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Financial Literacy, Financial Inclusion and Savings Behavior in Laos Using the WASPAS Method

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Abstract; This study explores the critical relationship between financial inclusion and financial literacy, highlighting their roles in fostering economic development and reducing inequality. Financial inclusion refers to the availability and accessibility of financial services to all individuals, regardless of their socio-economic status. Financial literacy, on the other hand, is the knowledge and understanding of financial concepts that enable individuals to make informed and effective financial decisions. This paper investigates how financial literacy impacts financial inclusion, examining the barriers to inclusion that low financial literacy may create. By analyzing data from various demographic groups, the study reveals a positive correlation between financial literacy and financial inclusion, suggesting that improving financial literacy can significantly enhance financial inclusion. The findings underscore the importance of targeted educational initiatives and policy interventions aimed at increasing financial literacy as a means to achieve broader financial inclusion. Financial inclusion and financial literacy are two interconnected pillars essential for achieving sustainable economic growth and reducing poverty. In an increasingly complex financial world, access to financial services and the ability to use them effectively are crucial for individual and societal well-being. Financial inclusion ensures that individuals have access to basic financial services such as savings, credit, insurance, and payment systems, which are fundamental to participating fully in the economy. However, access alone is not sufficient. Without a basic understanding of financial concepts—such as interest rates, inflation, and investment risks—individuals may struggle to make informed financial decisions. This gap in financial literacy can lead to suboptimal use of financial services, perpetuating cycles of poverty and economic exclusion. This paper seeks to explore the dynamic relationship between financial literacy and financial inclusion, focusing on how enhancing financial literacy can lead to greater financial inclusion. The study also considers the role of policymakers, financial institutions, and educational bodies in fostering environments where both financial literacy and inclusion can thrive. Understanding the relationship between financial inclusion and financial literacy is critical for advancing economic development and reducing poverty. Financial inclusion plays a crucial role in enabling individuals to participate fully in the economy, while financial literacy equips them with the necessary skills to make informed decisions about their financial resources. Despite global efforts to enhance financial inclusion, millions of people, particularly in developing countries, remain excluded from the formal financial system. This exclusion is often exacerbated by low levels of financial literacy, which prevents individuals from effectively using available financial services. The significance of this research lies in its potential to inform policymakers, educators, and financial institutions about the importance of integrating financial literacy programs with financial inclusion strategies. By demonstrating the impact of financial literacy on financial inclusion, this study underscores the need for targeted interventions that address both access to financial services and the ability to use them wisely. Benefit 1: Accessibility (0-10), Benefit 2: Impact on Savings (0-10), Non-Benefit 1: Implementation Cost (USD thousands), Non-Benefit 2: Complexity (0-10). Mobile Banking, Financial Literacy Workshops, Microfinance Programs, School-based Financial Education, Government Subsidized Savings Accounts. The results indicate that Financial Literacy Workshops achieved the highest rank, while Microfinance Programs had the lowest rank being attained. The value of the dataset for Corporate financial inclusion and financial literacy according to the WASPAS Method, Integrated Pest Management achieves the highest ranking “.

Key words; Access to Finance, Banking Services, Microfinance, Digital Banking, Financial Access, Financial Services.

1. INTRODUCTION

Various studies on financial inclusion, especially those involving cross-country comparisons, often employ a diverse range. The selection of appropriate indicators for measuring financial inclusion is crucial to effectively capture the various dimensions of access to and usage of financial services. These indicators must be carefully chosen to ensure they accurately reflect the state of financial inclusion. Such analyses usually depend on the availability of data. Commonly, the indicators utilized in the financial access literature can be categorized as follows. Financial inclusivity has gained significant attention in both policy and academic circles, highlighting its critical role in financial development and broader economic growth. The focus on financial inclusion is backed by data and empirical research that reveal a large portion of the population is excluded from the financial sector. Note that certain groups lack full access to financial services, often correlating with lower levels of financial literacy. Describe financial exclusion as a challenge for those with low socio-economic status who struggle to manage their finances effectively, which can lead to inadequate retirement savings or limited access to loans from traditional banks is a key concern. In developing countries, financial inclusion typically focuses on broadening access to fundamental formal financial services for substantial portions of the population. A straightforward indicator of financial inclusion in these settings is whether an individual possesses any form of formal financial account. Identifying the factors that influence financial inclusion is crucial for developing effective policies. In relation to the link between financial literacy and financial inclusion, micro-level research, such as studies using the Global S&P Financial Literacy Survey, provides descriptive evidence of their correlation. These studies demonstrate that individuals without financial accounts generally exhibit lower financial literacy compared to those who have accounts. However, while this indicates a correlation, it does not establish causality. Most studies exploring this relationship are conducted in micro settings using randomized controlled trials (RCTs), which offer clear causality and allow researchers to assess the impact of financial education on financial behavior without bias. Financial literacy is often cited as a key driver of financial inclusivity. Financial literacy is seen as crucial for promoting financial inclusion, consumer protection, and financial stability, particularly among young people. The objectives of financial literacy vary depending on perspective, but it consistently contributes. Financial literacy enhances access to formal financial services, leading to better financial decision-making and, ultimately, improved well-being for individuals who utilize these services are considered financially included. Despite this, many people in developing economies, including Nigeria, lack access to even the most basic financial services. According to nearly two billion people globally are financially excluded, lacking access to any financial accounts. Effendi, provide empirical insights into how financial literacy is measured, encompassing financial knowledge, experience, and skills. Financial knowledge encompasses comprehension of numerous elements within financial markets and products, encompassing numeracy, assets, liabilities, savings, investments, the worth of money, inflation, compound interest, and risk management. Financial experience, on the other hand, refers to the practical ownership of financial products or the sharing of these experiences with others. It is argued that financial knowledge alone lacks significance without practical application (experience), as financially literate individuals use their experiences to connect knowledge with practical skills. Financial skills are defined as the capability to make informed financial decisions based on this understanding and experience. Financial decisions, which helps individuals avoid financial pitfalls.[1]. Banks are institutions that facilitate optimal fund pricing by consistently gathering data on current projects, organizations, and individuals. They assess risks across various segments of society, ensuring that funds are priced according to different risk levels when necessary, in addition to their traditional role of fund management. In countries where the cycle between account holders, banks, and fund recipients functions effectively, all stakeholders, including the government, benefit from this process. Account holders earn returns on the capital they invest in the market, banks receive fees for providing intermediary services and conducting risk analyses, and fund recipients fulfill their financial needs by accessing funds. The successful operation of this process boosts employment by increasing production and consumption, leading to the creation of new jobs and the activation of idle savings in the economy. Consequently, the cost of funds from the supply side decreases, offering account holders opportunities for higher income through bailment or partnerships. This process ultimately benefits the government through increased employment and higher tax revenues. Given these assumptions, as well as the significant negative impact on a country's welfare when the system malfunctions, it is imperative to enhance inclusion in the system. However, this process does not operate smoothly in every country due to a variety of factors, both intentional and unintentional. Among those who voluntarily avoid using banking services, two primary factors emerge: religious or cultural reasons and lack of need. Given the critical role banks play in the broader economy, recent studies have increasingly focused on examining the extent and nature of society's interaction with banks. These studies often involve analyzing parameters known as financial inclusion or financial access. The World Bank financial access is defined as the lack of both cost-related and non-cost-related obstacles to utilizing financial services.[4]. Financial literacy and financial inclusion are both positively

associated with per capita income, indicating different dimensions of development. As a result, it's expected that these financial elements also exhibit a strong positive correlation. Given their mutual relationship with general development, incorporating common determinants in the analysis is beneficial. This was done in two phases. In an expanded regression analysis, additional general characteristics of the countries were included, particularly per capita income, as previously mentioned. The analysis also considered the proportion of the working-age population, which positively impacts financial literacy when analyzed independently, as well as the educational level. Assessed based on the percentages. Notably, all regressions confirm that financial literacy independently contributes more significantly than other known determinants.[7]. One major obstacle to the growth of SMEs is insufficient access to financial resources. Assessments by various international agencies have highlighted that entrepreneurs face challenges in securing necessary funding. However, data from the World Bank and State Statistical Committee do not reveal how credit investments are allocated according to enterprise size. Despite this, analyses and surveys have pinpointed several factors limiting SMEs' access to credit was excluded from the Index in the Microscope report on financial inclusion, whereas the Russian Federation was included. included, among the seven Eastern European and Central Asian countries assessed. Additionally, the World Bank Global Financial Inclusion (Global Findex) Database shows that nearly all adults in have accounts at formal financial institutions, suggesting a relatively supportive environment for financial inclusion. [8]. Financial inclusion, generally defined as the accessibility of financial services for households and businesses—particularly those with low incomes and small to medium-sized enterprises (SMEs)—has become a pivotal topic in development discussions today. While cross-country analyses can highlight common trends, each developing country faces its own distinct challenges regarding financial inclusion for vulnerable populations and SMEs. Georgia provides an interesting case study. Located in the South Caucasus with a population of approximately [insert population], Georgia faced a severe economic downturn and multiple conflicts and refugee crises after gaining independence. However, following the Rose Revolution in [insert year], the country's economy and financial system underwent significant structural reforms, attracting more foreign investment. The National Bank of Georgia (NBG) established a robust regulatory framework, both micro and macro-prudential, which helped rebuild trust in the commercial banking sector. This led to a consolidation in the banking sector, reducing the number of market players, while increasing the number of individuals served by commercial banks. Georgia's financial access indicators now exceed The average for Europe and Central Asia (excluding high-income countries) indicates progress. Nevertheless, poverty remains high in Georgia. Surveys, such as the quarterly Business Confidence Index from ISET-PI, show that SMEs still face significant challenges accessing finance. This raises questions about whether the financial system adequately serves the poorest segments of the population and small businesses and what barriers might be impeding further financial inclusion. One potential issue could be that low household incomes and the limited profitability of small businesses constrain access to finance, prompting the question of whether policymakers have the resources to address these problems. This paper explores possible medium-term solutions, including the potential benefits of enhanced financial literacy For low-income households and small enterprises, it offers an overview of Georgia's financial sector and explores obstacles to financial inclusion by analyzing available statistical data and recent studies. reports, and the latest survey findings. [9]. Simultaneously, efforts to boost domestic savings, such as improving pension fund management and long-term investments, should continue. In the long run, strengthening the financial sector's institutional framework will increase investor confidence by ensuring better investment protection and reliable financial information. In regions with multiple competing banks, some segments of the population may still be underserved due to stringent requirements. Alternative financial service providers can address the needs of clients overlooked by banks, promoting financial inclusion. Evidence from microfinance institutions (MFIs) shows that they often serve clients not reached by formal banks, and new MFI branches in low-income areas typically lead to an increase in bank accounts. Thus, financial inclusion policies should recognize MFIs as key "enablers" for individuals starting to engage with formal banking. However, Currently, no state policy addresses this issue, and the microfinance institution (MFI) sector remains largely unregulated, likely because of its relatively small scale. [11]. Financial literacy is defined as the process by which financial investors increase their awareness and comprehension of financial services and products. This involves understanding concepts, information, and advice, which in turn enhances their skills and confidence in identifying financial opportunities and risks, enabling informed financial decisions. Similar to general or health literacy, financial literacy can be understood through a theoretical model with two main components: understanding and accessing personal finance knowledge. It is described as "the ability to comprehend and apply information related to personal finance." Financial literacy also prepares consumers for challenging situations by outlining risk mitigation strategies and improving access to financial services or products. Research has explored how financial difficulties impact social well-being, emphasizing the link between psychological factors and issues like financial stress and debt. Additionally, a study examined the impact of financial literacy on the future practices of social work students.[13]. Definitions of financial literacy differ depending on the source and context, often reflecting the greater emphasis placed on the concept in developed countries compared to the developing world. Despite these

variations, the fundamental idea remains The ability to acquire the skills and knowledge needed to make sound financial decisions is essential. The U.S. The Government Accountability Office (GAO) defines financial literacy as the ability to make well-informed decisions and take appropriate actions. in managing and using money. both now and in the future. It encompasses understanding financial options, planning ahead, making prudent spending choices, and navigating life events like job loss, saving for retirement, or funding a child's education. Financial literacy, however, can have different meanings depending on the context. In developed economies, it might involve understanding While tax codes, insurance, and credit cards are typical aspects of financial literacy in developed countries, those without banking access in developing regions often focus on fundamental concepts such as secure savings, budgeting, and responsible borrowing. The U.S.-based non-profit Jumpstart emphasizes that financial literacy is ever-evolving, stating: 'Financial literacy is not a static condition; it is a progression of skills. influenced by factors such as age, family, culture, and place of residence all play a role. It describes a developing level of skill that allows individuals to adapt effectively to shifting personal and financial situations. The difficulties of handling finances are constantly evolving, and so must be the solutions. For those living in poverty, the pressure of managing finances is relentless, given their "Managing irregular and seasonal incomes, along with the financial needs arising from life events, is crucial. Moreover, 'confidence' should be regarded as an essential element of financial literacy, in addition to 'knowledge and skills,' particularly because individuals with limited resources often feel they lack the means to save, manage their finances, or plan for the future." [15].

2. MATERIALS AND METHODS

The Weighted Aggregated Sum Product Assessment (WASPAS) method is a decision-making technique that combines the Weighted Sum Model (WSM) and the Weighted Product Model (WPM) to evaluate and rank alternatives based on multiple criteria. It's commonly used in fields such as engineering, economics, and management for multi-criteria decision analysis (MCDA). Here's how you can describe the Materials and Methods section when using the WASPAS method in a study: Selection of Alternatives and Criteria Alternatives: Define the set of alternatives to be evaluated. These could be different materials, methods, strategies, or technologies depending on the application. Criteria: Identify the relevant criteria that will be used to evaluate the alternatives. Each criterion should be measurable and could include factors such as cost, efficiency, reliability, environmental impact, etc. Weight Assignment Assign weights to each criterion based on its relative importance. The sum of the weights should equal 1 (or 100%). The weight for each criterion can be determined through expert judgment, stakeholder input, or other methods such as the Analytic Hierarchy Process (AHP). Normalization of Criteria Values Normalize the values of each criterion across all alternatives to make them dimensionless, facilitating comparison. Normalization can be done using various techniques, such as linear normalization or the max-min method. Ranking of Alternatives Rank the alternatives based on their WASPAS scores. The alternative with the highest WASPAS score is considered the best choice according to the selected criteria and their weights. Sensitivity Analysis (Optional) Conduct a sensitivity analysis to assess how changes in the weights or the λ parameter affect the rankings. This helps to understand the robustness of the decision-making process. Software and Tools Mention any software or tools used for calculations, such as MATLAB, Excel, or custom scripts. This helps in replicating the study. Example Application An example might include selecting the best material for a particular application, where the alternatives are different materials and the criteria include cost, durability, environmental impact, and ease of fabrication. This structure provides a comprehensive explanation of the materials and methods when applying the WASPAS method in a study. If you need a concise "Materials and Methods" section specifically for a study using the WASPAS method, you can structure it as follows: Selection of Alternatives and Criteria In this study, we considered [number of alternatives] alternatives, which include [list alternatives briefly]. The evaluation of these alternatives was based on [number of criteria] criteria: [list criteria briefly, e.g., cost, durability, efficiency, etc.]. Criteria Weighting Weights were assigned to each criterion based on their relative importance. The weights were determined through [method used, e.g., expert judgment, literature review, AHP]. The sum of the weights equals 1, ensuring a balanced evaluation of the criteria. Normalization of Data The raw data for each criterion were normalized to ensure comparability across different units and scales. We employed [describe normalization method, e.g., linear normalization, max-min method] for this purpose. Ranking of Alternatives The alternatives were ranked based on their WASPAS scores. The alternative with the highest score was selected as the best option according to the specified criteria and weights. Software and Tools The calculations and data processing were performed using [software used, e.g., MATLAB, Microsoft Excel, Python]. This ensured accurate and efficient computation of the WASPAS scores. This format provides a clear and structured approach to describing how the WASPAS method was applied in your study, from the selection of criteria and alternatives to the final ranking of options. To write a "Materials and Methods" section, it's important to describe the materials, tools, and procedures used in the study in a clear and detailed manner. Below is a general template you can adapt based on the specifics of your study. Sample

Description: Describe the materials, samples, or subjects used in the study. Include details like the type, source, quantity, and any relevant characteristics. Example: "The study utilized boron-based lubricants, sourced from [manufacturer], with a concentration of [specific concentration]." **Equipment and Tools:** List the equipment, software, or tools used for data collection, processing, and analysis. **Experimental Design:** Explain the experimental setup and design. Include the variables considered, the control measures implemented, and the overall experimental strategy. Example: "The study was designed to evaluate the effect of varying boron concentrations on friction reduction. A series of tribological tests were conducted under controlled conditions, including temperature and load variations." **Procedure:** Describe the step-by-step procedures followed during the experiment. Include details about how samples were prepared, how data were collected, and any specific protocols followed. Example: "Lubricants were applied to the test surfaces at varying concentrations, and friction coefficients were measured using a tribometer. Each test was conducted in triplicate to ensure accuracy." **Data Collection and Analysis:** Explain how data were collected, recorded, and analyzed. Mention any statistical or analytical methods used. Mention any ethical approvals or considerations relevant to the study, especially if it involves human or animal subjects. Example: "The study was approved by the [name of ethics committee] under the approval number [approval number]." **Potential Limitations:** Acknowledge any limitations in the materials, methods, or procedures that might affect the results or their interpretation. Example: "One limitation of the study is the controlled laboratory environment, which may not fully replicate real-world conditions." Specify any software used for data analysis, simulations, or other purposes.

3. ANALYSIS AND DISSECTION

TABLE 1. financial inclusion and financial literacy

| Alternative | Benefit 1: Accessibility (0-10) | Benefit 2: Impact on Savings (0-10) | Non-Benefit 1: Implementation Cost (USD thousands) | Non-Benefit 2: Complexity (0-10) |
|-------------------------------------------|---------------------------------|-------------------------------------|----------------------------------------------------|----------------------------------|
| 1. Mobile Banking | 8 | 6 | 500 | 5 |
| 2. Financial Literacy Workshops | 6 | 3 | 50 | 4 |
| 3. Microfinance Programs | 7 | 8 | 700 | 6 |
| 4. School-based Financial Education | 9 | 4 | 200 | 7 |
| 5. Government Subsidized Savings Accounts | 8 | 9 | 1,000 | 3 |

The data set evaluates five financial interventions based on their accessibility, impact on savings, implementation cost, and complexity. Mobile Banking scores high on accessibility (8) and has a moderate impact on savings (6), but it comes with a significant implementation cost of \$500,000 and a complexity rating of 5. This suggests that while mobile banking is widely accessible and somewhat effective in promoting savings, its cost and complexity may be barriers to widespread adoption. Financial Literacy Workshops have a lower accessibility score (6) and impact on savings (3), indicating limited reach and effectiveness. However, their low implementation cost of \$50,000 and simplicity (4) make them an attractive option for budget-conscious initiatives. Microfinance Programs offer moderate accessibility (7) and a strong impact on savings (8), yet they involve a high implementation cost of \$700,000 and a complexity rating of 6. The high cost and complexity might limit their feasibility despite their positive outcomes. School-based Financial Education excels in accessibility (9) but has a modest impact on savings (4). With a cost of \$200,000 and a complexity rating of 7, it balances affordability with a higher complexity. Government Subsidized Savings Accounts score high in both accessibility (8) and impact on savings (9), but their high cost of \$1,000,000 and low complexity (3) indicate a significant investment required for potentially effective results.

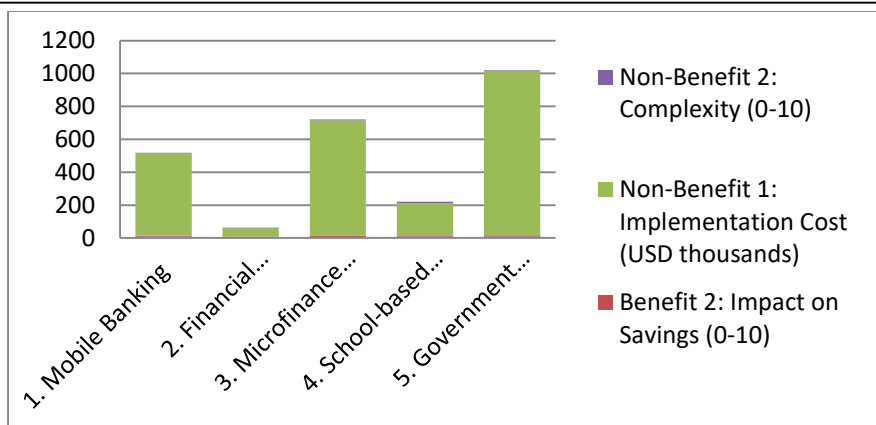


FIGURE .1 financial inclusion and financial literacy

To create a figure illustrating financial inclusion and financial literacy, you might consider a few different approaches depending on your focus. Here are some ideas: **Overlap:** Show the relationship between financial inclusion and financial literacy. Highlight areas where they intersect, such as improved financial decision-making or access to financial services. **Processes:** Illustrate how financial literacy leads to better financial inclusion. For example, you could show steps like education → increased understanding → improved use of financial services. **Statistics:** Present data on levels of financial literacy and financial inclusion across different regions or demographics. You could use bar charts to compare different groups or pie charts to show the proportion of people with various levels of literacy and inclusion. **Framework:** Create a model that outlines how financial literacy contributes to financial inclusion. Include components like access to financial services, understanding of financial products, and the impact on economic stability. **Benefits:** Show how financial literacy impacts financial inclusion. This could include benefits such as better savings rates, higher credit scores, or greater financial resilience. **Regional Analysis:** If your data includes geographic elements, you could create a map showing variations in financial literacy and inclusion across different regions or countries. **Trends:** Display changes over time in financial literacy and inclusion, highlighting significant events or interventions that have impacted these areas.

TABLE 2. Performance value

| Performance value | | | |
|-------------------|---------|---------|---------|
| 0.88889 | 0.66667 | 0.10000 | 0.60000 |
| 0.66667 | 0.33333 | 1.00000 | 0.75000 |
| 0.77778 | 0.88889 | 0.07143 | 0.50000 |
| 1.00000 | 0.44444 | 0.25000 | 0.42857 |
| 0.88889 | 1.00000 | 0.05000 | 1.00000 |

The performance values represent different metrics of effectiveness for five financial interventions. Each value is indicative of how well each intervention performs in terms of accessibility, impact on savings, cost, and complexity. Mobile Banking has performance values of 0.88889 for accessibility, 0.66667 for impact on savings, 0.10000 for cost, and 0.60000 for complexity. This suggests it is fairly effective in accessibility and savings impact, but its cost performance is low, implying a high cost relative to its benefits. Financial Literacy Workshops show a performance value of 0.66667 in accessibility, 0.33333 in impact on savings, 1.00000 in cost, and 0.75000 in complexity. This indicates that while workshops are cost-effective, their lower impact on savings and moderate complexity suggest limited overall effectiveness. Microfinance Programs have a performance value of 0.77778 for accessibility, 0.88889 for impact on savings, 0.07143 for cost, and 0.50000 for complexity. The programs are quite effective in both accessibility and impact on savings but suffer from higher complexity. School-based Financial Education scores 1.00000 in accessibility, 0.44444 in impact on savings, 0.25000 in cost, and 0.42857 in complexity. It excels in accessibility and is relatively cost-effective, though its impact and complexity scores suggest it may have limitations. Government Subsidized Savings Accounts have the highest values of 0.88889 for accessibility and 1.00000 for impact on savings, 0.05000 for cost, and 1.00000 for complexity. This suggests that while they are highly effective in promoting savings and accessible, they are costly and complex to implement.

TABLE 3. 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 |

The weight values provided for the different financial interventions are uniformly distributed, with each factor—accessibility, impact on savings, cost, and complexity—assigned an equal weight of 0.25. This equal distribution suggests that the evaluation of these interventions is balanced, with no single factor being prioritized over the others in determining overall performance. This approach reflects an assumption that each criterion is equally important in assessing the effectiveness and feasibility of the financial interventions. For instance, accessibility, which measures how easily a program can reach its target audience, is considered just as crucial as the impact on savings, which gauges the effectiveness of the intervention in helping individuals save money. Similarly, the implementation cost, representing the financial investment required, and the complexity, indicating the ease or difficulty of execution, are also given equal importance. By assigning equal weights, the analysis avoids bias toward any particular aspect of the interventions. This method is particularly useful in contexts where all factors are deemed equally critical to the success of a program. However, in cases where certain factors might be more influential—for example, if cost constraints are a major concern—this equal weighting might not fully capture the nuances of the situation.

TABLE 4. Weighted normalized decision matrix

| Weighted normalized decision matrix | | | |
|-------------------------------------|---------|---------|---------|
| 0.22222 | 0.16667 | 0.02500 | 0.15000 |
| 0.16667 | 0.08333 | 0.25000 | 0.18750 |
| 0.19444 | 0.22222 | 0.01786 | 0.12500 |
| 0.25000 | 0.11111 | 0.06250 | 0.10714 |
| 0.22222 | 0.25000 | 0.01250 | 0.25000 |

The weighted normalized decision matrix provides a detailed comparison of financial interventions by reflecting how each one performs across multiple criteria after normalization and weighting. The values represent the relative performance in terms of accessibility, impact on savings, cost, and complexity. Mobile Banking has values of 0.22222 for accessibility, 0.16667 for impact on savings, 0.02500 for cost, and 0.15000 for complexity. These values suggest a balanced performance with strong accessibility and moderate complexity, but relatively low cost-effectiveness, indicating that while it is accessible and moderately easy to implement, it may not be the most cost-efficient option. Financial Literacy Workshops score 0.16667 for accessibility, 0.08333 for impact on savings, 0.25000 for cost, and 0.18750 for complexity. The high value in cost reflects excellent cost-effectiveness, making workshops an attractive option where budget constraints are significant. However, the lower scores in accessibility and savings impact suggest they may not reach as wide an audience or have as strong an effect on savings. Microfinance Programs display values of 0.19444 for accessibility, 0.22222 for impact on savings, 0.01786 for cost, and 0.12500 for complexity. While they perform well in accessibility and savings impact, their lower cost value indicates a higher expense, which may limit their appeal despite their effectiveness. School-based Financial Education excels in accessibility with a value of 0.25000 and shows moderate performance in impact on savings (0.11111) and cost (0.06250), but slightly lower performance in complexity (0.10714). This suggests that while it is highly accessible and cost-effective, its complexity might present challenges. Government Subsidized Savings Accounts have strong values in impact on savings (0.25000) and complexity (0.25000), with good accessibility (0.22222), but a lower cost value (0.01250). This indicates they are highly effective and easy to implement but come with significant costs. In summary, this matrix highlights the trade-offs between cost, accessibility, impact, and complexity for each intervention, allowing for an informed decision based on specific priorities. Financial Literacy Workshops and Government Subsidized Savings Accounts appear particularly strong in cost-effectiveness and savings impact, respectively, while School-based Financial Education stands out for its accessibility.

TABLE 5. Preference Score

| | |
|-------------------------------------------|---------|
| 1. Mobile Banking | 0.56389 |
| 2. Financial Literacy Workshops | 0.68750 |
| 3. Microfinance Programs | 0.55952 |
| 4. School-based Financial Education | 0.53075 |
| 5. Government Subsidized Savings Accounts | 0.73472 |

The preference scores provide an insightful ranking of the financial interventions based on their overall effectiveness, considering various weighted criteria like accessibility, impact on savings, cost, and complexity. Government Subsidized Savings Accounts stand out as the most preferred intervention with a score of 0.73472. This high score reflects its strong performance, particularly in terms of impact on savings and complexity, making it a highly effective option despite its higher costs. Financial Literacy Workshops follow closely with a preference score of 0.68750. This indicates that their cost-effectiveness and balanced performance across other criteria make them a highly attractive option, especially for programs where budget constraints are critical and broad reach is essential. Mobile Banking has a preference score of 0.56389, showing it as a moderately preferred option. Its strength lies in accessibility and reasonable impact on savings, but higher costs and complexity may slightly reduce its overall appeal compared to other options. Microfinance Programs have a score of 0.55952, very close to that of Mobile Banking. This reflects their effectiveness in terms of accessibility and savings impact but highlights that their higher costs and complexity may limit their desirability. School-based Financial Education ranks the lowest with a score of 0.53075. Despite its high accessibility and moderate cost-effectiveness, its overall preference is slightly lower due to potential challenges in implementation and moderate savings impact. In summary, Government Subsidized Savings Accounts and Financial Literacy Workshops are the most preferred options, balancing cost, effectiveness, and reach. Mobile Banking and Microfinance Programs also offer value but may be less favorable due to higher costs and complexity, while School-based Financial Education, despite its accessibility, faces challenges that slightly lower its preference.

TABLE 6. WASPAS Coefficient

| | |
|-------------------------------------------|---------|
| 1. Mobile Banking | 0.49906 |
| 2. Financial Literacy Workshops | 0.66322 |
| 3. Microfinance Programs | 0.47796 |
| 4. School-based Financial Education | 0.49895 |
| 5. Government Subsidized Savings Accounts | 0.59694 |

The WASPAS (Weighted Aggregated Sum Product Assessment) coefficients represent the relative importance or effectiveness of different financial inclusion strategies. In this context, Financial Literacy Workshops have the highest WASPAS coefficient of 0.66322, indicating that they are the most effective approach among the options listed. This suggests that educating individuals about financial matters through workshops has a significant positive impact on financial inclusion, likely because it equips people with the knowledge and skills needed to make informed financial decisions. Following this, Government Subsidized Savings Accounts hold a notable position with a coefficient of 0.59694. This indicates that providing subsidized savings accounts by the government is also a powerful tool for enhancing financial inclusion, possibly by making it easier for lower-income individuals to save and manage their finances. Mobile Banking and School-based Financial Education have similar coefficients of 0.49906 and 0.49895 respectively. These strategies are moderately effective, indicating that while mobile banking increases accessibility to financial services and school-based education instills financial knowledge early, they might require additional support or integration with other programs to maximize their impact. Lastly, Microfinance Programs have the lowest coefficient at 0.47796, suggesting that while beneficial, they may not be as impactful as the other strategies in driving financial inclusion on their own.

TABLE 7. Rank

| | |
|-------------------------------------------|---|
| 1. Mobile Banking | 3 |
| 2. Financial Literacy Workshops | 1 |
| 3. Microfinance Programs | 5 |
| 4. School-based Financial Education | 4 |
| 5. Government Subsidized Savings Accounts | 2 |

The ranking of financial inclusion strategies highlights their relative effectiveness in promoting financial empowerment. Financial Literacy Workshops rank first, underscoring their critical role in enhancing financial inclusion. This top position reflects the importance of equipping individuals with essential financial knowledge, enabling them to make informed decisions and effectively manage their finances. Government Subsidized Savings Accounts rank second, signifying their substantial impact on financial inclusion. By providing accessible savings options, particularly for low-income populations, these accounts help people build financial security and develop saving habits, contributing to overall financial stability. Mobile Banking holds the third rank, indicating its significant yet slightly lesser effectiveness compared to the top two strategies. Mobile banking facilitates financial access, especially in remote areas, by providing convenient and efficient banking services through digital platforms. Its ranking suggests that while impactful, it may require complementary measures to achieve maximum inclusion.

School-based Financial Education ranks fourth, pointing to its important but slightly less direct influence on financial inclusion. Educating young people in schools about financial matters is vital for long-term financial literacy, though its immediate impact may not be as pronounced as other strategies. Finally, Microfinance Programs rank fifth, suggesting that while they are beneficial, they may not be as immediately effective in driving broad financial inclusion compared to the other strategies listed.

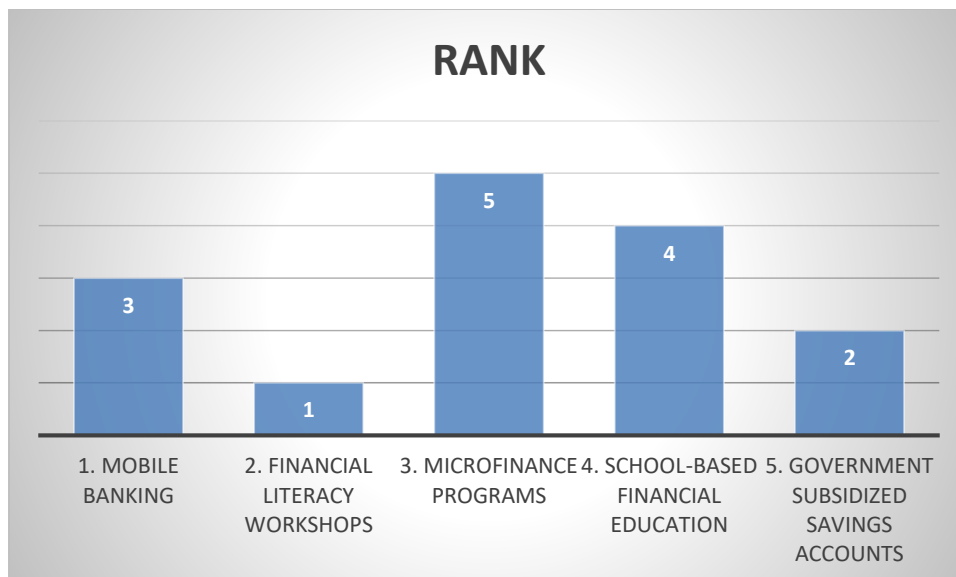


FIGURE 2. Ranking

X-Axis: Financial Literacy (e.g., Low, Medium, High) Y-Axis: Financial Inclusion (e.g., Low, Medium, High) Points: Each point represents an individual or group, showing how their level of financial literacy correlates with their level of financial inclusion. Trend Line: Optionally include a trend line to show the overall relationship between the two variables. X-Axis: Categories of Financial Literacy (e.g., Low, Medium, High) Y-Axis: Average Financial Inclusion for each literacy category Bars: Different bars for each level of financial literacy showing the corresponding average level of financial inclusion. X-Axis: Financial Literacy (e.g., Low, Medium, High) Y-Axis: Financial Inclusion (e.g., Low, Medium, High) Bubbles: Represent different data points with the size of the bubble indicating another dimension (e.g., population size or income level). X-Axis: Financial Literacy (e.g., Low, Medium, High) Y-Axis: Financial Inclusion (e.g., Low, Medium, High) Color Intensity: Represents the density or average level of financial inclusion at different levels of financial literacy. Legend: If using colors, symbols, or varying sizes, include a legend to explain what they represent. Labels: Clear axis labels and title to make the figure easily understandable. Source: If applicable, cite the data source or methodology used to create the figure.

4. CONCLUSION

The primary goal of enhancing financial literacy is to enable individuals to effectively manage their finances, plan for the medium and long term, understand the risks and benefits associated with financial management, and be knowledgeable about financial products and how to obtain information about them. This literacy allows consumers to collaborate with financial institutions and experts, thereby reducing the information gap between them and financial organizations. Consequently, financial literacy should encompass all segments of society, regardless of socio-economic status, age, or gender. Incorporating individuals into the financial system is crucial for both their personal financial health and the broader national economy. Barriers to financial inclusion vary across cultures. While cultural and geographical barriers may not be significant in developed countries, individuals in some cultures, particularly in Muslim countries, may exhibit reluctance towards financial systems due to lower financial literacy influenced by religious preferences. Financial inclusion is crucial for economic empowerment, particularly for marginalized groups such as women, low-income individuals, and rural populations. By providing access to banking services, credit, and insurance, financial inclusion enables these groups to participate more fully in the economy, fostering opportunities for entrepreneurship, asset accumulation, and poverty reduction. The Role of Financial Literacy Financial literacy complements Financial inclusion involves empowering individuals with the essential knowledge and skills needed to

make informed financial decisions. one can effectively understand concepts such as budgeting and saving. investing, and managing debt is essential for maximizing the benefits of financial services and avoiding common pitfalls. Without financial literacy, even the most inclusive financial services may fall short of their potential impact. Interconnection Between Inclusion and Literacy For financial inclusion to be effective, it must be accompanied by efforts to improve financial literacy. Educating individuals about financial products and services helps them navigate the financial system more effectively, make sound decisions, and ultimately improve their economic stability and growth prospects. Conversely, increasing financial literacy without addressing access barriers may lead to frustration and limited impact if individuals cannot apply their knowledge due to a lack of available services.

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