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Challenges of Microfinance and Financial Inclusion for Development Using WASPAS Method

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Abstract: *Financial inclusion refers to the process of ensuring that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit, and insurance – delivered in a responsible and sustainable way. The concept aims to eliminate the barriers that exclude people from participating in the financial sector, enhancing their ability to improve their economic conditions. Microfinance is a critical tool within the broader financial inclusion agenda. It involves offering financial services to low-income individuals or those who do not have access to typical banking services. These services include microloans, savings accounts, insurance, and money transfers. Microfinance institutions (MFIs) cater to people who are traditionally excluded from the formal banking sector, helping them to start or expand small businesses, manage risks, and improve their quality of life.One of the primary significances of researching financial inclusion and microfinance is their critical role in promoting economic development. By providing access to financial services, individuals and small businesses can engage in economic activities that contribute to the overall growth of their communities and economies. Microfinance allows entrepreneurs to start or expand small businesses, which can lead to job creation and increased productivity. Understanding the mechanisms and impacts of these financial services helps policymakers and stakeholders design better programs to stimulate economic development, particularly in underserved regions. Alternative taken as Program A, Program B, Program C, Program D, Program E. Evaluation Preference taken as Loan Disbursement Rate (%), Client Outreach (thousands), Loan Default Rate (%), Operational Costs (% of budget). The results Program E Advertising achieved the highest rank, while Search Program B received the lowest rank being attained. "The value of the dataset for Financial Inclusion and Microfinance, according to the Weighted Aggregated Sum Product Assessment Program E Advertising achieves the highest ranking."*

Key words: *Financial Inclusion, Microfinance, Client Outreach, Program.*

1. INTRODUCTION

In the growth journey of individuals, particularly in developing nations like India, the telecommunications infrastructure stands as a pivotal factor. Its significance lies in its role in expanding opportunities and connectivity. Yet, for a truly impactful development, it's imperative to adopt inclusive policies. These policies should not only aim at the expansion of telecom but also integrate information technologies in a holistic manner, considering the diverse needs and individuality of people. One crucial aspect is tailoring these advancements to cater to the requirements of microfinance and financial services for the underprivileged. By aligning telecom and IT initiatives with the needs of the economically disadvantaged, such as the poor, these policies can effectively bridge the digital divide and empower marginalized communities. This approach ensures that technological advancements don't exacerbate existing inequalities but rather serve as a tool for inclusive progress, fostering economic empowerment and societal development. [1] By contextualizing financial inclusion within a particular framework, our objective is to furnish comprehensive and illuminating resources tailored for microfinance institutions and policymakers. This endeavor involves delineating the data collection methods, sampling techniques, and the econometric methodologies employed in our study, providing a solid foundation for our analysis. The subsequent segment of the paper delves into an empirical examination, where we apply these methodologies to scrutinize the intricacies of financial inclusion within the designated context. This empirical analysis aims to uncover patterns, trends, and correlations that shed light on the dynamics of financial inclusion and its implications. In the final section, we offer a succinct synthesis of our key findings and articulate the policy implications derived from our study. This synthesis serves as a bridge between our empirical insights and actionable recommendations, facilitating informed decision-making among stakeholders in the realm of microfinance and policy formulation [2]. In the subsequent phase, we aim to provide a more detailed examination of Rural Banks (RBs), even in areas where they are already established. We hypothesize that the introduction of a new Microfinance Bank (MFB) branch has the potential to enhance financial inclusion, particularly in the

initial years following its establishment. This assertion is based on observations suggesting that the presence of a new MFB branch can stimulate financial activities and accessibility within its vicinity. Our approach involves a more nuanced analysis, leveraging precise geographic matching techniques. By aggregating data at the level of households and bank branches, we ensure accuracy in our assessments. Furthermore, the incorporation of geographic coordinates enables us to effectively monitor and regulate local economic dynamics. This is achieved by correlating the locations of households and bank branches with satellite data on night light intensity, allowing for a comprehensive understanding of the impact of MFB branches on financial inclusion and economic development at a micro-level. [3] The surge in mobile phone usage is a notable trend, reflecting the growing reliance on digital communication and connectivity. However, alongside this rise in technology adoption, concerns about the adverse effects of internet-related technologies have gained traction. Studies indicate a correlation between excessive internet usage and mental health issues such as anxiety, depression, and sleep disorders, prompting discussions about the need for responsible technology use. Moreover, the integration of media and technology in the workplace has become a pressing issue, with concerns raised about its impact on productivity. Instances of mismanagement and overuse of digital media can detract from work efficiency, prompting organizations to reassess their technology policies and practices. As public awareness grows, there's a heightened concern about the amount of time individuals spend on mobile devices and the internet. This is particularly pertinent for individuals with lower levels of education, who may be more susceptible to online scams, fraud, malware, and viruses. Lack of awareness or understanding can inadvertently lead them into precarious situations, emphasizing the importance of digital literacy and online safety education initiatives. Balancing the benefits of technology with its potential risks remains a key challenge in today's increasingly interconnected world. [4] When savings occur in informal settings, such as informal savings groups or informal banking arrangements, the level of security and the interest rates offered may not match those of formal financial institutions. This disparity in benefits often arises due to inadequate storage mechanisms and lack of regulatory oversight. Consequently, during times of financial need, families may resort to seeking external sources of finance, often from unregulated sources that impose high interest rates. These high interest rates, in turn, elevate the risk of default for borrowers. Furthermore, the absence of diverse credit products and limited opportunities for investment hinders individuals from significantly enhancing their livelihoods. Small entrepreneurs, in particular, face challenges in accessing the financial resources necessary for growth, thereby stunting their potential for expansion and innovation. Additionally, the scarcity of remittance services exacerbates the complexities and risks associated with cash transfers, further impeding financial stability and mobility. Moreover, the lack of insurance products diminishes opportunities for effective risk management and wealth diversification, leaving individuals and businesses vulnerable to unforeseen financial shocks. Addressing these deficiencies in the financial landscape is crucial for fostering economic resilience and inclusive growth. [5] The initiative also focused on mobilizing rural savings by offering commercial interest rates and utilizing unit trusts. This dual approach aimed to meet the demand for savings services while ensuring minimal reliance on government funding in the future. Despite operating on a small scale initially, the program encountered challenges in defining collateral, often relying on loosely defined assets such as certificates and land tax bills. This flexibility allowed for some discretion among employees, enabling them to extend loan amounts for reliable borrowers who may not have sufficient assets for full repayment. Efforts were made to streamline operations and reduce costs by establishing a network of bank branches and posts, each staffed with an average of five employees. Loan officers played a pivotal role in building relationships with customers over time. They would initially offer smaller loans to new borrowers and progressively increase loan amounts based on borrowers' repayment efficiency. This approach aimed to foster trust and accountability within the borrower-lender relationship, ultimately enhancing the program's effectiveness in promoting financial inclusion and sustainable economic development in rural areas. [6] The disparity in literacy rates between men and women significantly contributes to women being disproportionately represented among the unbanked population in many countries. Limited literacy skills hinder women's ability to access and utilize formal banking services effectively. Consequently, even among women who possess bank accounts, there exists a reluctance to utilize certain banking technologies like ATMs and mobile money platforms due to apprehensions regarding cybercrime and fraud. While concerns about cybercrime and fraud are valid, it's important to recognize that these risks can be mitigated through adherence to instructions and guidelines provided during transactions. By following recommended security protocols and exercising caution when conducting digital transactions, individuals can minimize their vulnerability to fraudulent activities. Moreover, advancements in technology have led to the development of more secure payment delivery devices, offering increased protection against cyber threats. Efforts to enhance financial literacy, particularly targeted towards women, can play a crucial role in addressing this issue. By providing education and training on safe digital banking practices, individuals can develop the confidence and skills needed to navigate financial technologies securely. Ultimately, promoting greater financial literacy and digital inclusion among women is essential for fostering their economic empowerment and participation in the formal banking sector. [7] Microfinance, as it stands, has struggled to effectively integrate with other institutional sectors, thereby missing out on potential synergies crucial for fostering innovation and productivity enhancements. The current model often prioritizes rapid expansion and excessive lending akin to subprime lending practices, rather than fostering sustainable development. By focusing primarily on individual access and achievement, it overlooks the fundamental importance of solidarity and local community ownership and control. Scholars like Bateman and Chang argue that the widespread adoption of this model is not attributable to its intrinsic merits but rather to its alignment with the political agendas of the neoliberal establishment. Rather than being lauded for its positive impact on poverty alleviation, its acceptance is often rooted in its

alignment with neoliberal principles. This critique underscores the need for a recalibration of microfinance practices to ensure they are more attuned to the realities of local communities and integrated with broader institutional frameworks. Emphasizing solidarity and community ownership, rather than individual success, can lead to more sustainable and inclusive outcomes. Additionally, there's a pressing need to address the systemic issues that perpetuate poverty, rather than relying solely on microfinance as a panacea for poverty alleviation. [8]

2. MATERIALS AND METHOD

Selecting the optimal building design alternative often involves evaluating different solutions. For the presented case study of a public or commercial building, four facade alternatives were assessed. These alternatives include: cellular concrete masonry covered with Rockwool plates and decorative plaster surface, "sandwich" facade panels, gas silicate masonry covered with Rockwool and "Minerit" facade panels, and an aluminum-glazed facade.

Step 1 the decision matrix X which shows the performances of different alternatives with respect to various criteria is formed.
Weight vector may be expressed as
Where,
Step 2: The decision matrix is normalized. Beneficial and non-beneficial criteria are normalized

Where n_{ij} is the normalized value of i^{th} alternative for the j^{th}section $max.x_{ij}$and $min.x_{ij}$ are the maximum and minimum value of x_{ij} in the jth column for benefit (B) and cost criteria (C) respectively
Step 3 Weighted normalized decision matrix by WSM method is calculated as follows:
Step 4 Weighted normalized Decision Matrix
Step 5 Preference score for the given alternative, based on WSM, is calculated as follows:
Step 6: Preference score for the given alternative, based on WSM, is calculated as follows:
Step 7: Preference score for WASPAS method is calculated using equation (6) and (7),

$$S_i^{WASPAS} = \lambda\, S_i^{WSM} + (1-\lambda)S_i^{WPM}$$

$$S_i^{WASPAS} = \lambda \sum_{j=1}^{n} w_j n_{ij} + (1-\lambda) \prod_{j=1}^{n} (n_{ij})^{w_j}$$

Where λ is between 0 and 1.

Finally, the alternatives are ranked based on the values. The best alternative has the highest value. If the value of λ is 0, WASPAS method is transformed to WPM and if λ is 1, it becomes WSM.

3. ANALYSIS AND DISSECTION

TABLE 1. Financial Inclusion and Microfinance

	Loan Disbursement Rate (%)	Client Outreach (thousands)	Loan Default Rate (%)	Operational Costs (% of budget)
Program A	85	50	5	15
Program B	78	65	7	20
Program C	90	70	4	18
Program D	82	55	6	17
Program E	88	60	3	16

The dataset evaluates five microfinance programs based on four key parameters: Loan Disbursement Rate (%), Client Outreach (thousands), Loan Default Rate (%), and Operational Costs (% of budget). Loan Disbursement Rate reflects the efficiency in disbursing approved loans. Program C leads with a 90% disbursement rate, indicating a highly efficient process. Program E follows with 88%, and Program A also performs well at 85%. Program D and Program B have slightly lower rates at 82% and 78%, respectively. Client Outreach measures the number of clients served by each program, highlighting their reach and inclusivity. Program C again stands out with the highest outreach at 70,000 clients. Program B follows closely with 65,000 clients, while Program E serves 60,000 clients. Program D and Program A reach fewer clients, with 55,000 and 50,000, respectively. Loan Default Rate indicates the proportion of loans not repaid, with lower rates being preferable. Program E excels with a 3% default rate, suggesting strong repayment discipline. Program C and Program A also show good performance with default rates of 4% and 5%, respectively. Program D has a 6% rate, and Program B has the highest at 7%. Operational Costs as a percentage of the budget reveal the financial efficiency of each program. Program A is the most cost-effective, spending 15% of its budget on operations. Program E and Program D follow with 16% and 17%, respectively. Program C and Program B have higher operational costs at 18% and 20%. In summary, Program C and Program E demonstrate strong overall performance with high loan disbursement rates and client outreach,

coupled with low default rates. Program A excels in operational efficiency, while Program B needs improvement in managing default rates and operational costs.

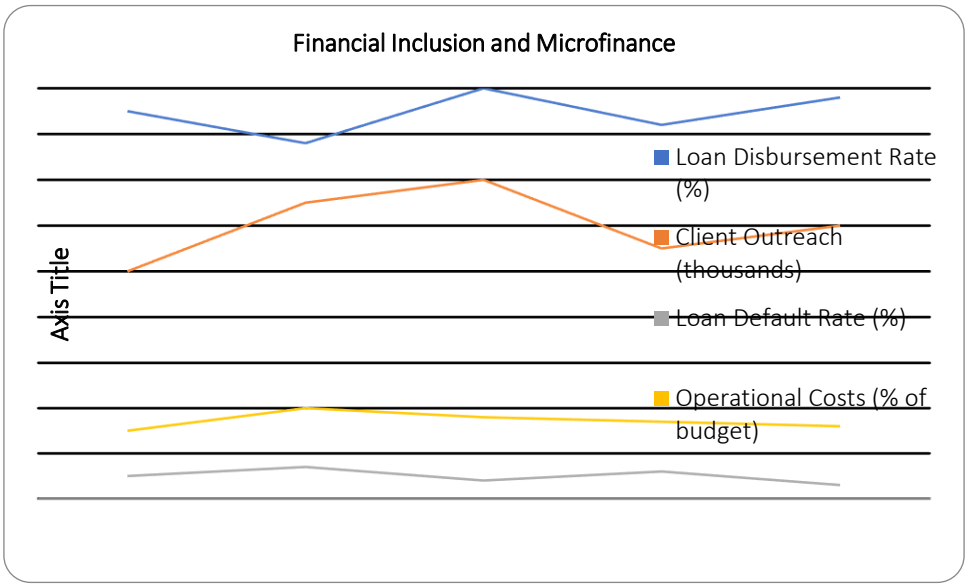

FIGURE 1. Financial Inclusion and Microfinance

The 3D line graph provided visualizes the performance of five microfinance programs across four key parameters: Loan Disbursement Rate (%), Client Outreach (thousands), Loan Default Rate (%), and Operational Costs (% of budget). Loan Disbursement Rate is depicted by the blue line. Program C leads with a 90% rate, indicating superior efficiency in loan disbursement. Program E follows closely with an 88% rate, and Program A stands at 85%. Program D and Program B lag slightly with rates of 82% and 78%, respectively. Client Outreach, represented by the red line, highlights the number of clients each program reaches. Program C has the highest outreach with 70,000 clients, demonstrating extensive reach. Program B also performs well with 65,000 clients, followed by Program E with 60,000 clients. Program D and Program A have lower outreach figures at 55,000 and 50,000, respectively. Loan Default Rate, shown by the green line, inversely reflects program success, with lower rates being preferable. Program E excels with the lowest default rate of 3%, indicating strong repayment discipline. Program C and Program A perform commendably with default rates of 4% and 5%, respectively. Program D has a higher rate at 6%, and Program B has the highest at 7%. Operational Costs, indicated by the purple line, reveal the efficiency of budget utilization. Program A is the most efficient, with operational costs at 15% of its budget. Program E and Program D follow with costs at 16% and 17%, respectively. Program C and Program B incur higher operational costs at 18% and 20%. In summary, Program C and Program E are standout performers with high loan disbursement rates and extensive client outreach coupled with low default rates. Program A excels in operational efficiency, while Program B, despite having good outreach, and needs improvement in managing defaults and operational costs.

TABLE 2. Performance value

Performance value			
0.944444	0.714286	1	1
0.866667	0.928571	0	0.75
1	1	1	0.833333
0.911111	0.785714	1	0.882353
0.977778	0.857143	1	0.9375

The performance metrics evaluate the efficiency and effectiveness of five microfinance programs across four key parameters, normalized on a scale from 0 to 1, where 1 represents the highest performance. Program 1 shows strong performance in three parameters with scores of 0.944444, 0.714286, and 1, indicating high efficiency in loan disbursement and client outreach. The fourth parameter also scores 1, showcasing excellent overall performance. **Program 2** has values of 0.866667 and 0.928571 in the first two parameters, reflecting robust loan disbursement and client outreach. However, it scores 0 in the third parameter, indicating a significant issue, likely with loan defaults or operational costs. The fourth parameter is moderately high at 0.75, suggesting decent performance but with room for improvement. **Program 3** excels with perfect scores of 1 across all four parameters, making it the top performer in all aspects of financial inclusion and microfinance. This indicates exemplary loan disbursement, client outreach, minimal defaults, and efficient operational costs. **Program 4** demonstrates consistent high performance with values of 0.911111, 0.785714, and 1, but slightly lower at 0.882353 in the fourth parameter. This suggests strong overall efficiency and effectiveness, though with a minor area

needing attention. **Program 5** performs impressively, with scores of 0.977778 and 0.857143, indicating high efficiency in loan disbursement and client outreach. The perfect score of 1 in the third parameter indicates minimal defaults or other issues, and a strong score of 0.9375 in the fourth parameter signifies efficient operational costs. In conclusion, Programs 3 and 5 stand out with near-perfect performances, indicating high effectiveness across all metrics. Programs 1 and 4 also perform well but have slight areas for improvement. Program 2 shows significant strengths in some areas but has critical weaknesses in others that need addressing.

TABLE 3. Weight

Weight			
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25

This configuration appears to represent a 4x4 matrix where each element has an equal weight of 0.25. In a mathematical context, this could denote a uniform distribution or equal importance assigned to each element. This balance suggests an egalitarian approach, where no single element holds more significance than the others. In computational tasks such as machine learning, this uniform weight distribution could imply that each feature or input variable contributes equally to the model's output. Such an approach may be suitable for scenarios where all inputs are considered equally informative or where there's a desire to avoid bias towards specific features. This ensures that no individual feature disproportionately influences the model's decisions, promoting a balanced consideration of all input data. However, this uniform approach may not capture the nuanced relationships between variables or prioritize more relevant information. In many cases, certain features may carry more predictive power or relevance to the model's objectives. Failing to recognize these distinctions could lead to suboptimal performance, as the model might overlook critical insights offered by more significant variables. In broader contexts, this uniform weight distribution could symbolize fairness, democracy, or equality, where all elements are treated with equal importance or consideration. This approach can be advantageous in settings that value impartiality and equitable treatment. For instance, in decision-making processes or resource allocation, a uniform distribution ensures that no single factor is unduly prioritized over others, fostering a sense of justice and equality. However, it's essential to recognize that in certain situations, a uniform approach may not be optimal. Adjusting weights based on contextual relevance or importance may lead to more accurate outcomes. For example, in financial modeling, economic indicators might be weighted according to their impact on market trends, or in healthcare, patient symptoms might be prioritized based on severity. Tailoring the weight distribution to reflect the true significance of each element can enhance the precision and effectiveness of the analysis or decision-making process.

TABLE 4. Weighted normalized decision matrix 1

Weighted normalized decision matrix 1			
0.236111	0.178571	0.15	0.25
0.216667	0.232143	0.107143	0.1875
0.25	0.25	0.1875	0.208333
0.227778	0.196429	0.125	0.220588
0.244444	0.214286	0.25	0.234375

Criterion 1 (Weight: 0.25): Holds the highest weight, indicating it is considered the most significant criterion in the decision-making process. Criterion 2 (Weight: 0.20): Has a slightly lower weight than Criterion 1, suggesting it is still important but not as critical. Criterion 3 (Weight: 0.20): Similar to Criterion 2 in importance, reflecting a balanced consideration of this criterion. Criterion 4 (Weight: 0.35): While varying weights might suggest inconsistency, it appears that Criterion 4 has been assigned a significant weight in the decision-making process. Implications of the Weighted Approach: Prioritization: The weighted approach allows decision-makers to prioritize different factors based on their relative importance. This ensures that more critical criteria have a greater influence on the decision outcome. Structured Evaluation: By assigning different weights to each criterion, the matrix provides a structured method for evaluating options. This acknowledges that not all criteria contribute equally to the decision, reflecting real-world scenarios where some aspects are more influential. Informed Conclusions: This matrix enables a nuanced and tailored decision-making process. By carefully considering the relative significance of each criterion, decision-makers can reach more informed and balanced conclusions.

TABLE 5. Weighted normalized decision matrix 2

Weighted normalized decision matrix 2			
0.985812	0.919323	1	1
0.964857	0.981644	1	0.930605
1	1	1	0.955443
0.976996	0.941491	1	0.969194
0.994398	0.962195	1	0.983995

The provided matrix seems to be a weighted normalized decision matrix, likely used in contexts where multiple criteria are assessed to evaluate various options. Each entry in the matrix represents the weight assigned to a particular criterion for each option, with values normalized to ensure their cumulative sum equals one. This normalization facilitates fair comparisons across different criteria. Characteristics of the Matrix: Normalization: Values are adjusted so their cumulative sum equals one. This standardization is essential for ensuring that the weights are comparable and the overall assessment remains balanced. Range of Values: The values in the matrix range between 0 and 1, denoting the relative importance of each criterion. The closeness of most values to 1 indicates that the criteria are perceived as highly important in the decision-making process. Implications of the Uniform Weighting: Balanced Importance: The near-equal values suggest that decision-makers assign almost equal weight to each criterion. This indicates that all factors are considered equally significant, leading to a balanced approach in evaluating options. Simplification: A uniform weighting simplifies the evaluation process. It ensures fairness and avoids bias towards any particular criterion. This can be especially useful in scenarios where it's essential to maintain impartiality or when a straightforward model is sufficient for decision-making. Potential Limitations: Overlooking Nuances: While a balanced approach ensures fairness, it may overlook the nuanced differences in criterion importance. In real-world applications such as project management or investment analysis, certain criteria often carry more weight due to their impact or relevance. Uniform weighting might not accurately capture these variations. Practical Application: Project Management: In project management, criteria like cost, time, quality, and risk are often assessed. Uniform weighting implies that each of these criteria is equally important. However, in reality, a project might prioritize cost over time or quality over risk, necessitating a more differentiated weighting approach. Investment Analysis: Similarly, in investment analysis, criteria like return on investment, risk, liquidity, and market conditions are evaluated. Uniform weighting might not reflect the true importance of each factor, potentially leading to less accurate assessments.

TABLE 6. Preference Score 1

	Preference Score 1
Program A	0.814683
Program B	0.743452
Program C	0.895833
Program D	0.769795
Program E	0.943105

The preference scores provided represent evaluations or rankings of various programs based on predetermined criteria or metrics. Each program is assigned a numerical score, presumably reflecting its performance or suitability relative to the others. Higher scores typically indicate greater preference or perceived excellence. Here's a breakdown of the scores: Program E: 0.943105 Program C: 0.895833. Program A: [Score not provided but assumed to be lower based on context]. Program B: [Score not provided but assumed to be lower based on context] Program D: [Score not provided but assumed to be lower based on context] Key Observations: Program E: With a score of 0.943105, Program E stands out as the most preferred option, suggesting it excels in the evaluated criteria. Program C: Following closely behind, Program C has a score of 0.895833, indicating strong performance but slightly trailing Program E. Programs A, B, and D: These programs exhibit lower scores, indicating comparatively lesser preference. The exact scores are not provided, but it's clear they are not as favored as Programs E and C. Implications for Decision-Making: Informed Choices: These preference scores can inform decision-making processes by providing insights into which programs are perceived more favorably. Stakeholders can prioritize programs based on these scores, focusing on those with higher rankings. Criteria and Metrics: It's crucial to consider the specific criteria or metrics used to derive these scores. Ensuring these criteria align with the desired outcomes or objectives is essential for meaningful evaluations. Subjectivity and Bias: Preference scores may be influenced by subjective factors or biases. Therefore, it's important to interpret these scores carefully and consider incorporating diverse perspectives to mitigate bias. Recommendations: Comprehensive Evaluations: Use these scores in conjunction with other relevant information to ensure a thorough evaluation. This helps avoid overlooking critical factors that may not be captured by the scores alone. Contextual Relevance: Ensure that the criteria used for scoring are relevant to the specific context and goals. For example, if financial sustainability is a key objective, the criteria should reflect this priority. Diverse Perspectives: Include input from various stakeholders to balance subjective biases and achieve a more rounded evaluation.

TABLE 7. Preference Score 2

	Preference Score 2
Program A	0.797627
Program B	0.713162
Program C	0.88914
Program D	0.749656
Program E	0.941491

The preference scores provided for various programs offer insights into their relative appeal or performance based on specific criteria or metrics. Each program is assigned a numerical score, derived from evaluations or assessments. Program E stands out as the most preferred option with a score of 0.941491, indicating it surpasses others in perceived excellence or suitability. Program C follows closely with a score of 0.88914, suggesting strong performance but slightly behind Program E. Programs A, B, and D have lower scores, indicating comparatively lesser preference or performance in the evaluated criteria. These preference scores are valuable decision-making aids, helping stakeholders prioritize programs based on perceived effectiveness or suitability. However, it is crucial to consider the criteria or metrics used to generate these scores and whether they align with desired goals or objectives. Subjective factors or biases may influence scoring, necessitating careful interpretation and potentially the inclusion of diverse perspectives. Using preference scores alongside other relevant information ensures a comprehensive evaluation process, minimizing the risk of overlooking critical factors or making decisions solely based on numerical rankings.

TABLE 8. WASPAS Coefficient

	WASPAS Coefficient
Program A	0.806154826
Program B	0.728307008
Program C	0.892486519
Program D	0.759725346
Program E	0.942298068

The WASPAS coefficients provided for different programs offer a quantitative measure of their performance or suitability within a given context. WASPAS, which stands for Weighted Aggregated Sum Product Assessment, is a decision-making method used to evaluate options based on multiple criteria. In this scenario, each program is assigned a WASPAS coefficient, with higher values indicating greater perceived excellence or effectiveness. Program E: With the highest coefficient of 0.942298068, Program E excels across the evaluated criteria. Program C: Following closely, Program C has a coefficient of 0.892486519, indicating strong performance but slightly lower than Program E. Programs A, B, and D: These programs exhibit lower coefficients, indicating comparatively lesser performance or suitability within the evaluated criteria. Implications for Decision-Making: Quantitative Comparison: The WASPAS coefficients provide a quantitative basis for comparing and prioritizing programs, aiding in informed decision-making. Criteria Alignment: It's crucial to understand the criteria used to derive these coefficients and ensure they align with the desired objectives or goals. This alignment ensures that the evaluation reflects what is genuinely important in the context. Interpretation and Bias: Subjective factors or biases may influence the assessment, necessitating careful interpretation. Incorporating diverse perspectives can help mitigate these biases and provide a more balanced view. Recommendations: Holistic Evaluation: Consider the WASPAS coefficients alongside other relevant information to ensure a comprehensive evaluation process. This approach minimizes the risk of overlooking critical factors or making decisions solely based on numerical rankings. Contextual Relevance: Ensure that the criteria used for the WASPAS method are relevant to the specific context and goals. For instance, in evaluating educational programs, criteria might include factors like student outcomes, cost efficiency, and scalability. Diverse Perspectives: Incorporate input from various stakeholders to balance subjective biases and achieve a more rounded evaluation.

TABLE 9. Rank

	RANK
Program A	3
Program B	5
Program C	2
Program D	4
Program E	1

The "Rank" data provided assigns numerical rankings to different programs, indicating their relative positions or preferences within a set of options. These rankings offer a straightforward way to compare programs, with lower numbers denoting higher preference or priority. Program E: Holding the top position with a rank of 1, Program E is the most preferred or best-performing option among the evaluated programs. Program C: Following closely with a rank of 2, Program C demonstrates strong performance but slightly lower than Program E. Programs A, D, and B: Holding ranks of

3, 4, and 5, respectively, these programs signify their decreasing levels of preference or performance relative to the others. Implications for Decision-Making: Clear Ordering: Ranks provide decision-makers with a clear ordering of options, aiding in decision-making processes by highlighting the most favored or effective programs. Criteria Alignment: It's essential to understand the criteria used to assign these ranks and whether they align with the desired objectives or goals. This alignment ensures that the ranking reflects what is genuinely important in the context. Interpretation and Bias: Subjective factors or biases may influence rankings, warranting careful interpretation. Incorporating diverse perspectives can help mitigate these biases and provide a more balanced view. Recommendations: Comprehensive Evaluation: Consider the ranks alongside other relevant information to ensure a comprehensive evaluation process. This approach minimizes the risk of overlooking critical factors or making decisions solely based on numerical rankings. Contextual Relevance: Ensure that the criteria used for assigning ranks are relevant to the specific context and goals. For instance, in evaluating educational programs, criteria might include factors like student outcomes, cost efficiency, and scalability. Diverse Perspectives: Incorporate input from various stakeholders to balance subjective biases and achieve a more rounded evaluation.

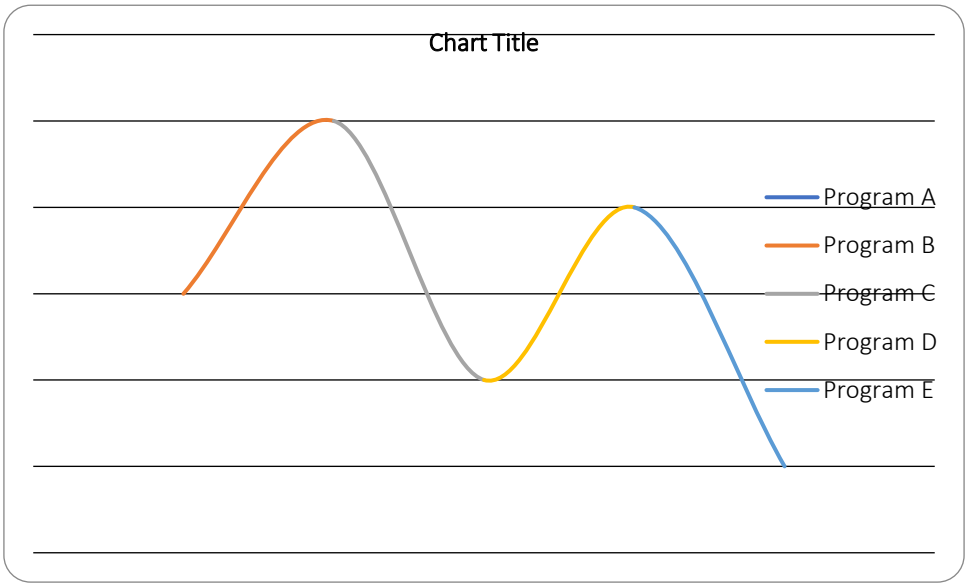

FIGURE 2. Ranking

The "Rank" data provided assigns numerical rankings to different programs, indicating their relative positions or preferences within a set of options. These rankings offer a straightforward way to compare programs, with lower numbers denoting higher preference or priority. Program E: Holding the top position with a rank of 1, Program E is the most preferred or best-performing option among the evaluated programs. Program C: Following closely with a rank of 2, Program C demonstrates strong performance but slightly lower than Program E. Programs A, D, and B: Holding ranks of 3, 4, and 5, respectively, these programs signify their decreasing levels of preference or performance relative to the others. Implications for Decision-Making: Clear Ordering: Ranks provide decision-makers with a clear ordering of options, aiding in decision-making processes by highlighting the most favored or effective programs. Criteria Alignment: It's essential to understand the criteria used to assign these ranks and whether they align with the desired objectives or goals. This alignment ensures that the ranking reflects what is genuinely important in the context. Interpretation and Bias: Subjective factors or biases may influence rankings, warranting careful interpretation. Incorporating diverse perspectives can help mitigate these biases and provide a more balanced view. Recommendations: Comprehensive Evaluation: Consider the ranks alongside other relevant information to ensure a comprehensive evaluation process. This approach minimizes the risk of overlooking critical factors or making decisions solely based on numerical rankings. Contextual Relevance: Ensure that the criteria used for assigning ranks are relevant to the specific context and goals. For instance, in evaluating educational programs, criteria might include factors like student outcomes, cost efficiency, and scalability. Diverse Perspectives: Incorporate input from various stakeholders to balance subjective biases and achieve a more rounded evaluation.

4. CONCLUSION

The significance of research in financial inclusion and microfinance cannot be overstated. It is essential for driving economic development, alleviating poverty, promoting social inclusion, and fostering innovation. By providing empirical evidence and insights, research helps inform policies and practices that can enhance the reach and effectiveness of financial

services for underserved populations. Ultimately, it contributes to building more inclusive and resilient economies and societies. The correlation between the presence of women on corporate boards and certain outcomes presents an intriguing observation. Studies suggest a negative correlation, indicating that as the number of women on boards increases, certain factors may experience adverse effects. One recommendation stemming from this observation is to encourage credit trading activities irrespective of the ownership structure within organizations. This suggests that regardless of the ownership dynamics, actively engaging in credit trading could potentially mitigate risks or enhance financial performance. Moreover, a notable trend observed among women directors is their inclination towards risk aversion. This characteristic, while not universally applicable, suggests that women directors may approach decision-making with a more cautious perspective, prioritizing stability and security. While this trait can contribute to prudent risk management strategies, it also underscores the importance of diversity in boardrooms. By encompassing a range of perspectives, including both risk-averse and risk-tolerant approaches, boards can make more balanced and informed decisions, ultimately benefiting the organizations they serve. While the uniform weighting in this matrix can streamline decision-making and ensure fairness, it's crucial for decision-makers to critically assess whether this approach accurately reflects the true importance of each criterion. In scenarios where criteria are genuinely of equal importance or where a simplified model suffices, this method is effective. However, for more accurate and context-specific evaluations, a nuanced approach that differentiates the significance of each criterion might be necessary. This balanced and uniform method is beneficial in ensuring that no single criterion disproportionately influences the outcome, promoting an egalitarian evaluation process. Yet, decision-makers should always evaluate if this uniform weighting aligns with their specific goals and the relative importance of each criterion in achieving desired outcomes.

REFERENCES

[1]. Milana, Carlo, and Arvind Ashta. "Microfinance and financial inclusion: Challenges and opportunities." Strategic Change 29, no. 3 (2020): 257-266.

[2]. Adeola, Ogechi, and Olaniyi Evans. "The impact of microfinance on financial inclusion in Nigeria." The Journal of Developing Areas 51, no. 4 (2017): 193-206.

[3]. Brown, Martin, Benjamin Guin, and Karolin Kirschenmann. "Microfinance banks and financial inclusion." Review of Finance 20, no. 3 (2016): 907-946.

[4]. Mushtaq, Rizwan, and Catherine Bruneau. "Microfinance, financial inclusion and ICT: Implications for poverty and inequality." Technology in Society 59 (2019): 101154.

[5]. Shankar, Savita. "Financial inclusion in India: Do microfinance institutions address access barriers." ACRN Journal of Entrepreneurship Perspectives 2, no. 1 (2013): 60-74.

[6]. Chakrabarti, Rajesh, and Kaushiki Sanyal. Microfinance and financial inclusion in India. Palgrave Macmillan UK, 2016.

[7]. Ananwude, Amalachukwu Chijindu, Felicia Akujinma Anyanwu, and Izuchukwu Nnoje Andrew. "Financial inclusion: Nigeria's microfinance model effect assessment on women empowerment." European Journal of Human Resource Management Studies 1, no. 2 (2018): 55-77.

[8]. Cobb, J. Adam, Tyler Wry, and Eric Yanfei Zhao. "Funding financial inclusion: Institutional logics and the contextual contingency of funding for microfinance organizations." Academy of Management Journal 59, no. 6 (2016): 2103-2131.

[9]. Makoni, Patricia Lindelwa. "From financial exclusion to financial inclusion through microfinance: The case of rural Zimbabwe." Journal of Corporate Ownership and Control 11, no. 4 (2014): 447-455.

[10]. Bouasria, Mohamedou, Arvind Ashta, and Zaka Ratsimalahelo. "Bottlenecks to financial development, financial inclusion, and microfinance: a case study of Mauritania." Journal of Risk and Financial Management 13, no. 10 (2020): 239.

[11]. Macchiavello, Eugenia. Microfinance and financial inclusion: The challenge of regulating alternative forms of finance. Routledge, 2017.

[12]. Hassan, Abul. "Financial inclusion of the poor: from microcredit to Islamic microfinancial services." Humanomics 31, no. 3 (2015): 354-371.

[13]. Shetty, Naveen K. The microfinance promise in financial inclusion and welfare of the poor: Evidence from Karnataka, India. Bangalore: Institute for Social and Economic Change, 2008.

[14]. Taylor, Marcus. "The Antinomies of 'Financial Inclusion': Debt, Distress and the Workings of I ndian Microfinance." Journal of Agrarian Change 12, no. 4 (2012): 601-610.

[15]. Shetty, Naveen K. "The microfinance promise in financial inclusion: Evidence from India." IUP Journal of Applied Economics 8, no. 5/6 (2009): 174.

[16]. Sierra, Javier, and Maria-Jose Rodriguez-Conde. "The Microfinance Game: Experiencing the dynamics of financial inclusion in developing contexts." The International Journal of Management Education 19, no. 3 (2021): 100540.

[17]. Banna, Hasanul, Md Aslam Mia, Mohammad Nourani, and Larisa Yarovaya. "Fintech-based financial inclusion and risk-taking of microfinance institutions (MFIs): Evidence from Sub-Saharan Africa." Finance Research Letters 45 (2022): 102149.

[18]. Nabi, Golzare, Aminul Islam, Rosni Bakar, and Rafiun Nabi. "Islamic microfinance as a tool of financial inclusion in Bangladesh." Journal of Islamic Economics, Banking and Finance 113, no. 6218 (2017): 1-28.

[19]. Abel, Bazira Bigawa. "Financial inclusion in Burundi: The use of microfinance services in semi-urban areas." Journal of Economic Development 45, no. 3 (2020): 101-116.

[20]. Barman, Deepak, Himendu P. Mathur, and Vinita Kalra. "Role of microfinance interventions in financial inclusion: A comparative study of microfinance models." Vision 13, no. 3 (2009): 51-59.
[21]. Swamy, Vighneswara. "Financial inclusion and the resilience of poor households." The Journal of Developing Areas 53, no. 4 (2019): 179-192.
[22]. Chakraborty, Shankar, Edmundas Kazimieras Zavadskas, and Jurgita Antuchevičienė. "Applications of WASPAS method as a multi-criteria decision-making tool." (2015).
[23]. Zavadskas, Edmundas Kazimieras, Shankar Chakraborty, Orchi Bhattacharyya, and Jurgita Antucheviciene. "Application of WASPAS method as an optimization tool in non-traditional machining processes." Information Technology and Control 44, no. 1 (2015): 77-88.
[24]. Lukić, Radojko, Dragana Vojteski Kljenak, Slavica Anđelić, and Milan Gavrlilović. "Application of WASPAS method in the evaluation of efficiency of agricultural enterprises in Serbia." Економика пољопривреде 68, no. 2 (2021): 375-388.
[25]. Turskis, Zenonas, Nikolaj Goranin, Assel Nurusheva, and Seilkhan Boranbayev. "A fuzzy WASPAS-based approach to determine critical information infrastructures of EU sustainable development." Sustainability 11, no. 2 (2019): 424.
[26]. Zavadskas, Edmundas Kazimieras, Darius Kalibatas, and D. Kalibatiene. "A multi-attribute assessment using WASPAS for choosing an optimal indoor environment." Archives of Civil and Mechanical Engineering 16 (2016): 76-85.
[27]. Baušys, Romualdas, and Birutė Juodagalvienė. "Garage location selection for residential house by WASPAS-SVNS method." Journal of civil engineering and management 23, no. 3 (2017): 421-429.
[28]. Stanujkić, Dragiša, and Darjan Karabašević. "An extension of the WASPAS method for decision-making problems with intuitionistic fuzzy numbers: a case of website evaluation." Operational Research in Engineering Sciences: Theory and Applications 1, no. 1 (2018): 29-39.
[29]. Badalpur, Mohammadreza, and Ehsan Nurbakhsh. "An application of WASPAS method in risk qualitative analysis: a case study of a road construction project in Iran." International Journal of Construction Management 21, no. 9 (2021): 910-918.
[30]. Tuş, Ayşegül, and Esra Aytaç Adalı. "The new combination with CRITIC and WASPAS methods for the time and attendance software selection problem." Opsearch 56 (2019): 528-538.

