To What Extent do Joint Liability Models and the Theory of Planned Behavior Explain Repayment Behavior in Microfinance?

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ABSTRACT

Microfinance has become a pivotal instrument for promoting financial inclusion among underserved communities, with repayment performance recognized as a key determinant of institutional sustainability. This study investigates repayment behavior in group lending settings, exploring whether high repayment rates necessarily reflect full compliance by all members or mask instances of free riding, and examining the factors that shape repayment decisions. Drawing on two dominant theoretical perspectives—the Joint Liability Model (JLM) and the Theory of Planned Behavior (TPB)—the paper develops an integrated conceptual framework for understanding repayment dynamics in microfinance group lending. The JLM highlights contractual mechanisms, including collective responsibility, peer monitoring, and group sanctions. At the same time, the TPB explains individual decision-making through attitudes, subjective norms, perceived behavioral control, and, in specific socio-cultural contexts, religious norms. Methodologically, the study adopts a conceptual research design, synthesizing theoretical constructs and empirical evidence from global case studies—including Bangladesh, Turkey, Pakistan, Vietnam, Armenia, and Malaysia's Amanah Ikhtiar Malaysia (AIM)—to formulate a model that bridges structural and behavioral perspectives. The findings contribute to theory by integrating institutional and psychological determinants of repayment behavior and to practice by offering policy insights for designing repayment-enhancing strategies in microfinance institutions.

Keywords: Joint Liability Model, Theory of Planned Behavior, Microfinance, Repayment Behavior, Conceptual Framework

INTRODUCTION

Microfinance has been widely recognized as an effective instrument for alleviating poverty, promoting entrepreneurship, and enhancing financial inclusion, particularly in developing economies (Armendáriz & Morduch, 2005). Since the pioneering work of the Grameen Bank in Bangladesh (Khandker, 2012), group lending schemes have gained global adherence by offering collateral-free credit to low-income borrowers who are typically excluded from formal financial systems. The sustainability of microfinance institutions (MFIs) largely depends on their ability to maintain high repayment rates, which directly impact financial stability, lending capacity, and community trust (Gehrig, Mesoudi, & Lamba, 2019).

One of the most influential lending models employed by MFIs is the Joint Liability Model (JLM), wherein small borrower groups collectively bear responsibility for each member's loan (Stiglitz, 1990; Besley & Coate, 1995). This contractual arrangement governs peer selection, mutual monitoring, and group pressure, aiming to mitigate the risks of moral hazard, adverse selection, and strategic default (Varian, 1990; Ghatak, 1999). While widely adopted in countries such as Bangladesh, Pakistan, Vietnam, Armenia, and Turkey (Kono, 2006; Kono, 2013; Kurosaki & Khan, 2012; Kasarjyan et al., 2007; Sahan & Phimister, 2022), JLM has also been successfully implemented in Malaysia through institutions such as Amanah Ikhtiar Malaysia (AIM) (Ahlin & Townsend, 2007).

Parallel to these structural mechanisms, the Theory of Planned Behavior (TPB) offers a psychological framework for understanding why borrowers comply with repayment obligations (Ajzen, 1988, 1991). TPB posits that behavioral intention is shaped by three primary factors: attitudes toward the behavior, subjective norms, and perceived behavioral control (Fishbein & Ajzen, 2010; Armitage & Conner, 2001). In specific cultural contexts, particularly in predominantly Muslim societies such as Malaysia, Indonesia, and Pakistan, religious norms also play a significant role in influencing financial decision-making (Khan et al., 2017). This makes the inclusion of religious norms a relevant and culturally sensitive extension of TPB in microfinance studies.

Despite the strong explanatory power of both theories, most research treats them in isolation. JLM focuses primarily on external enforcement through group dynamics, whereas TPB examines internal motivation through cognitive and normative beliefs. This conceptual separation limits a holistic understanding of repayment behavior, which in practice is shaped by the interaction between contractual mechanisms and psychological determinants (Cason, Gangadharan, & Maitra, 2007; Giné, Jakiela, Karlan, & Morduch, 2010).

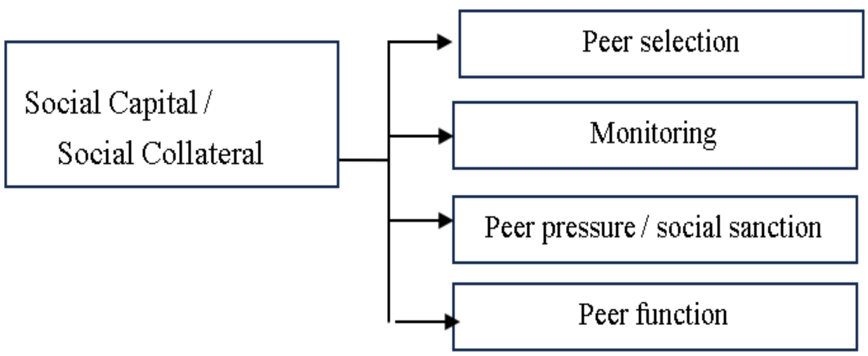
This paper addresses this gap by proposing a conceptual framework that integrates JLM and TPB, capturing the dual influence of structural enforcement and behavioral motivation on repayment behavior. The framework synthesizes empirical evidence from diverse contexts, ranging from increased repayment rates linked to group cohesion in Turkey (Sahan & Phimister, 2022) to higher default rates in Vietnam under weak monitoring (Kono, 2006, 2013). By unifying these perspectives, this study contributes to the microfinance literature and provides actionable insights for policymakers and MFI practitioners seeking to design repayment-supportive environments.

LITERATURE REVIEW

Theoretical Background

Joint Liability Model (JLM)

Joint Liability refers to a group lending arrangement in which small borrower groups, typically five to ten members, share collective responsibility for the repayment of each member's loan. Under this mechanism, if one member defaults, the others are obligated to cover the deficit. The JLM literature initially centered on the theory's potential to mitigate moral hazard, adverse selection, and strategic default through contractual design (Stiglitz, 1990; Varian, 1990; Besley & Coate, 1995; Armendáriz de Aghion, 1999; Ghatak, 1999; Van Tassel, 1999). These early contributions proposed the Joint Liability Model, which is characterized by the Social Capital function of peer selection, mutual monitoring, and collective sanctions, aimed at reducing the likelihood of default.



Sources: Author's Illustrations.

Figure 1: The Joint Liability Model

Social Collateral

Sources: Author's Illustrations.

The implementation of JLM has been a foundation of microfinance since its adoption by pioneering institutions such as the Grameen Bank in Bangladesh, the Bank for Agriculture and Agricultural Cooperatives in Thailand, and Amanah Ikhtiar Malaysia (AIM) in Malaysia (Ahlin & Townsend, 2003). In these schemes, borrowers are directly responsible for monitoring each other, fostering an environment of mutual accountability.

In the 1990s, classical theoretical models emphasized JLM's ability to leverage peer selection, peer monitoring, and social sanctions to enhance repayment rates (Banerjee, Besley, & Guinnane, 1994; Ghatak & Guinnane, 1999). Subsequent empirical research has provided mixed findings, reflecting variations in group composition, enforcement intensity, and socio-cultural contexts. In Bangladesh, Khandker (2012) found that joint liability arrangements improved repayment performance and reduced defaults, particularly among women borrowers, due to stronger intra-group trust and solidarity. Similarly, Sahan and Phimister (2022) reported that in Turkey, repayment performance improved by 9.9% when groups adopted cohesive names and operated under strong penalty regimes. Empirical studies also demonstrate that joint liability can enhance repayment rates, promote entrepreneurship, and support rural development. (Wang, G., Su, Q., & Wang, L., 2021) In Pakistan, Kurosaki and Khan (2012) observed near-zero defaults under strict enforcement policies, whereas in Armenia, Kasarjyan, Fritzsch, Buchenrieder, and Korff (2007) also found that trust and cognitive social capital were central to repayment success.

In contrast, Kono's (2006, 2013) experiments in Vietnam demonstrated that weak monitoring and insufficient cross-reporting facilitated free riding and strategic defaults, ultimately leading to increased default rates. This aligns with Gehrig, Mesoudi, and Lamba's (2019) global review, which highlighted that while prior interactions and partner choice can enhance repayment. The theoretical literature has demonstrated, using models of peer selection, peer monitoring, and peer pressure, that joint liability effectively addresses both the informational and enforcement failures prevalent in credit markets for the poor. However, the empirical literature does not yield a clear answer on how much of the success of microfinance programs can be attributed to the effect of joint liability alone without considering the impact of other instruments used by microfinance programs. Further, it is seen that joint liability does not work in isolation, but its effect is dependent on the social, cultural, and economic environment (Rathore, B. (2017).

Besides, its success is highly context-dependent and may sometimes undermine social capital or lead to unintended group dynamics. More recent studies have expanded the focus to additional mechanisms, such as dynamic incentives, excluding defaulters from future loans, sequential financing (staggered disbursements within the same loan cycle), frequent repayment schedules, and public repayment meetings (Armendáriz & Morduch, 2000, 2005; Chowdhury, 2005, 2007). Dynamic incentives, in particular, make sanctions credible by linking repayment compliance to continued access to the loan.

Conversely, field experiments in Vietnam (Kono, 2006, 2013) revealed that weak monitoring and insufficient cross-reporting could lead to higher defaults due to free riding and strategic nonpayment. Armenia provides further nuance, with Kasarjyan, Fritzsch, Buchenrieder, and Korff (2007) finding that trust and cognitive social capital significantly improved repayment behavior, while Gehrig, Mesoudi, and Lamba (2019) caution that kinship ties can sometimes facilitate collusion rather than repayment discipline. These findings suggest that JLM's impact centers on the interaction between formal enforcement mechanisms and informal social dynamics within groups.

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB), developed by Ajzen (1988, 1991), is a widely used framework for understanding human decision-making. TPB states that behavioral intention—the closest predictor of actual behavior—is influenced by three main factors:

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Table 1: TPB main factors

Main Factor	Description
Attitude toward the behavior	The individual's positive or negative evaluation of performing the behavior.
Subjective norms	The perceived social pressure from significant others to perform or not perform the behavior
Perceived behavioral control	The perceived ease or difficulty of performing the behavior, which reflects past experiences and anticipated constraints.
Religious Norms	It is a factor in faith-based motivations influencing financial behavior

Source: Author's Illustrations

In many socio-cultural contexts, especially in predominantly Muslim countries, religious norms have also been incorporated into the TPB framework to account for faith-based motivations influencing financial behavior (Amin et al., 2014; Alam et al., 2012).

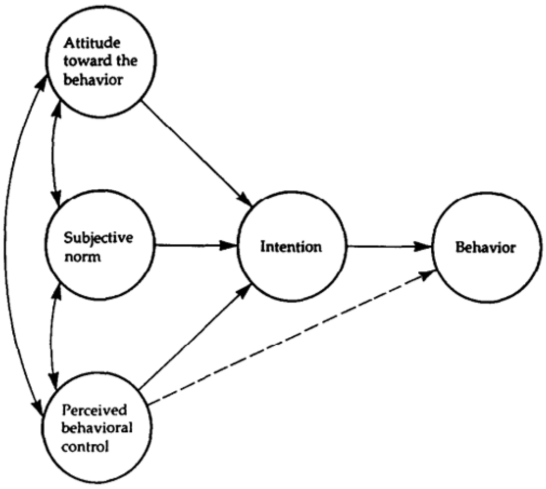

Figure 2: The Theory of Planned Behavior by Icek Ajzen, 1991

Sources: Icek Ajzen (1991)

Integrating TPB into microfinance research enables the examination of internal cognitive and motivational factors that JLM alone cannot capture. While JLM emphasizes external enforcement through group mechanisms, TPB focuses on intrinsic motivation and perceived agency, making the two frameworks potentially complementary.

The Theory of Planned Behavior (TPB) has been widely applied to understand the adoption and loan repayment behavior. Recent studies have found that attitudes, subjective norms, and perceived behavioral control significantly influence intentions to adopt microfinance and repay loans (Behera & Mohini, 2025; Magar et al., 2023; Purwanto et al., 2022). Additional factors, such as religiosity, knowledge, and service quality, also play important roles (Purwanto et al., 2022; Behera & Mohini, 2025).

Some research has extended the TPB by incorporating past behavior, situational factors, and self-identity (Patiro & Budiyanti, 2016). Challenges in microfinance adoption include high interest rates and limited financial knowledge (Magar et al., 2023). Factors affecting loan repayment include borrower characteristics (age, gender, education), loan characteristics (size, repayment period), and institutional factors (supervision, rationing mechanisms) (Abafita, 2003; Mokhtar et al., 2012).

Studies in financial contexts also show that attitude toward repayment can be influenced by perceived benefits such as future credit access (Adams & Vogel, 2020), subjective norms can reflect peer or family expectations (Amin et al., 2014), and perceived behavioral control often depends on income stability or financial literacy (Setiawan et al., 2021). In predominantly Muslim contexts, religious norms can significantly shape repayment behavior. Alam et al. (2012) and Khan (2017) demonstrated that compliance with Islamic financial principles increased borrowers' moral obligation to repay, suggesting that extending TPB to include religious norms can improve predictive accuracy in these contexts.

TPB-based microfinance studies have also highlighted the importance of self-efficacy in repayment. Borrowers who believe they have the resources, ability, and opportunity to repay are more likely to fulfill obligations, even when external enforcement mechanisms are weak (Mahmood et al., 2017).

Table 2: Recent Studies on Repayment Behavior in Microfinance

Article	Main findings
Behera (2025)	This study examines the behavioral factors that influence loan repayment behavior among clients of microfinance institutions. The study found that personal norms, attitudes, and service quality have a significant influence on repayment behavior among microfinance clients in India. Suggests improving group lending and trust-building.
Barboni (2024)	Recent syntheses show that repayment rates can mask heterogeneous within-group dynamics, including peer discipline, strategic default, and free-riding incentives.
Barboni (2024) Adbi (2024)	Together, these findings motivate a perspective that integrates contractual design (e.g., joint liability rules) with borrower psychology and context.
Magar (2023)	This study identifies subjective norms and perceived behavioral control as significant factors. It proposes solutions to address challenges like high-interest rates and limited financial knowledge to enhance microfinance accessibility and affordability.
Purwanto (2022)	The study finds that religiosity and knowledge shape attitudes toward Islamic microfinance, which then influence behavioral intentions, with subjective norms as the strongest driver. It recommends engaging religious leaders in marketing strategies.
Razak et al. (2018)	This study applies the Theory of Planned Behaviour to predict micro-entrepreneurs' participation in micro-takaful. This study finds that attitude, subjective norms, and perceived behavioral control significantly influence participation, with implications for strategy planning by takaful operators and policymakers.
M. Ashraf (2014)	The study investigates the reasons for low participation in microfinance institutions among the rural poor in Bangladesh, identifying fear of loan risk, individual loan preferences, and negative advice from friends as significant factors influencing participation.
S. A. Pasha (2014)	The study analyzes socio-economic and loan-related factors affecting loan repayment performance at Sidama Micro Finance Institution (SMFI), identifying nine significant determinants and recommending proper training and reasonable loan amounts to improve repayment rates, particularly among older and more experienced borrowers.
Mokhtar et al. (2012)	This paper examines the determinants of loan repayment problems among microfinance borrowers in Malaysia, revealing that borrower characteristics (age, gender, and type of business) and loan characteristics (mode of repayment and repayment amount) contribute to these issues.
Nawai & Shariff (2012)	This paper reviews the determinants of repayment performance in microcredit programs, focusing on borrower, firm, loan, and lender characteristics to address repayment challenges.

Sources: Author's Illustration

METHODOLOGY

Research Design

This study employs a conceptual research design to develop an integrated theoretical framework that explains repayment behavior in microcredit group lending. In contrast to empirical research that relies on primary data collection and statistical analysis, the conceptual approach synthesises theoretical perspectives, prior empirical evidence, and context-specific insights to formulate a model that can be empirically tested in subsequent studies (Snyder, 2019; Jaakkola, 2020).

This approach is particularly suitable when the intention is to bridge different theoretical traditions and provide a comprehensive explanatory lens for a complex behavioral phenomenon.

The conceptual framework was developed by drawing on two principal theoretical streams. The first is the Theory of Planned Behavior (TPB), which represents the behavioural and psychological determinants of repayment, encompassing attitudes towards repayment, subjective norms, and perceived behavioural control (Ajzen, 1991) and; (She et al., 2024). The second is the Joint Liability Model (JLM), which captures the structural and social enforcement mechanisms inherent in microcredit schemes, including peer monitoring, collective accountability, and risk-sharing arrangements (Ba-Tri et al., 2024; Cao et al., 2024). Integrating these theories enables a balanced examination of repayment behavior as both an individual cognitive process and a socially enforced contractual obligation.

The integration process followed a systematic pathway. Initially, theoretical mapping was undertaken to identify constructs from each theory that were most relevant to repayment behaviour. This was followed by contextual adaptation, which involved incorporating religious norms to reflect moral obligations in Islamic microfinance and social collateral to capture group enforcement effects that operate beyond formal contractual arrangements (Karlan et al., 2022; Mahmoud et al., 2024).

Through this integration, the proposed framework aims to combine the predictive strength of TPB with the enforcement capacity of JLM, thereby providing a more comprehensive understanding of repayment behavior in group lending. This theoretical contribution is expected to inform future empirical testing and guide microfinance institutions in designing repayment-enhancing strategies that effectively merge structural discipline with behavioural motivation.

CONCEPTUAL FRAMEWORK

This study proposes a new conceptual framework for repayment behavior. The JLM introduces Social Capital or Social Collateral (SC), which exists in peer monitoring, group accountability, and trust mechanisms that create enforcement pressure in group lending. In the integrated model, TPB constructs explain intention to repay (ITP), which in turn predicts repayment behavior (RB). At the same time, SC provides a direct effect on RB, representing the influence of collective responsibility. Our study aligns with the work of Sanrego and Antonio (2013), who elaborated on the variables within the Theory of Planned Behavior. However, this study extends their framework by incorporating social capital as an additional determinant of repayment behavior, drawing on Paxton’s (2000) study for a more detailed conceptualisation of social capital. This integration is particularly relevant in microcredit schemes, such as Amanah Ikhtiar Malaysia (AIM) in Malaysia, where borrowers’ repayment obligations are enforced through both internal motivations and external social mechanisms.

Variable Operationalization

Based on Paxton, J and et al (2000), Sanrego and Antonio (2013), Al-Azzam (2012) and recent studies, the variable for this study is defined as follows:

Attitude toward repayment (ATT) - The degree to which a borrower holds a favourable or unfavourable evaluation of repaying their loan. A positive attitude reflects the belief that repayment is beneficial and necessary.

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Subjective norms (SN) – Perceived social pressure from important referents (e.g., family, peers, religious leaders) to repay or not repay the loan.

Religious norms (RN) – Moral obligations and ethical guidelines derived from religious beliefs, especially those emphasising debt repayment in Islamic teachings.

Perceived behavioural control (PBTP) – The borrower's perceived ability to fulfil repayment obligations, considering resources, time, and personal capacity.

Intention to repay (ITP) – The motivational factor indicating the borrower's readiness and plan to repay the loan.

Social capital (SC) – Non-physical guarantees embedded in group lending, including peer selection, monitoring, peer pressure and peer function.

Repayment behaviour (RB) – The actual act of making repayments according to agreed loan terms within the group-lending scheme.

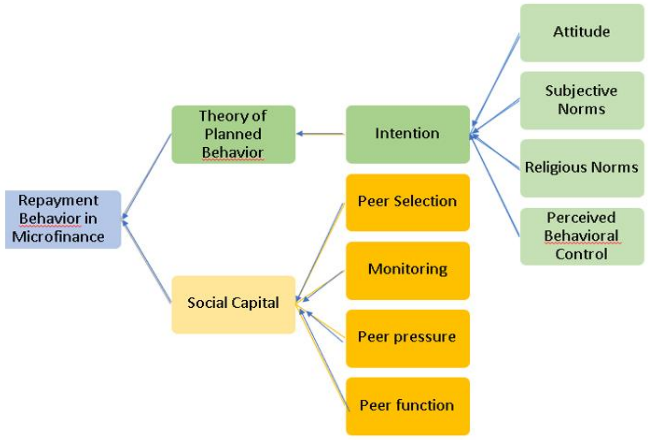

Figure 3: Integrated Conceptual Framework Diagram for Microfinance Repayment Behavior

Sources: Author's Illustration

RESULTS AND DISCUSSIONS

Although repayment rates in certain microfinance groups frequently exceeded 95%, such aggregate figures may not accurately reflect repayment consistency at the individual level. Both qualitative and quantitative evidence reveal instances of free riding, whereby some members benefit from group loans without fulfilling their repayment obligations on time, relying instead on peers to cover instalments in order to avoid group penalties (Kono, 2006, 2013). This phenomenon underscores the complexity of interpreting high repayment rates within group lending schemes, as aggregate performance indicators can conceal intra-group disparities. Recent evidence also indicates a shift from joint liability models toward individual lending arrangements (Kodongo, 2013), raising pertinent questions about the adequacy of joint liability mechanisms in ensuring repayment discipline and the underlying drivers that prompt microfinance institutions to adopt individual-based lending approaches.

Based on the recent research on repayment behavior in microfinance, as stated in Table 2, none of the studies integrate the two distinct streams, the Joint Liability (JLM) and the Theory of Planned Behavior (TPB). While each stream offers valuable insights, they rarely intersect, leaving a gap in understanding how structural group mechanisms and individual cognitive factors jointly influence repayment outcomes.

While JLM and TPB address repayment from different aspects —structural enforcement versus individual cognition —they share underlying commonalities. For instance, subjective norms in TPB resonate with the peer monitoring and social pressure mechanisms in JLM. Similarly, perceived behavioral control relates to the group-based safety nets and shared responsibility that JLM provides. However, JLM does not fully capture the influence of individual attitudes or intrinsic motivations, and TPB does not account for the contractual and enforcement aspects inherent to microfinance group lending.

This conceptual gap presents an opportunity for integration. By combining JLM's focus on collective enforcement with TPB's emphasis on individual decision-making processes, a more comprehensive framework for understanding repayment behavior can be developed—one that accounts for both the external constraints and internal motivations affecting borrowers. This study aligns with the current research by Barboni (2024) and Adbi (2024), which highlights the need to integrate contractual design (e.g., joint liability rules) with borrower psychology and context.

The integration of JLM and TPB within the conceptual framework provided stronger explanatory power than either model alone. Structural mechanisms such as peer monitoring and collective enforcement interacted with behavioral drivers like subjective norms, amplifying their effect. In groups with strong joint liability practices, subjective norms were more likely to translate into actual repayment behavior, suggesting a reinforcing relationship between social structure and personal motivation. This finding mirrors evidence from Vietnam and Armenia (Kono, 2016) and (Kasarjyan, M.,2007), where group cohesion strengthened the influence of cultural norms on repayment. Conversely, in groups with weak enforcement or low cohesion, even borrowers with positive attitudes did not consistently make timely repayments.

The novelty of this study lies in its explicit bridging of structural contract-based models (JLM) with individual decision-making models (TPB) in the context of microfinance group lending. While prior research has examined each framework separately, this integrated approach captures the dual reality of repayment behavior: that it is shaped simultaneously by external enforcement mechanisms and internalized cognitive norms. For microfinance institutions (MFIs), these findings have practical value. Policies should not only focus on designing robust group contracts but also create an environment where positive repayment attitudes, strong norms, and borrower confidence. This could involve targeted financial literacy programs, leadership training for group heads, and context-sensitive enforcement strategies aimed at minimizing free riding while maintaining solidarity.

Overall, the results suggest that repayment success in microfinance is not determined solely by either structural design or individual behavior, but rather by the dynamic interaction of both. Recognizing and managing the determinants factor can lead to more sustainable lending models that enhance institutional performance while safeguarding borrower welfare.

From a policy and institutional perspective, the proposed model offers several practical insights:

First, MFI may strengthen the borrower attitudes and norms through various enhancement programs. MFI can design borrower training programmes to emphasize the social, economic, and moral benefits of timely repayment. Incorporating religious messages, especially in Islamic microfinance, MFIs can also reinforce repayment obligations as a moral and faith-based duty.

Second, MFI may leverage social collateral effectively. MFIs should cultivate strong group cohesion through careful borrower selection, encouraging homogeneity in socio-economic background, and facilitating trust-building activities. This enhances the effectiveness of SC as a repayment driver.

Third, the Perceived Behavioural Control. Institutions can provide flexible repayment schedules, financial literacy training, and income-generating support to improve borrowers' confidence in their repayment ability. This addresses PBTP, thereby increasing repayment intention.

Lastly, MFI may design integrated interventions. Combining moral appeals (via ATT, SN, RN) with structural enforcement (via SC) can create a dual-layered system of repayment motivation. This approach is particularly relevant in contexts where economic shocks pose a threat to repayment performance.

CONCLUSION AND RECOMMENDATIONS

This paper has developed an integrated conceptual framework that combines the Theory of Planned Behavior (TPB) and Joint Liability Theory (JLM) to explain repayment behaviour in microcredit group lending schemes. The framework incorporates key psychological determinants, which are attitude toward repayment (ATT), subjective norms (SN), religious norms (RN), and perceived behavioural control (PBTP)—as well as the structural enforcement mechanism of social collateral (SC).

By uniting these two theoretical perspectives, the model addresses a critical gap in the literature: the need to consider both internal behavioural drivers and external enforcement mechanisms in predicting repayment behaviour. The addition of religious norms acknowledges the role of socio-religious obligations in Islamic microfinance. At the same time, the direct pathway from social collateral to repayment behaviour recognises the unique enforcement dynamics of group lending. Validating this framework could provide microfinance institutions with valuable insights into designing repayment strategies that combine moral, social, and structural incentives. For policymakers, the model highlights the importance of interventions that not only strengthen enforcement but also shape borrower attitudes, norms, and perceived capabilities.

While the framework remains conceptual, it provides a robust theoretical basis for subsequent empirical research. Its applicability extends beyond Malaysia, offering relevance to global microfinance contexts where group lending and joint liability are practised. Ultimately, by integrating behavioural and structural perspectives, this model contributes to a deeper understanding of how to sustain high repayment rates, ensure financial viability, and enhance the socio-economic impact of microcredit programmes.

Although this paper develops an integrated conceptual framework that combines the Theory of Planned Behavior (TPB) and Joint Liability Theory (JLT) to explain repayment behavior in microcredit group lending, several limitations must be acknowledged.

First, the framework has not yet been empirically tested. As a conceptual model, its validity and predictive power remain theoretical. Future research should operationalise the constructs and use quantitative methods—such as Structural Equation Modelling (SEM) or Partial Least Squares SEM (PLS-SEM)—to examine the relationships proposed in this study.

Second, the generalisability of the framework may be influenced by cultural and institutional contexts. While the model has been designed to apply globally, the inclusion of religious norms (RN) is contextually relevant to Islamic microfinance systems. Empirical studies should therefore examine their applicability in both Islamic and non-Islamic microcredit environments to determine the universality of the RN construct.

Third, the direct path from social collateral (SC) to repayment behaviour (RB) assumes that enforcement mechanisms can act independently of behavioural intention. While supported by some empirical evidence, this assumption should be tested across different enforcement intensities and group structures to assess its robustness.

Finally, the model focuses on individual and group-level determinants but does not explicitly incorporate macroeconomic factors such as inflation, interest rate changes, or market shocks. Future research could extend the framework by including these external variables to capture a more comprehensive picture of repayment behaviour dynamics.

By addressing these limitations, subsequent studies can refine and strengthen the framework, thereby contributing to both theory development and the creation of practical strategies for sustainable microcredit management.

Conflict of Interest

The authors agree that this research was conducted in the absence of any conflict of interest.

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