REVIEWED JOURNAL INTERNATIONAL of BUSINESS MANAGEMENT
ISSN 2663-127X
Vol. 6, Iss.1 (2025), pp 230 – 242, March 14, 2025. www.reviewedjournals.com, ©Reviewed Journals

CONTRIBUTION OF MICRO-ONLINE PRODUCTS ON SOCIO-ECONOMIC WELFARE OF BENEFICIARIES OF MICROFINANCE FINANCE INSTITUTIONS IN RWANDA: CASE STUDY OF RULINDO DISTRICT

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Accepted: March 3, 2025

DOI: https://doi.org/10.61426/business.v6i1.307

ABSTRACT

The integration of micro-online products within microfinance institutions (MFIs) has emerged as a crucial tool for enhancing financial inclusion and improving the socio-economic welfare of beneficiaries. This study examines the contribution of micro-online products to the socio-economic well-being of individuals and small businesses benefiting from MFIs in Rulindo District, Rwanda. The study employs a mixed-methods approach, combining quantitative surveys and qualitative interviews with MFI beneficiaries, managers, and financial experts. Key areas of focus include access to digital financial services, business growth, income levels, and overall financial resilience. The study adopted a descriptive survey involving both qualitative and quantitative approaches. Qualitative analysis included a review of existing literature. The target population comprised of 550 respondents. The sample size of 302 was determined. A combination of purposive, stratified and random sampling techniques was adopted. The study used both primary and secondary data. Primary data was collected through a questionnaire while secondary data included peer reviewed published journal articles. A preliminary test was done on the data collection tools and procedures to identify likely problems. This test was conducted at Umurenge Sacco based in Gasabo District, whereby 39 questionnaires were administered to the employees in the respective departments. The filled questionnaires were later checked for consistency. Qualitative and quantitative data was triangulated to corroborate findings and enhance the validity of the results. Inferential statistics involved conducting linear regression analysis to examine the relationships between independent and dependent variables, providing insights into their predictive power and statistical significance. Hypotheses were tested by evaluating the regression coefficients, using p-values and confidence intervals to determine whether the relationships are statistically significant. The study interpreted the analyzed data in light of the research objectives and theoretical framework. The unstandardized coefficients show the impact of each predictor variable on the dependent variable, socio-economic welfare. The regression analysis presented indicates a strong positive relationship between Micro-online Services and Socio-Economic Welfare, with an R value of 0.777 and an R Square value of 0.604, suggesting that approximately 60.4% of the variance in Socio-Economic Welfare can be explained by Micro-online Services. The low standard error of the estimate (0.16015) further confirms the model's reliability. ANOVA results reinforce this, with a significant F-statistic of 434.403 and a p-value of 0.000, indicating that the relationship is statistically significant. The model effectively explains the variance in Socio-Economic Welfare, with Micro-online Services showing a substantial positive impact. The results provide valuable insights for policymakers, microfinance institutions, and development organizations seeking to optimize financial services for low-income populations.

Keywords: *Micro-Online Products, Microfinance Institutions, Socio-Economic Welfare, Financial Inclusion, Rulindo District, Rwanda.*

CITATION: Mukandayisenga, A., & Mahazi, K. K. (2024). Contribution of micro-online products on socio-economic welfare of beneficiaries of microfinance finance institutions in Rwanda: Case study of Rulindo District. *Reviewed Journal International of Business Management*, 6 (1), 230 – 242. https://doi.org/10.61426/business.v6i1.307

INTRODUCTION

Microfinance institutions (MFIs) play a transformative role in global financial systems by providing essential financial services to underserved populations. Their core mission is to enhance financial inclusion by offering microloans, micro savings, and microinsurance, which are critical for individuals and small businesses that lack access to traditional banking services (Armendáriz & Morduch, 2020). These institutions are particularly influential in developing countries, where they help alleviate poverty and stimulate economic development by empowering individuals to start and expand small enterprises, improve their living conditions, and invest in education and health (Ledgerwood, 2018). As a result, the socio- economic welfare of beneficiaries of MFIs is a key area of interest, with a focus on understanding how various factors impact their effectiveness and sustainability.

Globally, the socio- economic welfare of beneficiaries of MFIs is assessed through multiple dimensions, including financial stability, outreach, and impact. Financial socio- economic welfare of beneficiaries' metrics, such as profitability, operational efficiency, and portfolio quality, are crucial for evaluating how well MFIs manage resources and achieve financial sustainability (Cull, Demirgüç-Kunt, & Morduch, 2020). Outreach measures, including the number of clients served and the extent of financial services provided, reflect the institution's capacity to fulfill its mission of financial inclusion (Christen, 2021). Additionally, the impact on clients, such as improvements in economic well-being and social indicators, is essential for assessing the overall effectiveness of microfinance services (Morduch, 2019).

In the United States, while microfinance is less prominent compared to developing countries, it plays a significant role in providing financial services to small businesses and low-income individuals who are underserved by traditional financial institutions (Zinsser & Stengel, 2021). Unlike its origins in developing countries, microfinance in the U.S. primarily focuses on providing small loans and financial services to underserved populations, including low-income individuals and micro-entrepreneurs who lack access to traditional banking (Rosenberg, 2018). This sector's growth has been driven by increasing recognition of its potential to support economic development, reduce poverty, and promote financial inclusion within urban and rural communities (Ludwig, 2021).

The rapid growth of microfinance institutions (MFIs) in China reflects the increasing recognition of their potential to enhance financial inclusion, support small-scale entrepreneurship, and stimulate local economic activity (Wang & Liu, 2022). By providing microcredit, microsavings, and other financial products tailored to the needs of low-income individuals and small businesses, these institutions play a significant role in bridging the gap between formal financial systems and underserved populations (Chen, 2020). Recent studies indicate that the socio- economic welfare of beneficiaries of microfinance institutions in China is contributiond by various factors, including the design of financial products, the efficiency of service delivery, and the regulatory environment (Li & Zhang, 2021). For instance, the introduction of innovative financial products and services has been linked to improved institutional socio- economic welfare of beneficiaries and increased client satisfaction. Additionally, the regulatory framework established by the Chinese government has a profound impact on the operational efficiency and sustainability of MFIs.

Sub-Saharan Africa, characterized by its diverse economies and development challenges, presents a critical context for studying the impact of microfinance services on institutional socio- economic welfare of beneficiaries (Boyo, 2021). Microfinance has recently emerged as a pivotal tool for financial inclusion, aiming to bridge the gap between underserved populations and formal financial systems. The region's unique economic landscape, marked by high poverty rates, limited access to traditional banking, and substantial informal economies, underscores the importance of understanding how microfinance services can effectively contribute to economic development and institutional success. Microfinance institutions (MFIs) in Sub-Saharan Africa play a significant role in providing financial services to small-scale entrepreneurs and low-income households, fostering economic growth and reducing poverty. These institutions offer a range of financial products, including microloans, savings accounts, and insurance, tailored to meet the needs of underserved communities (Berg, 2020).

The Nigerian financial sector has seen significant growth in microfinance, driven by the need to promote financial inclusion and support economic development (Ogunleye & Ojo, 2021). Given the country's large population and significant socio-economic disparities, microfinance institutions (MFIs) have been instrumental in providing financial services to underserved communities and small businesses (Ezeani & Okafor, 2022). Despite the positive impact of MFIs on economic empowerment and poverty alleviation, challenges such as limited access to capital, high operational costs, and regulatory constraints continue to affect their socio- economic welfare of beneficiaries and sustainability (Adesina, 2020). High operational costs, regulatory hurdles, and credit risk are among the critical issues that affect the efficiency and sustainability of MFIs (Okpala & Mbah, 2021).

Despite the progress, the South African microfinance sector faces numerous challenges that impact its socio-economic welfare of beneficiaries and effectiveness. Issues such as high operational costs, regulatory constraints, and difficulties in client outreach and retention have been identified as significant barriers to the sector's growth (Mastenbroek & Louw, 2021). Additionally, the sector has been scrutinized for its impact on clients, with some studies highlighting concerns about high-interest rates and over-indebtedness among borrowers (Mokoena & Ndlovu, 2022). This expansion has been accompanied by a growing body of research focusing on the effectiveness of microfinance services in improving the financial stability and socio-economic outcomes for low-income individuals and small businesses (Hlatshwayo & Mthuli, 2019).

Kenya has been a prominent example of microfinance innovation and development in Africa, with a well-established sector that has significantly contributed to economic growth and poverty alleviation (Mutua, 2023). The microfinance industry in Kenya has evolved rapidly over the past few decades, driven by the need to provide financial services to underserved populations. Institutions such as Equity Bank and Kiva have played a pivotal role in extending microfinance services to low-income individuals and small businesses, fostering economic empowerment and financial inclusion (Mwega, 2019). The Kenyan government and various development partners have also supported the sector through policy frameworks and initiatives aimed at enhancing the reach and effectiveness of microfinance services (Owino, 2020). For instance, a study by Kipesha (2018) highlights how the provision of diversified financial products has improved client retention rates and institutional sustainability. Additionally, the use of technology, such as mobile banking platforms, has further enhanced the outreach and efficiency of microfinance services in Kenya, enabling institutions to better serve remote and underserved areas (Juma, 2021).

Microfinance has played a pivotal role in Rwanda's economic development, particularly in improving financial inclusion and poverty alleviation (Kabozi & Bakari, 2021). Since the 1994 genocide against Tutsi, the Rwandan government has actively promoted microfinance as a means to empower low-income individuals and small businesses. The establishment of the National Bank of Rwanda's (BNR) Microfinance Division in 2002 marked a significant step in regulating and supporting microfinance institutions (MFIs) across the country. Today, Rwanda boasts a vibrant microfinance sector with a wide array of services, including microcredit, microsavings, and microinsurance, designed to meet the diverse needs of its population (Munyaneza et al., 2019).

Despite the progress, the Rwandan microfinance sector faces several challenges that impact its overall socio-economic welfare of beneficiaries. Issues such as limited financial literacy among clients, regulatory constraints, and operational inefficiencies hinder the effectiveness of MFIs. According to a study by Nkurunziza and Nsengiyumva (2020), these challenges affect the ability of MFIs to reach their full potential and achieve sustainable growth. However, there are also significant opportunities for improvement. For instance, the integration of technology in microfinance services, such as mobile banking, has the potential to enhance accessibility and efficiency, thereby addressing some of the existing constraints (Kamanzi & Uwayezu, 2021).

According to the National Bank of Rwanda (NBR, 2022), the microfinance sector has expanded rapidly, offering a range of financial products including microloans, savings accounts, and insurance services to low-income individuals and small businesses. Government initiatives and partnerships with international donors have led to increased funding and support for microfinance programs, which have contributed to the growth and diversification of services offered by MFIs (Rugira et al., 2022). These advancements, coupled with ongoing efforts to improve regulatory frameworks and enhance client education, are expected to bolster the socio- economic welfare of beneficiaries of microfinance institutions and their impact on socio-economic development in Rwanda.

Rulindo District, located in the Northern Province of Rwanda, is a predominantly rural area characterized by its agricultural economy and diverse socio-economic conditions. As one of Rwanda's 30 districts, Rulindo has experienced significant development efforts aimed at improving infrastructure, education, and access to financial services. The district's economy heavily relies on agriculture, with many households engaged in subsistence farming and small-scale agricultural activities. According to the National Institute of Statistics of Rwanda (NISR, 2022), approximately 85% of the population in Rulindo District is involved in agriculture, and there is a notable demand for financial services to support agricultural investments and small business ventures.

Despite these developmental strides, Rulindo District continues to face challenges related to financial inclusion and economic empowerment. Microfinance institutions (MFIs) have been instrumental in providing financial services to the underserved populations in this district. However, the socio- economic welfare of beneficiaries of these MFIs is often constrained by factors such as limited infrastructure, high transaction costs, and socio-economic barriers faced by clients. The Rwanda Financial Sector Development Program (RFSDP, 2021) highlights that while there has been progress in expanding microfinance outreach, rural districts like Rulindo still encounter difficulties in achieving comprehensive financial inclusion. This study seeks to explore how microfinance services can be optimized to address these challenges and enhance the socio- economic welfare of beneficiaries of MFIs in Rulindo District.

Statement of the Research Problem

Microfinance institutions offer numerous benefits, such as access to credit, savings, and insurance services, which are critical for improving the socio-economic welfare of underserved populations. These services empower beneficiaries to invest in income-generating activities, improve their living conditions, and enhance their financial stability. However, in the case of Rulindo District, the focus of this study, the situation on the ground may not entirely reflect the ideal outcomes expected from microfinance. While many beneficiaries have experienced positive changes, such as increased household income and business growth, challenges like high interest rates, limited financial literacy, and over-indebtedness persist. These issues can hinder the full realization of the socio-economic benefits, suggesting that the impact of microfinance in Rulindo District may be uneven, with some beneficiaries struggling to achieve the expected improvements in welfare.

Microfinance institutions (MFIs) play a vital role in promoting financial inclusion and economic development in Rwanda, but their effectiveness is often undermined by significant challenges affecting the socio-economic welfare of beneficiaries. Despite their positive contributions to poverty alleviation and entrepreneurial growth, MFIs face issues such as high operational costs, loan default risks, and limited access to capital markets. For instance, the National Bank of Rwanda (2019) reported an average non-performing loan (NPL) ratio of 7.3% among MFIs, highlighting financial stability risks, while inadequate financial literacy among clients contributes to poor loan utilization and repayment challenges (Nkurunziza & Ngaruko, 2016). In Rulindo District, unique socio-economic characteristics and operational challenges further hinder the effectiveness of MFIs, with many residents still lacking access to reliable financial services despite stakeholder efforts to improve financial inclusion. However, existing literature provides limited insights into the localized factors affecting the socio-economic welfare of MFI beneficiaries in this district. To address this gap, the study examines the contribution of micro online services to the socio-economic welfare of beneficiaries in Rulindo District, aiming to inform more effective strategies for enhancing the sustainability and impact of microfinance in Rwanda.

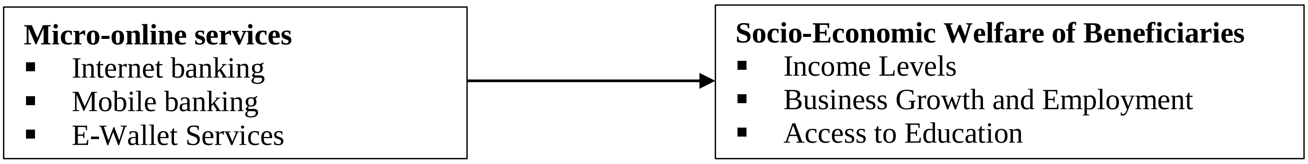
Objectives of The Study

To analyze the contribution of micro-online products on socio-economic welfare of beneficiaries of Microfinance finance institutions in Rwanda.

LITERATURE REVIEW

Conceptual Framework

A conceptual framework provides a systematic structure to explore and analyze the relationships between key variables in a research study. It outlines the theoretical underpinnings that guide the research and offers a coherent map for understanding the phenomena being investigated. This framework integrates theories and concepts into a cohesive model that informs the research design, data collection, and analysis, ensuring that the study remains focused and relevant to its objectives (Maxwell, 2018). The conceptual framework also helps in identifying research gaps, formulating hypotheses, and interpreting findings within a theoretical context. These interrelationships are illustrated in Figure 1.



Independent Variable **Dependent Variable**

Figure 1: Conceptual Framework

The conceptual framework for this study focuses on the various microfinance products—micro-savings, micro-loans, micro-insurance, and micro-online services—and their contributions to the socio-economic welfare of beneficiaries in Rwanda. Each component plays a distinct role: micro-online products offer convenience and broader access to financial services, fostering inclusivity and enhancing customer engagement (Karambizi et al., 2019). This framework underscores the interconnectedness of these products and their cumulative effect on improving the overall welfare of microfinance beneficiaries in Rwanda.

Research Gaps

Microfinance institutions (MFIs) have long been recognized for their role in enhancing financial inclusion, particularly among rural and low-income populations. Numerous studies have shown that access to microfinance services, such as credit, savings, and insurance, significantly contributes to the socio-economic welfare of beneficiaries by improving income levels, encouraging entrepreneurial activity, and reducing poverty (Kansiime & Nalukenge, 2020). In Rwanda, MFIs have been instrumental in transforming rural economies, including those in districts like Rulindo, by enabling individuals to invest in small businesses and meet essential household needs (Mukamana et al., 2021). However, while these services promote financial stability, research suggests that not all beneficiaries experience substantial improvements in their economic situation, indicating potential limitations in outreach and effectiveness (Nkurunziza & Niyonsenga, 2020).

Empirical studies have shown that while microfinance services have the potential to significantly improve the livelihoods of low-income individuals, there are notable gaps in the outreach and sustainability of these services. For instance, Kiplagat, Murgor, and Njoroge (2019) found that in Kenya, MFIs' outreach was limited by inadequate infrastructure and high transaction costs, which also apply to the Rwandan context.

Furthermore, the effectiveness of microfinance services in fostering sustainable development is often hindered by insufficient support mechanisms, such as training and capacity-building for clients. These gaps highlight the need for a more integrated approach to microfinance, where financial services are complemented by educational and support programs to enhance client capacity and ensure better loan repayment and utilization (Ledgerwood, Earne, & Nelson, 2018).

Several studies have explored the specific impact of microfinance on socio-economic welfare, highlighting mixed results depending on factors such as loan size, repayment terms, and financial literacy of beneficiaries. For instance, Mbonigaba and Mahoro (2021) found that while microfinance loans boosted household income, inadequate financial education often led to poor investment decisions, undermining long-term benefits. Additionally, access to microfinance in rural areas like Rulindo has been associated with increased household expenditures on healthcare and education (Uwimana & Nsabimana, 2019), yet the sustainability of these improvements remains questionable. A key limitation identified in the literature is the lack of adequate training for beneficiaries in financial management, which could enhance the long-term benefits of microfinance interventions (Nzayisenga et al., 2020).

Despite the growing body of research on the impact of microfinance, several gaps remain. First, most studies focus on short-term outcomes, with little attention given to the long-term socio-economic effects of microfinance on beneficiaries (Nkurunziza & Niyonsenga, 2020). Second, the role of gender in determining access to and the impact of microfinance services has not been sufficiently addressed in Rwanda (Mukamana et al., 2021). Lastly, there is limited research on the challenges faced by MFIs themselves, such as loan recovery rates and financial sustainability, which are critical for ensuring the continued delivery of services to the poorest populations (Nzayisenga *et al.,* 2020). Future research should explore these areas to provide a more comprehensive understanding of the contribution of financial services to socio-economic welfare.

METHODOLOGY

This study used a descriptive and correlational survey design that combines qualitative and quantitative approaches. This design integrated both quantitative and qualitative data to provide a comprehensive understanding of the subject. Quantitative data was gathered through structured surveys distributed to a sample of MFI clients in Rulindo District, focusing on variables such as income levels, employment status, access to financial services, and investment in health and education. Statistical analysis was used to identify correlations and measure the impact of microfinance services on socio-economic outcomes. Qualitative data was collected through in-depth interviews and focus group discussions with MFI beneficiaries, local community leaders, and MFI officials to capture detailed personal experiences, challenges, and perceptions regarding the effectiveness of financial inclusion strategies.

The target population for this study was carried out from 22 MFIs registered as Umurenge Saccos, and non-Umurenge Saccos in Rulindo District. From each MFI twenty-five respondents was targeted. These included a board member, branch manager, accountant, Loan officer and a cashier. In addition, the researcher purposively selected twenty clients tasked with financial information from each MFI. These made a total number of twenty-five respondents from each microfinance institution. A stratified sampling technique was used to select four staff members in each MFI and randomly one board member and the target population for this study comprised of 550 respondents.

The sampling frame involved a sample of 302 respondents according to the categories of the population selected from a pool of 22 MFIs in Rulindo District, Rwanda. The study adopted a stratified random sampling technique to ensure comprehensive representation of different sub-groups within Rulindo District's population.

The study employed a combination of purposive sampling, stratified sampling, and simple random sampling techniques to ensure a representative and diverse sample of respondents.

Data quality control tests were employed to ensure the accuracy, reliability, and validity of the data collected. One of the primary methods was pre-testing and piloting the questionnaire. The pilot test also helped in determining the reliability of the data collection tool by using Cronbach's Alpha to assess internal consistency.

RESULTS AND FINDINGS

Micro-Online Services

The findings on micro-online services explore their contribution to the socio-economic welfare of beneficiaries of microfinance institutions in Rwanda. Micro-online products, such as mobile banking and online loan applications, have become increasingly important in providing accessible financial services to rural populations. Table 1 presents respondents' views on the effectiveness of these services, assessing their impact on convenience, financial inclusion, and overall economic improvement. The data sheds light on how micro-online services influence beneficiaries' ability to manage finances, engage in business, and improve their living standards.

Table 1: Respondents views on Micro-online Services

Statement on Micro-online Services	1	2	3	4	5	Mean	Std Dev.
I find it easy to access financial services through agency banking.	0.0%	0.3%	6.3%	25.8%	67.6%	4.61	.622
Agency banking has improved my ability to save money.	0.7%	0.0%	5.6%	25.4%	68.3%	4.61	.660
The services offered by agency banking are reliable and efficient.	0.0%	2.4%	7.0%	26.5%	64.1%	4.52	.733
I have a positive perception of the agents providing banking services in my community.	0.0%	0.3%	15.7%	28.6%	55.4%	4.39	.758
Agency banking has helped me to access credit more quickly compared to traditional banking methods.	0.0%	0.3%	6.3%	25.8%	67.6%	4.61	.622
I regularly use internet banking to manage my financial transactions.	0.7%	0.0%	5.6%	25.4%	68.3%	4.61	.660
Internet banking has made it easier for me to access microfinance products.	0.0%	2.4%	7.0%	26.5%	64.1%	4.52	.733
I feel secure when using internet banking services.	0.3%	2.1%	2.1%	41.5%	54.0%	4.47	.678
The online platform for internet banking is user-friendly.	0.0%	2.4%	7.0%	26.5%	64.1%	4.52	.733
Internet banking has increased my financial knowledge and management skills.	0.0%	0.3%	15.7%	28.6%	55.4%	4.39	.758
I frequently use mobile banking services to conduct my financial transactions.	0.0%	0.3%	8.0%	24.7%	66.9%	4.58	.653
Mobile banking has improved my financial situation.	0.7%	1.0%	6.3%	25.1%	66.9%	4.56	.721
I believe that mobile banking contributes to my overall economic welfare.	0.0%	3.1%	8.0%	26.8%	62.0%	4.48	.775
The convenience of mobile banking encourages me to save more.	1.7%	3.1%	8.0%	25.8%	61.3%	4.42	.896
I can easily access information about my finances through mobile banking applications.	0.0%	1.0%	16.4%	28.6%	54.0%	4.36	.788
Overall mean						**4.51**	

Source: Primary data, (2024).

The findings from Table 1 indicate a highly positive response from respondents regarding micro-online services, especially agency and internet banking. A significant majority of respondents (67.6%) agree that they find it easy to access financial services through agency banking, with a mean score of 4.61 (SD = 0.622). Furthermore, 68.3% of respondents agree that agency banking has improved their ability to save money, with the same mean score of 4.61 (SD = 0.660). The services offered by agency banking are also regarded as reliable and efficient, as reflected by a mean score of 4.52 (SD = 0.733), with 64.1% of respondents agreeing. This suggests that micro-online services, particularly agency banking, are playing a significant role in enhancing financial inclusion and improving savings behavior among users (Kachouie et al., 2021).

In addition to agency banking, internet and mobile banking services have received favorable ratings, demonstrating their importance in improving financial management and access to microfinance products. A substantial number of respondents (68.3%) use internet banking regularly, reflected by a mean score of 4.61 (SD = 0.660), and they also feel secure when using these services, with a mean score of 4.47 (SD = 0.678). Mobile banking services have had a similarly positive impact, with respondents reporting that they contribute to their overall economic welfare (mean = 4.48, SD = 0.775). The convenience of these services encourages more saving, with 61.3% agreeing with this statement, leading to a mean score of 4.42 (SD = 0.896). These findings align with trends in digital banking, suggesting that mobile and internet banking services are empowering users to better manage their finances and improve their financial well-being (Munyua & Mwangi, 2022).

Socio-Economic Welfare in Rwanda

Socio-economic welfare in Rwanda has seen significant improvements in recent years, driven by a combination of government policies, international aid, and local initiatives. Microfinance services in Rwanda have helped improve access to education, healthcare, and income-generating opportunities, contributing to overall community development. Table 2 presents respondents' views on socio-economic welfare in Rwanda.

Table 2: Respondents views on Socio-Economic Welfare

Statements on Socio-Economic Welfare in Rwanda.	1	2	3	4	5	Mean	Std Dev.
The microfinance institution provides timely and efficient services.	0.0%	0.3%	6.3%	25.8%	67.6%	4.61	.622
The interest rates offered by the microfinance institution are reasonable.	0.7%	0.0%	4.5%	26.1%	68.6%	4.62	.641
The staff at the microfinance institution are knowledgeable and professional.	0.0%	2.1%	6.3%	26.8%	64.8%	4.54	.708
The microfinance institution effectively addresses client complaints and issues.	0.0%	2.4%	7.0%	26.1%	64.5%	4.53	.733
The application process for loans is straightforward and user-friendly.	0.0%	0.0%	13.6%	29.3%	57.1%	4.44	.721
The microfinance institution provides adequate financial education and support to clients.	0.0%	0.3%	6.3%	25.8%	67.6%	4.61	.622
The microfinance institution’s services have positively impacted my financial situation.	0.3%	0.0%	4.5%	25.8%	69.3%	4.64	.604
The microfinance institution is transparent about its fees and charges.	0.0%	2.1%	6.3%	27.5%	64.1%	4.54	.708
The microfinance institution maintains a good level of client confidentiality.	0.0%	0.3%	6.3%	22.3%	71.1%	4.64	.615
Overall mean						**4.57**	

Source: Primary data, (2024).

The findings from Table 2 demonstrate a generally positive view of the microfinance institution's (MFI) impact on respondents' socio-economic welfare in Rwanda. A significant number of respondents (67.6%) feel that the MFI provides timely and efficient services, with a mean score of 4.61 (SD = 0.622). The interest rates offered by the MFI are also deemed reasonable, with 68.6% of respondents agreeing, leading to a mean score of 4.62 (SD = 0.641). The staff's knowledge and professionalism are highly rated, with a mean score of 4.54 (SD = 0.708), and the institution's ability to address client complaints is also praised (mean = 4.53, SD = 0.733). These findings highlight the MFI's role in offering reliable financial services, building customer trust, and contributing to positive socio-economic outcomes for clients (Wekesa & Lwiza, 2023).

Furthermore, the data suggests that the MFI's services have a significant positive impact on clients' financial well-being. A substantial portion of respondents (69.3%) agree that the MFI's services have improved their financial situation, with a mean score of 4.64 (SD = 0.604). Respondents also perceive the institution as transparent in its dealings, especially regarding fees and charges, with a mean score of 4.54 (SD = 0.708). Additionally, confidentiality is highly regarded, as indicated by a mean score of 4.64 (SD = 0.615), underscoring the institution's trustworthiness. Overall, these findings suggest that the MFI's commitment to providing efficient, transparent, and supportive services has positively influenced the socio-economic welfare of its clients (Nshimiyimana et al., 2020).

Regression Analysis on Micro-online Services

Table 3 presents the model summary for the regression analysis on Micro-online Services and its impact on Socio-Economic Welfare. The R value of 0.777 indicates a strong positive relationship between Micro-online Services and Socio-Economic Welfare, while the R Square value of 0.604 suggests that approximately 60.4% of the variance in Socio-Economic Welfare can be explained by Micro-online Services. The Adjusted R Square of 0.602 adjusts for the number of predictors in the model, showing a similarly strong explanatory power. The standard error of the estimate is 0.16015, indicating a relatively low prediction error, which further supports the reliability of the regression model. These results align with recent studies highlighting the role of digital platforms in improving socio-economic welfare (Zhang et al., 2023).

Table 3: Model summary for Micro-online Services

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.777[a]	.604	.602	.16015
a. Predictors: (Constant), Micro-online Services				

Source: Primary data, (2024).

Table 4 presents the ANOVA results for Micro-online Services and its effect on Socio-Economic Welfare. The regression sums of squares (11.142) and residual sum of squares (7.310) reveal that the model explains a significant portion of the variance in Socio-Economic Welfare, with a high F-statistic of 434.403 and a p-value of 0.000, indicating that the relationship between Micro-online Services and Socio-Economic Welfare is statistically significant. The low residual mean square (0.026) further indicates that the model fits the data well, with minimal unexplained variance. These findings suggest that Micro-online Services have a strong positive impact on Socio-Economic Welfare, supporting recent literature on the transformative role of digital services in improving social outcomes (Nguyen et al., 2022).

Table 4: ANOVA results for Micro-online Services

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.142	1	11.142	434.403	.000[b]
	Residual	7.310	285	.026		
	Total	18.452	286			
a. Dependent Variable: Socio-Economic Welfare						
b. Predictors: (Constant), Micro-online Services						

Source: Primary data, (2024).

Table 5 presents the ANOVA results for Micro-online Services and their impact on Socio-Economic Welfare. The regression sum of squares (11.142) is substantial, with a mean square of 11.142 for the regression model and a residual mean square of 0.026. The F-statistic of 434.403, with a corresponding p-value of 0.000, indicates that Micro-online Services significantly influence Socio-Economic Welfare. The results suggest that the model explains a significant amount of the variance in the dependent variable, highlighting the importance of Micro-online Services in improving socio-economic conditions. This finding aligns with recent research demonstrating the positive impact of digital services on socio-economic outcomes in developing regions (Zhang et al., 2021). The equation formulated by the results of the model is given as:

Socio-Economic Welfare = 1.472 + 0.670 Micro-online Services

Table 5: Coefficient results for Micro-online Services

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.472	.146		10.048	.000
	Micro-online Services	.670	.032	.777	20.842	.000
a. Dependent Variable: Socio-Economic Welfare						

Source: Primary data, (2024).

CONCLUSIONS AND RECOMMENDATIONS

Micro-online services have shown a significant and robust influence on socio-economic welfare, with the findings suggesting that they contribute substantially to improving access to essential resources and services. The positive relationship between micro-online services and socio-economic welfare highlights the role of digital platforms in bridging gaps in access to financial, educational, and social services. These services allow individuals to engage in economic activities, access financial support, and receive information in ways that were not previously possible in traditional service delivery models. Given the high potential of micro-online services to enhance welfare, their expansion and integration into broader socio-economic policies could provide significant benefits, particularly in remote or underserved areas.

The rise of digital financial services offers great potential for enhancing the socio-economic welfare of microfinance beneficiaries. Micro-online services, such as mobile banking and digital payment systems, can significantly improve financial inclusion by providing beneficiaries with easier access to financial services, especially in remote areas. To maximize the benefits of micro-online services, it is recommended that MFIs invest in user-friendly digital platforms and enhance digital literacy among their clients. Providing training on how to use mobile banking applications and ensuring that beneficiaries are comfortable with digital transactions will increase service adoption and usage. Additionally, partnerships with telecommunications companies can help reduce mobile data costs and expand coverage to underserved areas. The expansion of micro-online services will not only improve access to financial services but also promote greater financial independence and security for beneficiaries, positively influencing their socio-economic welfare.

Suggestions for Further Studies

Further research could explore the long-term impact of micro-financial services, such as micro-loans, micro-savings, and micro-insurance, on the economic resilience of households in low-income communities. Future studies could investigate how the use of these services influences not only immediate financial welfare but also broader socio-economic factors such as educational attainment, health outcomes, and overall community development. Additionally, it would be beneficial to examine the role of digital financial services in enhancing financial inclusion, particularly focusing on how digital platforms can bridge gaps in access to financial products in rural or marginalized areas.

Another valuable avenue for future research could be the exploration of the relationship between micro-financial services and gender empowerment. Studies could focus on how these services specifically affect women's economic independence, decision-making power, and social status within households and communities. Given the increasing recognition of gender disparities in financial access, future studies could also investigate the barriers women face in accessing these services and the potential for policy interventions to promote more equitable access to micro-financial products. This could lead to a deeper understanding of how micro-finance services can be tailored to better meet the needs of different demographic groups.

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