communities, which can bolster their capacity to fulfil their duties. Basu and Goswami's (1999) study revealed that the loan repayment ability of Indian and Pakistani ethnic communities in the UK surpasses that of other ethnic groups, attributed to robust social solidarity in their interactions. Ndubisi's (2007) study revealed that the sustained success of MSMEs and their loan repayment capacity are influenced by cultural and ethnic backgrounds. Han and Melecky's (2013) study revealed that within specific ethnic groups, insufficient financial inclusion can heighten the likelihood of default. Inadequate access to bank funding compels MSMEs from ethnic minorities to depend more on high-cost informal loans, hence exacerbating their long-term repayment difficulties. Studies demonstrate that borrowers from underrepresented minority groups frequently have difficulties in loan repayment due to inherent economic disadvantages. Kelchen and Li illustrate that attributes associated with economic adversity, such as being a first-generation college student or belonging to an underrepresented minority group, are linked to diminished loan payback rates, particularly in long-term contexts (Kelchen & Li, 2017).

As past research has already discussed owner demographics and owner ability to loan repayment, this research adds business characteristics factors (number of employees and marketing method) as the predictors of loan repayment difficulties to give more insight and consider the condition of the firms as loan repayment. This

study examines how the demographics of business owners and the characteristics of micro and small businesses affect the extent of loan repayment difficulties experienced by MSMEs. This research aims to give practitioners insights into the owner demographic trends and features of micro and small enterprises that impact the repayment difficulty level. It also seeks to enhance understanding of the specific challenges faced by these firms.ms.

METHOD

Various factors affect the loan repayment performance of small and medium-sized enterprises (SMEs). Understanding these characteristics is crucial for financial institutions and lenders to improve loan repayment performance and guarantee borrowers' financial viability. Past research has already discussed how owner and firm characteristics affect firm performance. The owners' demographic profile and business features substantially impact borrowers' repayment performance. The factors influencing loan repayment have been classified into three primary categories: demographic, individual business characteristics, and institutional factors (O. Olateju, 2024). The determinants encompass socioeconomic qualities, management style, financial literacy, loan characteristics, borrower characteristics, and business types(Nawai & Shariff, 2012). Moreover, the financing choices of micro, small, and medium enterprises (MSMEs) are impacted by multiple elements, such as their legal standing, industry, business development phase, company size, and export operations. Additionally, the financing decisions made by MSMEs are influenced by personal attitudes, life events, and outlook, as discovered by past research (Wong et al., 2018). Moreover, research has investigated the moderating effect of financial literacy on loan repayment behaviour according to a systematic review conducted by Supriyadi et al. (Supriyadi et al., 2024).

Furthermore, studies indicate that loan attributes, including the terms and circumstances, significantly influence payback rates. Akram et al. (Akram et al., 2023) assert that diverse loan characteristics mediate the relationship between business performance and repayment difficulties, indicating that advantageous lending conditions can improve repayment results. Knowing that loan repayment capacities have been thoroughly examined in diverse contexts, uncovering numerous ideas and aspects that affect borrowers' ability to fulfil loan obligations. The literature suggests that several economic and social factors significantly influence loan repayment behaviour. A widely accepted idea is the Ability to Pay theory, which asserts that a borrower's financial capacity is fundamental to their repayment behaviour. The Ability to Pay theory, essential to taxation and public finance, asserts that tax obligations should align with taxpayers' financial capacity according to their economic status. This theory is basically based on concepts of equity and fairness, asserting that individuals with higher financial resources should bear a larger portion of the tax burden. The idea emphasizes two essential elements: the allocation of fiscal responsibilities and the moral and ethical duties of taxpayers to support public goods in accordance with their wellbeing. Ayoub and Matiku (Ayoub & Matiku, 2022) identified this idea for higher education loans in Tanzania, indicating that income levels and financial obligations directly influence borrowers' loan repayment capacity. Another research identified a substantial correlation between lending rates and borrowers' repayment ability, underscoring the importance of economic conditions and borrower income in repayment performance (Adu et al., 2019). Therefore, based on the theory and past research, two hypotheses are formulated in this research, and Figure 1 illustrates the research framework employed in this study.
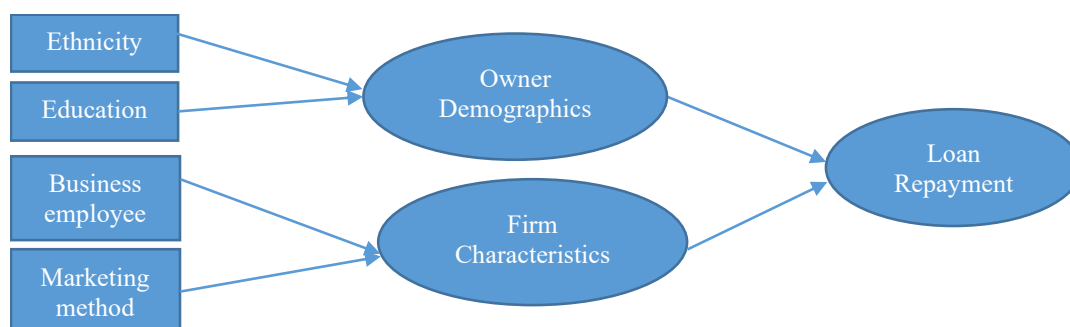

Figure 1. Research Framework (source: processed)

This study employs a quantitative research methodology, utilizing logical approaches to address challenges. Primary data gathering, or primary data collection, refers to the process of collecting data to test research hypotheses that have been formulated based on prior studies. The data collection approach for MSMEs in Bandung City employs a random sampling selection method, targeting MSMEs affiliated with the Rumah BUMN community and those operating in the Tamansari area. The population of Bandung City is projected to reach 41,220 individuals by 2022, as stated by the cited source (https://jabar.bps.go.id/). The data was gathered by disseminating a questionnaire to 89 participants; however, only 35 participants sought loans or finance.

A questionnaire was used for data gathering. The independent variables are latent variables which used ethnicity and education as their indicators. Additionally, firm characteristics encompass factors such employee number and marketing tactics indicators. Meanwhile, the dependent variables utilize an ordinal scale to measure the difficulty experienced in repaying loans. The study utilized Partial Least Square Equation Modelling (PLS-SEM) as the analytical technique, specifically employing SMART PLS version 4. PLS-SEM is utilized because of its appropriateness for studying data that does not follow a normal distribution or when there is a limited amount of research data available (Ghozali, 2021). A total 35 micro, small, and medium enterprises (MSMEs) were chosen as the sample for this investigation. Based on calculations using G-power, f-squared is 0.35, with alpha of 0.90, number of predictors = 2, and power of 0.90, indicating that the sample that must be at least 33. G*Power is a widely used tool for conducting statistical power analyses, enabling researchers to determine suitable sample sizes for various experimental designs (Kang, 2021). This software is versatile, enabling researchers to do a priori, post hoc, and sensitivity analyses, which are crucial for hypothesis testing and experimental research design. Moreover, according to Hoyle (1999), Zuhdi et al. (2016), the research framework employed in this study requires a minimum sample size of 30 for structural equation modeling (SEM) partial least squares (PLS) data processing.

RESULTS

The owner demographics indicators in the table below include ethnicity, and education. The factors used to assess firm characteristics included the business employee and marketing method used.

Table 1. Descriptive Statistics

Latent Variables	Manifest variables	Characteristics
Owner Demographics	Ethnicity	65 or 83% Sundanese
		10 or 13% Javanese
		1 or 1% Bugis
		2 or 3% Minang
	Education	3 or 4% Junior High School (SMP)
		44 or 56% Senior High School (SMA/SEDERAJAT)
		10 or 13% Diploma
		20 or 26% Bachelor's degree
		1 or 1% Postgraduate (S2 dan S3)
Business Characteristics	Employee	1: 0 employee 8 23%
		2: 1-10 employees 26 74%
		3:10-50 employees 1 3%
	Marketing method	1: online 1 3%
		2: offline 11 31%
		3: online dan offline 23 66%
Loan Repayment		1: very disagree 6 17%
		2: disagree 6 17%
		3: neutral 13 37%
		4: agree 5 14%
		5: very agree 5 14%

In the initial PLS technique, all loading factor values for the variables must surpass 0.5 (indicating a moderate level) to ensure that the variable structures effectively capture the latent variables. The variables of ethnicity and education level were used to obtain the underlying variable of owner demographics in this

research. The latent business characteristics variables can be measured using the number of employees and the marketing approach construct. Since the outer loadings of each variable exceed 0.5, all indicators have already satisfied the conditions for convergent validity. In addition to construct validity, test reliability is evaluated using composite reliability. Composite reliability must be greater than 0.7 for constructing indicators to be considered reliable (Ghozali, 2021). Meanwhile, the AVE value must exceed 0.5 for convergent validity to reach the required threshold. The structural model, also known as the inner model, is evaluated by examining the R-squared value. The calculated R-squared value in the model is 0.219. The results demonstrate that the model, comprising two variables—owner demographics and company characteristics—exerts a 21.9% influence on the dependent variable, which is loan repayment. According to Hair et al. (2011) this R-square indicate that the model has weak predictive power.

Table 2. Validity and Reliability Test

Latent variables	Dimensions	Outer Loading	Composite reliability	Average Variance Extracted (AVE)
Owner Demographics	Education level	0.914	0.775	0.638
	Ethnicity	0.663		
Firm Characteristics	Number of Employees	0.747	0.7	0.5
	Marketing method	0.646		
Loan Repayment		1		

The results that have been presented in Table 3 demonstrate two distinct findings that investigate the influence of the characteristics of the firms and the demographics of the owners on loan repayment. The corresponding p-value is 0.027, and the test statistic associated with owner demographics is 2.211. This suggests that, at the commonly accepted significance level of 5%, owner demographic factors (which may encompass attributes such as age, education, and socioeconomic status) have a statistically significant impact on loan repayment outcomes. Conversely, the variable reflecting the characteristics of the firms exhibits a t-value of 1.713 and a p-value of 0.087, which does not satisfy the conventional threshold for statistical significance ($p < 0.05$). However, it approaches significance at a more lenient level (e.g., 10%).

Table 3. SEM PLS Test Results

Variables	T Statistics (|O/STDEV|)	P Values
Owner demographics → loan repayment	2.211	0.027
firms' characteristics → loan repayment	1.713	0.087

DISSCUSSION

The statistically significant influence of owner demographics implies that the attributes that are unique to the loan owner can be significant determinants of their capacity or inclination to repay loans. The significance of demographic factors in determining the performance of loan repayment has been previously emphasized in research. This result confirms that financial decision-making and risk management behaviors can be significantly influenced by variables such as education and ethnicity, which in turn affect repayment performance (Magali, 2022). Similarly, past research also demonstrates that tailored interventions that consider borrower-specific characteristics may improve loan repayment performance (Mwanuziki et al., 2024).

The literature suggests that the strategic decision-making and overall firm performance of SME proprietors are significantly influenced by their demographic characteristics, including age, gender, educational background, managerial experience, and socio-economic status. Numerous studies have highlighted the fact that these intrinsic factors have a significant impact on an owner's cognitive biases, perception of risk, and, in the end, the strategic decisions they make in areas such as international expansion, financial structuring, and technology adoption (Eze et al., 2023). Moreover, the notion that the demographic profile of their leadership inherently influences decision-making in SMEs is supported by the report's assertion that the age composition and educational attainment of senior management teams are key determinants in adopting information technology (IT) (Awa et al., 2011).

The performance of MSMEs has garnered significant scholarly attention as a result of its potential impact on economic growth and competitiveness. A substantial corpus of literature indicates that business performance is influenced by a combination of internal characteristics, managerial competencies, and external institutional and market factors. This review synthesizes empirical studies that address these themes, with a particular emphasis on the environmental influences that affect operational outcomes, managerial competencies, innovation, and corporate social responsibility (CSR). Scholars have shown that the efficacy of MSMEs is significantly influenced by intrinsic business characteristics, including firm size, organizational structure, and internal processes (Kemayel, 2015).

In the past research that investigates the relationship between business size and marketing methods, it is evident that micro and small enterprises (MSEs) implement unique marketing strategies that are indicative of their limited resources and dynamic market environments. In comparison to larger organizations, smaller businesses generally exhibit a higher propensity to implement innovative and cost-effective marketing strategies, including digital marketing, social media engagement, and a market orientation-oriented approach. Not only do these unique marketing strategies address resource constraints, but they also promote agility and responsiveness in competitive markets (Blankson & Cheng, 2005) (Oklander et al., 2024).

Research indicates that education is a critical factor in the quality of decision-making in small and medium-sized enterprises (Karadag, 2017). Past study offers evidence that the probability of corporate environmental performance (CEP) is positively correlated with the educational level of CEOs (both fundamental and professional) and female CEOs (Tran & Pham, 2020). Moreover, SMEs with chief executives from ethnic minority groups exhibit a higher likelihood of corporate environmental performance. This research provides evidence that the formulation and implementation of environmental strategies in small and medium-sized enterprises are influenced by education and ethnicity. Ethnic backgrounds can offer a diverse array of perspectives and potentially mitigate biases that may develop in homogeneous managerial teams. Ethnic diversity is believed to enhance the decision-making process by integrating a variety of cultural experiences and social norms, which in turn promote more innovative and flexible problem-solving styles. In summary, education offers the technical expertise and analytical rigor required for rational and effective decision-making, whereas ethnicity introduces a variety of cultural perspectives that can improve creativity and mitigate cognitive biases. This dual influence is crucial in the refinement of the strategic decision-making processes within SMEs, as the combined effect of higher education and diverse ethnic representation enables more balanced and holistic managerial judgments (Karadag, 2017)(Nwahanye & Nicholas Dze, 2021)(Tran & Pham, 2020).

This finding diverges from the previous research conclusion by O. Olateju (O. Olateju, 2024) and suggests that financial intermediary organizations should decrease the evaluation of credit applications based on size. Yet, the characteristics of business owners do indeed impact the magnitude of loan repayment challenges faced by MSMEs, a finding consistent with a previous study conducted by O. Olateju (O. Olateju, 2024).

Conversely, the findings on firms' characteristics suggest that these factors may not significantly impact loan repayment. This implies that the impact of firm-related attributes on repayment behavior may be less critical or more variable than that of owner-specific factors. It is conceivable that repayment may be indirectly influenced by firm-related characteristics through operational practices or managerial decisions, rather than having a direct, statistically significant impact. This interpretation is in line with previous research, which identified demographic factors as more consistent predictors of loan repayment performance, while firm characteristics exhibited varied significance across various contexts (Kassegn & Endris, 2021). Recent research examining the determinants of loan repayment habits indicates that particular firm features, specifically staff count and marketing strategies, do not significantly affect loan repayment rates. A pivotal study conducted by Olateju analysed many factors, including personal demographics, business types, and marketing methods, across 384 microenterprises in Nigeria. The findings revealed that traditional attributes, such as the marketing strategy utilized, did not significantly connect with the likelihood of prompt loan repayment (O. Olateju, 2024). This indicates that alternative socio-economic issues may be more decisive. For example, research by Domańska et al. further supports this viewpoint, demonstrating that during crises, such as the COVID-19 pandemic, companies frequently adopt strategies like postponing loan repayments or modifying operational tactics, independent of employee numbers or marketing strategies (Domańska et al., 2022). In family enterprises, it was observed that, regardless of staff count, the primary focus on cash flow

preservation superseded repayment schedules. This tendency underscores that firm attributes, including size and marketing strategy, are subordinate factors in the urgency of loan repayments amid economic upheavals. The findings of this study hold significance for policymakers in financial sectors, both banking and non-banking, concerning MSMEs, who should prioritize the demographic characteristics of owners over the company's profile.

CONCLUSION

Ultimately, the funding assessment should prioritize the SME owner's characteristics rather than the firm's nature. In summary, the evidence suggests that the evaluation of proprietor demographics should be the primary focus of interventions and risk assessments in loan management. While firm-level characteristics may be potentially relevant, they may necessitate further investigation or the inclusion of additional covariates to clarify their role in determining loan repayment outcomes. This approach capitalizes on the clear link between borrower profiles and repayment performance. The weakness of this research lies in its independent variables, which only consider two predictors, while there are many other factors that could be predictors of MSMEs' loan repayment capabilities. Suggestions for further research include adding predictor variables that can influence MSMEs' loan repayment capabilities and increasing the sample size to increase the robustness of the research results.

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