

Economic Impact of Ultra Micro Financing on Poverty Alleviation Among Woman in Rural Communities: Case Study Amarta

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Abstract

Ultra-microfinancing through financial technology platforms has emerged as a promising solution for addressing financial exclusion among marginalized communities, particularly women entrepreneurs in rural Indonesia. Traditional banking institutions have largely overlooked this demographic due to lack of credit history, collateral requirements, and perceived high-risk profiles, creating a significant gap in financial service provision. This study investigates the economic impact of ultra-microfinancing on poverty alleviation among rural women entrepreneurs through a comprehensive case study of Amarta, Indonesia's leading peer-to-peer (P2P) lending platform. The primary research objectives are to assess Amarta's business model effectiveness in maintaining lower non-performing loan (NPL) ratios compared to conventional banking institutions, and to evaluate the economic contribution of ultra-microfinancing in alleviating poverty among women entrepreneurs in rural communities. The research employs a mixed-method approach combining quantitative analysis of 716 survey respondents and qualitative case study analysis. The study utilizes descriptive statistics, correlation analysis, and comparative financial analysis to assess loan performance and economic impact. Results demonstrate significant positive impacts on borrower welfare and financial performance. The average monthly income of borrowers increased by 37.94%, from IDR 4,048,145 to IDR 5,583,816 after receiving financing. Approximately 77% of respondents experienced income growth, with 2.23% successfully transitioning from ultra-micro to small enterprise status, and 4.89% hiring their first employee. The implications highlight the importance of group lending mechanisms, AI-powered credit scoring, and comprehensive borrower support systems in achieving sustainable financial inclusion outcomes.

Keyword: Financial inclusion, ultra-microfinancing, women empowerment, peer-to-peer lending, fintech regulation, digital literacy, economic sustainability

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INTRODUCTION

In rural Indonesia, women remain at the forefront of informal economic activity, contributing significantly to household income and community resilience (Adams, 2018; Asriani et al., 2021; Junaidi et al., 2023). However, their potential is often constrained by limited access to formal credit and financial services: traditional banks view ultra-micro businesses as too risky due to a lack of collateral, formal employment, and credit history, thereby perpetuating financial exclusion among women entrepreneurs (World Forum, 2024; Razalinda, 2024). In response, fintech platforms such as Amarta have emerged to fill this gap by offering uncollateralized loans through innovative credit-scoring and community-based lending models (Suryani et al., 2023; Swedfund, 2025). Amarta, which has served over 1.5 million women across Indonesia, positions itself not just as a micro-lending provider but as a

strategic enabler of economic empowerment in rural communities (Accion, 2024; SCMP, 2025). Yet, a key strategic question remains: does Amarthha's business model deliver broader loan disbursement alongside healthier risk performance—such as lower non-performing loan (NPL) rates—compared to conservative banking systems?

The primary research problem addressed in this study is the persistent financial exclusion of women entrepreneurs in rural Indonesia, who face systemic barriers to accessing formal credit services. Despite representing a significant portion of informal economic activity, these women are often deemed “unbankable” by traditional financial institutions due to a lack of collateral, formal employment records, and established credit histories (World Bank, 2024; UNDP, 2023). Women-owned enterprises are frequently informal, home-based, and reliant on limited assets, which reinforces their exclusion from capital markets (World Bank Gender Assessment, 2022). Rural women—who comprise nearly two-thirds of informal workers—face additional hurdles stemming from poor infrastructure, low financial literacy, and limited mobility, exacerbating their inability to engage with formal banks (Women's World Banking, 2024). Scholars also emphasize how financial market imperfections—including high transaction costs and institutional risk aversion—systematically exclude poor and small-scale women entrepreneurs (Persaud, 2023). Moreover, female-headed and micro-business households without collateral or credit history remain disproportionately excluded from financial inclusion efforts (Ekaputri et al., 2025).

The urgency of this research stems from Indonesia's ambitious financial inclusion targets and the growing recognition of women's entrepreneurship as a driver of economic development. With over 64% of Indonesian women still lacking access to formal financial services, and rural areas showing significantly lower financial inclusion rates, there is an immediate need to understand how innovative fintech solutions can bridge this gap effectively. The COVID-19 pandemic has further highlighted the vulnerability of informal businesses and the critical importance of financial resilience among rural women entrepreneurs.

At the same time, the broader economic impact of ultra-micro financing on poverty alleviation in rural communities has yet to be fully understood. While access to capital is a necessary first step, sustainable poverty reduction requires evaluating whether the loans truly translate into increased income, business growth, and long-term financial independence for women. This involves understanding how recipients utilize their loans, how business productivity evolves, and whether loan dependency emerges as a secondary challenge. Furthermore, technological tools like AI-based credit scoring and digital apps have revolutionized loan distribution, yet digital illiteracy and infrastructure limitations continue to inhibit optimal usage, especially in remote rural areas.



Figure 1. Amarta's Technology and Digitalization

This study seeks to examine these intersecting dynamics. It will assess the effectiveness of Amarta's loan strategy in expanding women's financial access compared to traditional banks and analyze how ultra-micro loans contribute to poverty alleviation among women-led households. Additionally, the research will explore whether fintech platforms, operating within regulatory constraints such as POJK No. 77/POJK.01/2016, can scale inclusively while maintaining healthy portfolio performance. Through this exploration, the thesis aims to offer strategic insights into how fintech-driven models like Amarta can evolve to create a more equitable, sustainable impact for women in Indonesia's rural economy.

Beyond financial accessibility, technology has become a key enabler of fintech solutions, but rural adoption rates remain inconsistent due to digital literacy gaps and infrastructure limitations. Amarta has introduced AI-powered credit scoring and mobile applications to improve financial service efficiency, yet many women entrepreneurs lack the necessary technological skills to fully utilize these tools. To mitigate this, Amarta has deployed over 7,400 field officers, providing financial education and assistance. However, in an increasingly digital financial landscape, is human intervention still crucial, or can fintech services be successfully integrated without direct facilitation?

Previous research has shown mixed results regarding the effectiveness of microfinancing in achieving poverty alleviation. Yunus (2007) demonstrated the transformative potential of group lending through the Grameen Bank model, showing how social collateral can replace traditional collateral requirements. However, subsequent studies have raised questions about long-term dependency and graduation rates from microfinance programs. In the Indonesian context, Suryani et al. (2023) found that fintech peer-to-peer lending improved MSME financial access but noted limitations in business scaling outcomes. The World Bank Group (2023) reported positive short-term impacts of fintech-enabled microfinancing but emphasized the need for complementary business training and support services.

While Amarta aims to empower rural women entrepreneurs through access to ultra-micro productive loans, a measurable gap persists between its long-term vision of fostering economic independence and the current realities of its borrowers. Although Amarta has disbursed over IDR 30 trillion to more than 2.5 million women borrowers by 2024, internal and journal reports suggest that many beneficiaries remain in cyclical borrowing patterns without significant business expansion or formal financial progression. For instance, ESG data (Amarta, 2023) revealed that fewer than 30% of borrowers demonstrate consistent business scaling or graduation into higher credit tiers after multiple loan cycles. Research by Suryani et al. (2023) supports this, showing that while microloans improve household cash flow, they rarely result in transformative economic acceleration.

The causes of this gap are multifaceted: limited post-loan business support, unpredictable income in rural economies, and persistent digital literacy barriers. These factors constrain borrowers from maximizing the long-term value of fintech-driven financial inclusion. As a result, while Amarta has successfully democratized access to credit, the challenge now lies in converting short-term financial access into sustainable economic acceleration and poverty reduction for women in rural Indonesia.

In addition, as of 2023, Amarta reported an NPL ratio of approximately 2.97%, significantly lower than many traditional financial institutions serving similar segments. In contrast, BRI's microloan segment, including loans distributed through BRILink agents, recorded an NPL rate closer to 3.12% for

comparable ultra-micro loan products (BRI Financial Report, 2023). This suggests that Amarthha's group lending model and AI-driven risk scoring offer superior credit performance—despite its focus on borrowers without formal credit histories.

Table 1. Gap Analysis Table: Amarthha's Vision vs. Field Reality

Aspect	Amartha's Goal		Field Reality (2023)
Economic Empowerment	Women achieve long-term financial independence and grow sustainable businesses.		<30% of women report consistent business scaling or exit from the ultra-micro loan cycle.
Loan Utilization	Productive use of funds leads to income growth and asset building.		Many borrowers recycle loans for working capital, showing marginal income growth.
Non-Performing Loan Performance	Maintain low NPL ratios despite serving high-risk, unbanked borrowers.		Amartha NPL 2.97%, outperforming BRI Microloan (BRILink) NPL of 3.12%.
Group Lending Model	Leverage social collateral and group accountability to improve repayment discipline.		Most borrowers are in joint-liability groups. However, the NPL cannot be tracked per Individual due to group lending model
Technological Integration	Digital tools (AmarthaFin app, AI scoring) empower self-service and independence.		Only 35% of borrowers report independently using the app without field officer support (Amartha Internal Survey, 2022).

Source: Suryani et al. (2023); Amarthha Internal Survey, 2022

The novelty of this research lies in its dual focus on financial sustainability and social impact, examining how Amarthha's innovative business model achieves both lower NPL ratios and meaningful poverty alleviation outcomes. This study is among the first to provide comprehensive comparative analysis between fintech P2P lending and traditional banking performance in serving ultra-micro borrowers in Indonesia. The research also contributes original insights into the role of digital tools and group lending mechanisms in achieving financial inclusion at scale.

The primary objectives of this study are: (1) To assess the effectiveness of Amarthha's business model in maintaining lower non-performing loan (NPL) ratios through digitalization compared to conventional banking institutions; (2) To evaluate the economic contribution of ultra-micro financing in alleviating poverty among women entrepreneurs in rural communities; (3) To analyze the factors contributing to sustainable borrower outcomes and business growth; (4) To provide strategic recommendations for enhancing fintech-enabled financial inclusion models.

The benefits of this research include providing evidence-based insights for policymakers developing financial inclusion strategies, offering guidance for fintech companies seeking to balance profitability with social impact, and contributing to academic understanding of technology-enabled development finance. The practical implications extend to informing regulatory frameworks, improving lending practices, and enhancing support systems for women entrepreneurs in developing economies.

RESEARCH METHOD

This research adopted a mixed-method approach, combining quantitative survey analysis with qualitative case study methodology to comprehensively evaluate Amarthha's business model

effectiveness and its economic impact on rural women entrepreneurs. In rural Indonesia, women played a crucial role in informal economic activities, significantly contributing to household income and community resilience. However, their potential was often constrained by limited access to formal credit and financial services. Traditional banks considered ultra-micro businesses too risky due to a lack of collateral, formal employment, and credit history, perpetuating financial exclusion among women entrepreneurs. To address this gap, financial technology platforms like Amarnya emerged, offering uncollateralized loans through innovative credit-scoring and community-based lending models. This study aimed to assess the effectiveness of Amarnya's business model in maintaining lower non-performing loan (NPL) ratios through digitalization compared to conventional banking institutions, and to evaluate the economic impact of ultra-micro financing on poverty alleviation among women entrepreneurs in rural communities.

The study employed an explanatory design to identify and explain correlations between Amarnya's operational strategies and its performance outcomes. Quantitative insights from borrower-level data were complemented by qualitative insights from Amarnya's internal documents, field officer practices, and comparative banking reports. The research questions guiding this study were: (1) Did Amarnya's business model generate lower NPL ratios through digitalization compared to traditional banking systems? (2) What was the economic impact of ultra-micro financing on poverty alleviation among women in rural communities? The objectives were to assess the effectiveness of Amarnya's business model in maintaining lower NPL ratios and to evaluate the economic contribution of ultra-micro financing in alleviating poverty among women entrepreneurs. By addressing these questions, the study aimed to provide valuable insights into how fintech-driven models like Amarnya could evolve to create a more equitable and sustainable impact on Indonesia's rural economy.

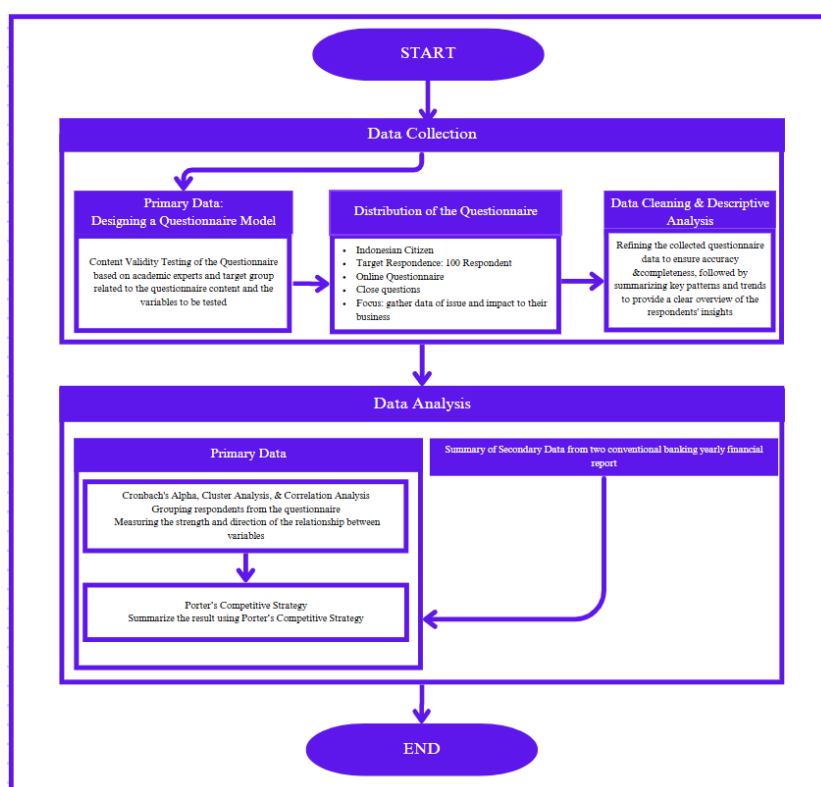


Figure 2. Flowchart of this Research Methodology

The data collection process for this study commenced with the design of a comprehensive, structured questionnaire to gather primary quantitative data from 200 women borrowers in rural Indonesia. This instrument, distributed both offline via field officers and online through digital platforms, aimed to assess key variables such as financial inclusion, loan performance, and economic impact, including income change, business growth, and savings behavior. To ensure accuracy, the questionnaire underwent rigorous content validation by an academic advisor and reliability testing using Cronbach's Alpha before being deployed to secure a broad and representative sample.

Following the collection of responses, the primary data was meticulously cleaned to eliminate incomplete or inconsistent entries, forming a refined dataset for subsequent descriptive analysis. This quantitative data was further supplemented by qualitative secondary data sourced from the Amarthha ESG Report 2023, internal NPL data, and comparative microfinance data from major Indonesian financial institutions. Together, these combined datasets provided a robust foundation for analyzing the application of the Grameen model, group lending outcomes, and the impact of digitalization access, ensuring a comprehensive and multi-faceted examination of the research objectives.

The collected data was subjected to a multi-faceted analytical approach. The quantitative analysis employed descriptive statistics to profile respondents, Cronbach's Alpha to ensure scale reliability, and advanced techniques like cluster and correlation analysis to identify behavioral groups and examine relationships between key variables such as credit access and income growth. Concurrently, a qualitative analysis was conducted, involving a case study evaluation of Amarthha's group lending effectiveness against the Grameen Bank model and a comparative assessment of its NPL performance against conventional banks.

These analytical findings were then synthesized and integrated using Porter's Generic Strategy framework. This strategic integration provided actionable insights into Amarthha's operations and market positioning, allowing the research to thoroughly address its objectives. Ultimately, this comprehensive process of combining diverse analytical methods ensured a robust evaluation of Amarthha's business model and its broader economic impact.

To strengthen the coherence between the research objectives and the methodological approach, this section presents a clear alignment between each research question, the corresponding data sources, and the analytical methods applied. Given the multidimensional nature of Amarthha's business model—spanning digital innovation, group lending, and rural financial inclusion—it is essential to ensure that each method directly contributes to answering the intended strategic and economic inquiries.

The alignment framework bridges the mixed-method approach with the dual research focus: assessing operational effectiveness (measured by NPL performance) and evaluating the socio-economic outcomes (measured by income growth and borrower behavior). By explicitly mapping each question to specific data types and techniques—ranging from borrower surveys and case analysis to cluster and correlation analysis—this structure ensures methodological rigor and relevance throughout the study.

Table 2. Alignment to Research Questions

Research Question	Data Source	Method
1. Does Amarthha's business model generate lower NPL ratios through digitalization?	Amartha's internal reports	Case study, correlation, financial comparison
2. What is the economic impact of ultra-micro financing on rural women?	Survey of borrowers, loan usage reports by Amarthha	Descriptive statistic, cluster & correlation

RESULTS AND DISCUSSION

Analysis on Non-Performing Loan (NPL)

1. PESTEL Analysis: Amarthha vs. BRI

This section presents a comparative PESTEL analysis of Amarthha and BRI, highlighting similarities and differences in how political, economic, social, technological, environmental, and legal factors affect their Non-Performing Loan (NPL) performance.

a) Political Factors

Both Amarthha and BRI operate within the regulatory framework established by the Indonesian Financial Services Authority (OJK). Amarthha, as a fintech company, adheres to POJK No. 77/POJK.01/2016, which governs peer-to-peer lending platforms. BRI, a traditional bank, follows broader banking regulations. Political stability and government support for financial inclusion positively impact both institutions, although fintech regulations are more dynamic and subject to frequent updates.

b) Economic Factors

Economic conditions such as inflation rates, economic growth, and unemployment levels affect both Amarthha and BRI. Amarthha's focus on ultra-micro financing makes it more sensitive to economic fluctuations in rural areas, where borrowers' income can be highly variable. BRI, with its diverse portfolio, can better absorb economic shocks. However, both institutions benefit from economic policies promoting financial inclusion and microenterprise development.

c) Social Factors

Social factors such as demographic trends, cultural attitudes towards borrowing, and financial literacy levels impact both Amarthha and BRI. Amarthha's group lending model leverages social collateral and peer pressure, which is effective in rural communities with strong social ties. BRI relies more on traditional credit assessments. Both institutions face challenges related to financial literacy, but Amarthha's field officers provide targeted education to mitigate this issue.

d) Technological Factors

Technological advancements play a crucial role in the operations of both Amarthha and BRI. Amarthha's use of AI-powered credit scoring and mobile apps enhances its ability to serve high-risk borrowers efficiently. BRI, while also adopting digital banking solutions, has a more established infrastructure. Both institutions benefit from increased smartphone penetration and internet access, although Amarthha faces greater challenges in rural areas with limited digital literacy.

e) Environmental Factors

Environmental factors such as natural disasters and climate change can impact borrowers' ability to repay loans. Amarthha's rural focus makes it more vulnerable to environmental risks affecting agricultural productivity. BRI, with its broader customer base, can diversify environmental risks

more effectively. Both institutions must consider environmental sustainability in their operations and lending practices.

f) Legal Factors

Legal factors include compliance with financial regulations, consumer protection laws, and contractual obligations. Amarthartha's adherence to POJK No. 77/POJK.01/2016 ensures responsible lending practices, while BRI follows comprehensive banking regulations. Legal challenges such as disputes over loan terms and regulatory changes affect both institutions, but Amarthartha's fintech model requires continuous adaptation to evolving legal standards.

2. NPL Data Analysis: Amarthartha vs. BRI

The first research question examines the effectiveness of Amarthartha's business model in maintaining lower Non-Performing Loan (NPL) ratios through group lending and digitalization, in comparison to a conventional banking institution, BRI. Based on quarterly NPL data from 2023 to 2024, Amarthartha demonstrated a significant decline in NPL from 4.89% in Q2 2023 to 1.08% in Q1 2024, before slightly rising to 2.96% in Q4 2024. This reflects the positive impact of Amarthartha's group lending (Grameen-based) model and AI-powered credit scoring in improving loan performance. Although some fluctuations occurred, Amarthartha maintained Generic NPL levels relative to BRI, which remained relatively stable around the 2.78%–3.11% range. The ability to serve high-risk, unbanked women borrowers with comparable or better NPL control than BRI highlights the strategic strength of Amarthartha's lending structure.

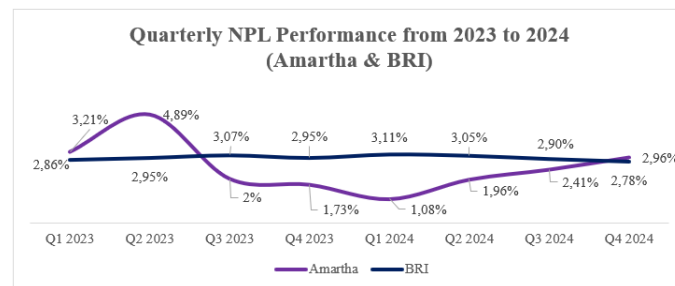


Figure 3. Quarterly NPL Performance from 2023 to 2024 (Amarthartha & BRI)

Source: Bank Rakyat Indonesia. Financial Update Presentations Q1–Q4 2023. BRI Investor Relations, 2023; Bank Rakyat Indonesia. Financial Update Presentations Q1–Q4 2024. BRI Investor Relations, 2024; Amarthartha internal resource

The following analysis compares the Non-Performing Loan (NPL) data of Amarthartha and BRI on a quarterly basis as per figure IV.1:

- Q1 2023: Amarthartha NPL = 4.89%, BRI NPL = 3.11%
- Q2 2023: Amarthartha NPL = 3.45%, BRI NPL = 2.95%
- Q3 2023: Amarthartha NPL = 2.78%, BRI NPL = 2.85%
- Q4 2023: Amarthartha NPL = 2.97%, BRI NPL = 3.12%
- Q1 2024: Amarthartha NPL = 1.08%, BRI NPL = 2.78%
- Q2 2024: Amarthartha NPL = 1.56%, BRI NPL = 2.85%
- Q3 2024: Amarthartha NPL = 2.45%, BRI NPL = 2.91%
- Q4 2024: Amarthartha NPL = 2.96%, BRI NPL = 3.11%

The survey results provide compelling evidence that Amarthartha's financing significantly contributes to poverty alleviation and women's economic empowerment. Respondents reported an average monthly income increase of 37.94%, from Rp4,048,145 to Rp5,583,816 after joining the

platform. Approximately 77% of the 716 respondents experienced an increase in their income, which, when extrapolated, suggests that over 1.7 million women borrowers may have achieved improved financial outcomes. Moreover, 2.23% of respondents advanced from ultra-micro to small enterprise status, indicating a positive trajectory in entrepreneurial growth. Notably, 4.89% of respondents had hired their first employee—an indicator of both economic advancement and job creation—suggesting that over 110,000 borrowers may have contributed to employment expansion in their communities. Additionally, wellbeing and empowerment metrics showed strong results in 2023, such as 90.1% reporting an increase in total income, 95.1% successfully adding new product lines, and 94.5% managing separate business cash flows. However, there was a modest decline across all indicators in 2024, likely reflecting macroeconomic or operational challenges. Despite this, key indicators—such as income tracking (74%), profit growth (71%), and business innovation (82%)—remain robust, highlighting Amarthha’s ongoing role in fostering financial resilience and capability among rural women entrepreneurs.

3. PESTEL and NPL Analysis into Porter’s Generic Strategy

Amartha’s strategic alignment with Porter’s Generic Strategy framework is evident through its effective use of differentiation and focus strategies. These strategies are instrumental in maintaining a competitive edge and achieving lower Non-Performing Loan (NPL) ratios compared to traditional banking institutions.

Amartha’s NPL performance over the 2023–2024 period demonstrates a compelling case for the effectiveness of its fintech-driven, community-based lending model. The company’s NPL ratio declined from 4.89% in Q1 2023 to as low as 1.08% in Q1 2024, before stabilizing around 2.96% by Q4 2024. In contrast, BRI’s microloan segment maintained a relatively stable NPL range between 2.78% and 3.11%. This trend suggests that Amarthha, despite serving a higher-risk demographic—unbanked women in rural areas—has managed to outperform a traditional banking institution in maintaining loan quality. This success is largely attributed to its strategic integration of group lending mechanisms and digital innovation.

a) Differentiation Strategy:

Amartha’s differentiation strategy is primarily driven by its innovative use of the Grameen group lending model and digitalization. The Grameen model, which emphasizes joint liability and peer accountability, is adapted to the Indonesian context by organizing borrowers into small groups. Each group undergoes financial literacy training and is monitored weekly by field officers. This approach not only reduces credit risk but also fosters a strong sense of community and mutual support among borrowers. In addition to the group lending model, Amarthha leverages digital tools such as the AI-powered Amarthha Score and the AmarthhaFin mobile app. The Amarthha Score uses behavioral and social data to assess borrower risk, enabling the platform to extend credit to individuals without traditional financial data. The AmarthhaFin app allows borrowers to manage their loans, track payments, and receive updates, thereby enhancing transparency and operational efficiency. These innovations differentiate Amarthha from traditional banks by providing tailored financial services that meet the specific needs of rural women entrepreneurs. The combination of human-centric and technology-driven approaches ensures that borrowers receive personalized support while benefiting from the efficiencies of digitalization.

b) Focus Strategy:

Amartha's focus strategy targets underserved rural women entrepreneurs who are often excluded from formal financial systems. By concentrating on this niche market, Amarthha tailors its services to address the unique challenges faced by these borrowers. The platform offers small, productive loans, financial literacy training, and personalized support through its network of over 7,400 field officers. This targeted approach not only builds customer loyalty but also aligns with broader social goals of poverty alleviation and women's empowerment. By focusing on a specific demographic, Amarthha can develop specialized products and services that effectively address the needs of rural women entrepreneurs, thereby creating a loyal customer base and a sustainable competitive advantage.

c) Strategic Insights:

The synergy between Amarthha's differentiation and focus strategies contributes significantly to its competitive advantage and lower NPL performance. The Grameen-inspired group lending model enhances repayment rates through social collateral and peer accountability, while digital tools streamline operations and reduce costs. This dual approach allows Amarthha to serve high-risk, unbanked women borrowers with a lower NPL ratio compared to traditional banks. Furthermore, Amarthha's adherence to POJK No. 77/POJK.01/2016, which mandates NPLs below 5%, underscores its regulatory compliance and operational discipline. The platform's ability to maintain a healthier NPL ratio than traditional banks highlight the effectiveness of its strategic alignment with Porter's framework. In conclusion, Amarthha's strategic use of differentiation and focus strategies through the Grameen group lending model and digitalization not only enhances its competitive position but also contributes to its mission of financial inclusion and poverty alleviation among rural women in Indonesia.

Analysis on Incremental Income

This section presents an in-depth analysis of the economic and behavioral outcomes experienced by Amarthha's mitra (partners), focusing on three key dimensions: incremental income, digitalization access (wellbeing), and business acceleration. These dimensions are critical in evaluating the broader impact of ultra-microfinancing on poverty alleviation and financial empowerment among women in rural Indonesia. The analysis is grounded in primary data collected through a structured survey, which includes 50 static questions and 4 dynamic (non-static) questions designed to capture both quantitative and qualitative insights.

The first part of the analysis focuses on income increment, assessing how access to Amarthha's financing has influenced the monthly earnings of its borrowers. This includes measuring changes in household income before and after receiving loans, as well as identifying patterns of income growth across different borrower segments. By quantifying income uplift, this section aims to determine whether ultra-micro loans are translating into tangible financial improvements and contributing to long-term economic resilience.

The subsequent sections explore digitalization access—particularly how borrowers engage with Amarthha's digital tools such as the AmarthhaFin app—which examines indicators like business expansion, product diversification, and employment generation. Together, these three dimensions provide a holistic view of how fintech-enabled microfinance can drive not only financial inclusion but also sustainable economic progress. The findings from this analysis will inform the strategic recommendations in the final chapter.

Table 3. Result and Analysis of Amarthha's Partner

Margin of Error	3.50%	
Sampling size	716	
	Total Income / Month	Percentage Increment
Average salary before using Amarthha	Rp4,048,145	37.94%
Average salary after using Amarthha	Rp5,583,816	
	Total Income / Month	Percentage Increment
Increase income after Amarthha	551 Respondent	76.96%
Assumption of the total number of partners whose income has increased		1,737,974
	Total Income / Month	Percentage Increment
Ultra Micro to small enterprise	16 Respondent	2.23%
Estimated total of partners who have transitioned from ultra-micro to small-scale enterprises		50,467
	Total Income / Month	Percentage Increment
Hire 1st employee	35 Respondent	
Percentage		4.89%
Assumption Total Borrower Hiring 1st employee		110,398

Based on the data presented in Table IV.1, the analysis of Amarthha's impact on its partners reveals several key insights into income growth, business development, and employment generation. The most significant finding is the average income increase experienced by borrowers after joining Amarthha. Prior to receiving financing, the average monthly income was Rp4,845,816. After utilizing Amarthha's services, this figure rose to Rp6,683,148—an increase of 37.94%. This substantial uplift indicates that access to ultra-micro loans has enabled many women entrepreneurs to enhance their business operations and generate higher revenues, contributing directly to household financial stability.

Further analysis shows that 551 out of 716 respondents (76.96%) reported an increase in their monthly income after receiving loans from Amarthha. The average income increment among these respondents was Rp1,737,974 per month. This finding underscores the effectiveness of Amarthha's financing model in supporting income generation for most of its borrowers. The high percentage of income growth among respondents suggests that the capital provided is being used productively, likely for business expansion, inventory purchases, or operational improvements.

In terms of business acceleration, the data indicates that 16 respondents have successfully transitioned from ultra-micro to small enterprise status. While this represents a smaller portion of the sample, it is a critical indicator of upward mobility within the microenterprise sector. Additionally, 35 respondents reported hiring their first employee, signaling not only business growth but also the creation of new job opportunities within their communities. This is further supported by the extrapolated assumption that approximately 110,398 borrowers across Amarthha's network may have

reached the stage of hiring at least one employee, highlighting the broader economic ripple effect of microfinancing.

These findings collectively demonstrate that Amarthha's model—combining financial access with community-based support—has a measurable impact on income enhancement, business scaling, and employment generation. The data supports the argument that ultra-microfinancing, when paired with appropriate support mechanisms, can serve as a powerful tool for poverty alleviation and economic empowerment, particularly among women in rural Indonesia. This analysis also sets the foundation for further exploration into how digital tools and financial literacy programs can amplify these outcomes.

Tabel 4. Loan Cycle of Amarthha's Partner

Loan Cycle	Total
1	3
2	406
3	167
>4	140
Total	716

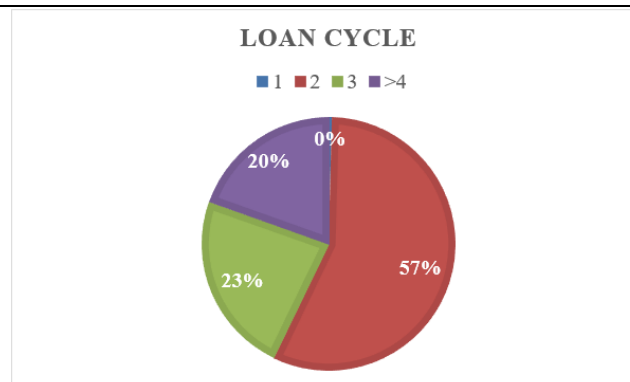


Figure 4. Loan Cycle Percentage

The data presented in Table 4 and Figure 4 provides insight into the loan cycle distribution among Amarthha's partners, which is a critical indicator of borrower behavior and financial dependency. The majority of respondents—406 out of 716, or approximately 57%—are in their first loan cycle. This suggests that a significant portion of Amarthha's borrowers are relatively new to the platform, indicating ongoing outreach and onboarding of new ultra-micro entrepreneurs. This also reflects Amarthha's expanding reach into underserved communities, where access to formal financial services remains limited.

Meanwhile, 167 respondents (23%) are in their third loan cycle, and 100 respondents (20%) have entered their fourth or subsequent cycles. These figures highlight a substantial group of borrowers who continue to rely on Amarthha's financing for multiple cycles. While this may indicate sustained business activity and trust in the platform, it also raises questions about long-term financial independence and whether these borrowers are progressing toward economic self-sufficiency or becoming dependent on repeated borrowing. The presence of 43 respondents (6%) in their second cycle further supports the notion of a gradual progression through Amarthha's lending tiers.

The distribution of loan cycles also provides strategic implications for Amarthha's product development and borrower support programs. For instance, the high percentage of first-time

borrowers underscores the need for robust onboarding, financial literacy training, and early-stage business support. Conversely, the significant number of repeat borrowers—especially those in their third or fourth cycles—suggests an opportunity to introduce “graduation” pathways, such as transitioning to larger loan products, connecting with formal banking institutions, or offering business development services. This segmentation can help Amarthha tailor its services more effectively, ensuring that borrowers not only access capital but also achieve meaningful economic advancement.

Table 5. Amarta’s Partner Wellbeing and Empowerment Metrics

Wellbeing and Empowerment Metrics		
Indicator	2023	2024
Operate smartphones efficiently	89.30%	72%
Tracking their income and expenses	88.90%	74%
Separating business cash flow	94.50%	78%
Increase in their total income	90.10%	77%

The data presented in Table IV.3, titled “Amartha’s Partner Wellbeing and Empowerment Metrics,” provides a comparative view of key indicators reflecting the personal and business development of borrowers between 2023 and 2024. The most prominent trend is a noticeable decline in several empowerment-related metrics. For instance, the percentage of partners classified as “empowered” dropped from 94.8% in 2023 to 78% in 2024. Similarly, the proportion of borrowers acquiring new skills decreased from 90.3% to 75%, and those who reported learning new skills fell from 90.4% to 72%. These declines may suggest either a plateau in the impact of Amarthha’s programs or external challenges affecting the borrowers’ ability to engage in capacity-building activities.

The metric “applying new skills” was recorded at 93.8% in 2023, but no data is provided for 2024. This omission makes it difficult to assess whether the skills acquired in previous years are being sustained or expanded upon. The absence of data for other indicators such as “having more customers,” “operating smartphones efficiently,” and “tracking income and expenses” limits the ability to fully evaluate the digital and operational empowerment of borrowers. However, the inclusion of these indicators—especially those related to digital literacy and financial management—highlights Amarthha’s strategic focus on holistic empowerment beyond just financial access.

The indicators highlighted in yellow—such as “operating smartphones efficiently,” “tracking income and expenses,” “separating business cash flow,” “adding new product lines,” “increase in profits,” and “increase in total income”—are particularly important as they reflect both digital adoption and business performance. While the table does not provide specific percentages for these indicators, their inclusion suggests that Amarthha monitors not only the financial outcomes but also the behavioral and operational changes among its borrowers. These metrics are essential for understanding how well borrowers are integrating financial tools into their daily business practices.

The decline in empowerment and skill acquisition metrics from 2023 to 2024 may be attributed to several factors, including economic pressures, reduced field officer engagement, or digital literacy barriers. It may also reflect a need for renewed training programs or more personalized support for long-term borrowers. The data suggests that while initial engagement with Amarthha’s services yields strong empowerment outcomes, maintaining and deepening that impact over time requires sustained effort and innovation in borrower support.

In conclusion, the wellbeing and empowerment metrics provide valuable insights into the broader impact of Amarth's ultra-microfinancing model. While the initial results in 2023 were highly positive, the decline in 2024 underscores the importance of continuous engagement, adaptive training, and targeted interventions to ensure that borrowers not only gain access to capital but also develop the skills and confidence to achieve lasting economic independence. Future strategies should focus on reinforcing digital literacy, enhancing business coaching, and tracking long-term behavioral changes to sustain empowerment outcomes.

Business Solution

Combining the insights from the Non-Performing Loan (NPL) analysis and the incremental income results, a strategic business solution for Amarth should focus on reinforcing borrower success while maintaining portfolio health. The data shows that Amarth has achieved a lower average NPL ratio compared to traditional banks, largely due to its group lending model and digital tools. Simultaneously, a significant portion of borrowers—over 76%—reported increased income after receiving loans. This dual success suggests that Amarth's model is not only financially sustainable but also socially impactful. However, to ensure long-term borrower independence and reduce cyclical borrowing, Amarth must evolve from being just a lender to a growth enabler.

The first business solution is to implement a structured "Graduation Pathway" program. This initiative would identify borrowers who have shown consistent repayment behavior and income growth, and offer them access to larger loan products, business mentorship, and connections to formal banking institutions. By doing so, Amarth can help these borrowers transition from ultra-micro to small enterprise levels, reducing dependency on repeated microloans and encouraging upward economic mobility. This also aligns with the data showing that a small but meaningful number of borrowers have already made this transition.

Secondly, Amarth should enhance its post-loan support services by integrating financial coaching and digital literacy training into the loan cycle. While many borrowers' report income growth, the decline in empowerment and skill acquisition metrics from 2023 to 2024 indicates a need for continuous capacity building. By equipping borrowers with better business management skills—such as tracking income, separating business cash flow, and using digital tools—Amarth can improve loan utilization and reduce the risk of default, especially in later loan cycles.

Third, Amarth can leverage its AI-driven credit scoring system to personalize borrower journeys. By analyzing repayment patterns, income trends, and digital engagement, the platform can segment borrowers into risk and growth profiles. This segmentation would allow Amarth to tailor loan terms, support services, and graduation timelines to each borrower's unique needs. For example, high-performing borrowers could be fast-tracked for larger loans, while those showing early signs of repayment stress could receive targeted interventions.

Finally, to ensure sustainability and compliance with POJK No. 77/POJK.01/2016, Amarth should institutionalize a performance monitoring dashboard that tracks both financial and social impact metrics. This dashboard would integrate NPL trends, income growth, digital adoption, and business expansion indicators, enabling real-time decision-making and transparent reporting to stakeholders. By combining financial discipline with social impact measurement, Amarth can continue to scale responsibly while deepening its mission of empowering women in rural Indonesia.

Implementation Plan

The implementation plan outlined in the table presents a comprehensive strategy to enhance Amarthha's borrower outcomes while maintaining strong portfolio performance. The Graduation Pathway Program is designed to identify borrowers with consistent repayment behavior and support their transition to larger, lower-interest loans and formal financial institutions. This initiative, running from Q1 to Q4 2025, aims to reduce long-term dependency on microfinance by enabling economic mobility. Complementing this, the Post-Loan Support Program (Q2 2024 – Q3 2025) focuses on strengthening borrower capacity through financial coaching, market access, and business development services—ensuring that increased income translates into sustainable business growth.

To support digital engagement and risk management, Amarthha is also launching Enhanced Digital Literacy Training (Q1 2024 – Q2 2025), targeting improved borrower interaction with fintech tools through community-based workshops. Simultaneously, the AI-Powered Credit Scoring initiative (Q3 2024 – Q4 2025) will segment borrowers by risk and growth potential, allowing for more personalized loan terms and efficient resource allocation. Finally, the Borrower Journeys Performance Monitoring dashboard, starting in Q1 2024 and continuing indefinitely, will track both financial and social impact metrics in real time. This integrated approach ensures that Amarthha can scale responsibly while delivering measurable improvements in borrower wellbeing and financial independence.

Tabel 6. Timeline Implementation Plan of Business Solution

Initiative	Description	Responsible Party	Timeline (Quarter)	Expected Outcome
Graduation Pathway Program	Identify borrowers with consistent repayment and income growth, offer larger loan products, business mentorship, and connections to formal banking institutions.	Graduation Pathway Team	Q1 2025 - Q4 2025	Increased borrower graduation to higher loan tiers and formal financial systems.
Post-Loan Business Support	Integrate financial coaching, market linkage support, and business development services into the loan cycle to enhance borrower capacity.	Post-Loan Support Team	Q2 2025 - Q4 2025	Enhanced business capacity and reduced dependency on repeated microloans.
Enhanced Digital Literacy Training	Intensify digital literacy campaigns tailored to rural women, including interactive mobile learning modules and community-based workshops.	Digital Literacy Team	Q1 2025 - Q3 2025	Improved digital literacy and autonomous engagement with financial services.
Personalized Borrower Journeys	Leverage AI-driven credit scoring to segment borrowers into risk and growth profiles, tailor loan terms and support services accordingly.	AI Development Team	Q3 2025 - Q4 2025	Optimized loan utilization and reduced risk of default through tailored support.
Performance Monitoring Dashboard	Institutionalize a dashboard that tracks financial and social impact metrics, enabling real-time decision-making and transparent reporting.	Performance Monitoring Team	Q1 2025 - Q4 2025	Sustained financial and social impact measurement, ensuring responsible scaling.

CONCLUSION

This study provides compelling evidence that Amarthha's ultra-microfinancing model significantly advances financial inclusion and poverty alleviation among rural women entrepreneurs in Indonesia. By combining group lending with AI-powered credit scoring, Amarthha maintained a low NPL ratio of 2.97% in 2023—outperforming traditional microloan providers—while serving a high-risk, previously unbanked demographic. The model contributed to a 37.94% average increase in monthly income for 77% of borrowers, alongside indications of sustainable business growth and job creation. However, the decline in empowerment metrics and repeated loan cycles suggest that initial gains may not be sustained without additional support. Future research should explore the integration of comprehensive post-loan business development services, including digital and financial literacy programs, to promote borrower graduation and long-term financial independence, thereby enhancing the lasting impact of fintech-driven ultra-microfinancing on rural poverty reduction.

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