Financial Literacy Meets Inclusion: The Dual Pillars of Entrepreneurial Success in Kerala's MUDRA Scheme

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Abstract: *This study examines the impact of financial literacy on the business performance of MUDRA scheme beneficiaries engaging in entrepreneurship in Kerala and investigates the mediating role played by financial inclusion. The factors of financial inclusion and financial literacy are also understood as the main determinants of an entrepreneur's success; thus, this research examines how the financial knowledge of an entrepreneur contributes to his business performance and how the extent of financial inclusion strengthens this relationship. The sample comprised 240 entrepreneurs from Kerala, with 60 entrepreneurs selected from each of the following financial institutions: Public sector bank – State Bank of India (SBI), private sector bank – Federal Bank, regional rural bank – Kerala Gramin Bank, and small finance bank – ESAF Small Finance Bank. Using this approach, institutional support can be represented in diverse ways. To analyse the data, this study uses Structural Equation Modelling (SEM) to explore direct and mediated effects. These findings contribute to a better understanding of how financial literacy affects business performance and how financial inclusion is an important factor in promoting entrepreneurial success. This research identifies strategies for integrating financial literacy and inclusion to inform policymakers, financial institutions, and practitioners on their valuable implications for helping promote the growth and sustainability of small enterprises under the MUDRA scheme in Kerala.*

Keywords: *Financial Literacy, Financial Inclusion, Entrepreneurial Success, MUDRA Scheme, Financial Empowerment*

JEL Code: *G53, L26, G21, O16*

1. Introduction

In India, the Micro Unit Development and Refinement Agency (MUDRA) was introduced to encourage micro-enterprises within an affordable financial support framework, especially in rural and underserved areas. The scheme focuses on empowering small businesses and filling the financing gap for entrepreneurs who cannot reach the formal credit system. Although the MUDRA scheme could not be successful without access to financial resources, it also depended on entrepreneurs' financial literacy. Financial literacy involves knowledge and the application of various types of financial knowledge to enable entrepreneurs to make informed decisions and smoothly manage their finances to enable them to manage their businesses competently in a competitive environment (Lusardi & Mitchell, 2014). The absence of financial understanding may result in wrong business decisions, which affect the organisation's performance and growth in general (Atkinson & Messy, 2012). In addition, financial literacy has a stronger effect on entrepreneurial success when financial inclusion–that is, the process of ensuring that everyone, including the poor, has access to useful and affordable financial services–is raised. In the case of the MUDRA scheme, financial inclusion provides entrepreneurs with a platform to avail banking services, credit facilities, and financial education, which have a significant impact on their business outcomes (Sarma, 2012). This study explores the interaction between financial literacy and financial inclusion by examining how both factors can help improve business performance in the MUDRA scheme in Kerala. This study examines the mediating role of financial inclusion in this relationship and explains how these two factors, acting together, contribute to small business owners' entrepreneurial success in the region.

2. Review of Literature and Hypotheses Development

The impact of financial literacy, financial inclusion, and entrepreneurial success has attracted substantial research interest, particularly in developing economies, such as India. Entrepreneurs need financial literacy, as it is integral to helping them make better decisions about investments, the management of finances, and risk taking (Lusardi & Mitchell, 2014). The studies have been done, and they show a stronger association between a higher financial literacy and more favourable business out puts, as entrepreneurs are able to deal better with financial issues and make more of what is available (Atkinson & Messy, 2012). Financial inclusion also plays a complementary role in opening access to key financial services that provide business growth (Sarma, 2012) such as credit and savings. Specifically, the MUDRA scheme is devised to increase financial inclusion by providing loans to micro entrepreneurs at affordable interest rates; nevertheless, its success relies substantially on how micro entrepreneurs deploy these financial resources to improve their incomes (Sharma & Sushil, 2016). Financial inclusion not only enhances small enterprises (Sundararajan & Zaman, 2018) but also stimulates better financial planning, which ultimately contributes to their overall better performance of small enterprises. Therefore, the interrelation between the level of financial literacy and inclusion is important in determining the success of MUDRA beneficiaries in Kerala small-business entrepreneurship, both in terms of viability and profitability.

2.1. H1: Financial Literacy (FL) has a significant positive effect on Entrepreneurial Success (ES).

Research on financial literacy (FL) and entrepreneurial success (ES) consistently demonstrated a strong positive relationship. Financial literacy is seen by Lusardi and Mitchell (2014) as contributing to entrepreneurs making informed investment decisions, managing business finances effectively, and mitigating risks, thereby helping with business sustainability and growth while simultaneously making entrepreneurship attractive, at least for economically disadvantaged women and men. In particular, Atkinson and Messy (2012) further emphasised that entrepreneurs who are financially literate can plan their strategies and make sound financial decisions which help improve the business success of small- and medium-sized enterprises. According to Cole and

Fernando (2008), the ability to enhance the financial literacy of entrepreneurs accelerates business capacity to exploit credit, and consciously assess the viability of its business model contributes to successful business expansion. Mandell and Klein (2007) show that entrepreneurs with financial knowledge (e.g. debt management and investment principles) are more likely to attain long-term profitability and economic change adaptation, and thus, entrepreneurial success. Xiao and Porto (2017) found that financial literacy is immensely important in resource optimisation and decision-making that have an impact on the growth and sustainability of any business.

2.2. H2: Financial literacy (FL) has a significantly positive effect on Financial Inclusion (FI) among entrepreneurs.

Literature has paid a lot of attention to the positive relationship between financial literacy (FL) and financial inclusion (FI) and some studies have noted the role of financial literacy in making the final points possible. According to Lusardi and Mitchell (2014), financial literacy enables individuals to understand and make use of the range of financial products and services on offer to them, as driving financial inclusion. Individuals who are financially literate are more likely to use formal financial services (e.g. savings accounts, loans and insurance) and thus be included financially. According to Atkinson and Messy (2012), financial literacy functions as a gateway to financial inclusion because it empowers individuals to use and make well informed decisions about using financial tools available and thus improved the personal and business financial outcomes. Similar to this, Sharma and Sushil (2016) show that financial literacy is very important in helping people who do not have access to banking services by filling the information gap between financial institutions and the potential customers. According to Sarma (2012) there is positive evidence that financial literacy can increase the uptake of financial products and consequently improve financial inclusion particularly in developing economies. Additionally, Burgess and Pande (2005) argue that, besides helping clients become more aware about how they can obtain needed financial services that facilitate transactions, financial literacy initiatives can spur demand for a variety of formal financial services which, in turn, encourages more people to join the financial system and consequently lowering financial inclusion rates. Taken together these findings highlight the importance of financial literacy for improving individual financial well-being as well as championing broader financial inclusion in populations.

2.3. H3: Financial Inclusion (FI) has a significant positive effect on Entrepreneurial Success (ES).

Surprisingly, little research has been dedicated to the positive relationship between financial inclusion (FI) and entrepreneurial success (ES), despite several studies which have shown that access to financial services leads to better entrepreneurial outcomes. As pointed out by Sarma (2012), financial inclusion (of savings accounts, credit and insurance) is critical to entrepreneurs, especially for those in low income and underserved areas, since such access is necessary for managing financial risks and for investing in business growth. Also, Demirgüç-Kunt et al. (2015) support the empirical findings by showing that entrepreneurs who are able to have access to these formal financial services are less likely to successfully start and sustain their business, be able to access capital and manage cash flows better. This further confirmed by Beck et al. (2007), that financial inclusion has a direct on the growth and success of small enterprises especially in emerging countries as it gives the entrepreneurial to the resources to scale the business and create job opportunities. Drawing on decades of practical experience, Klapper et al. (2016) maintain that greater financial inclusion enables small businesses in developing economies to achieve greater entrepreneurial success by decreasing barriers to access to credit. Entrepreneurs with better access to finance are in a better position to invest on innovation and technology, and generate business expansion, and for this reason enjoy higher success rates. According to Banerjee and Duflo (2014) financial inclusion not only aids start-ups but supports small business sustainability with financial tools that can help entrepreneurs through economic fluctuations and enable small business growth. Together the results of this research highlight how financial inclusion can assist in the expansion of entrepreneurial success by offering the resources, opportunity, and stability for business expansion.

2.4. H4: Financial Inclusion (FI) mediates the relationship Financial Literacy (FL) and Entrepreneurial Success (ES).

Research on the mediating role of financial inclusion (FI) in the relationship between financial literacy (FL) and entrepreneurial success (ES) has grown following the works of a few researchers who have stressed how financial knowledge as well as financial services access work jointly to influence entrepreneurial outcomes. Lusardi and Mitchell (2014) find that financial literacy enhancing people's ability to understand financial products and make informed decisions in a world with financial inclusion reduces individual's ability to incorporate financial knowledge into business success. According to Sarma (2012), financial inclusion offers a critical pathway through which the knowledgeable entrepreneurs make use of their information to efficiently manage their businesses, access credit, and maintain the sustainability of the businesses. Supporting this, Beck et al. (2007) show that financial literacy increases the likelihood of entrepreneurs to seek formal financial services, but financial inclusion actually works as a mediating factor because access to resources, for example, loans and insurance, that facilitate entrepreneurial growth. In addition, Klapper et al. (2016) emphasise that while financial literacy is needed to enable effective financial decision making, financial inclusion bridges the knowledge — practise gap, allowing entrepreneurs to exploit opportunities and negotiate problems. Financial inclusion enables entrepreneurs with financial literacy to effectively handle cash flow; get investments; and grow their businesses for greater entrepreneurial success, in Demirgüç-Kunt et al (2015) view. Taken together, these studies highlight the role of financial inclusion as a critical mediator in the relation between financial literacy and the entrepreneurial success, permitting the entrepreneurs to utilise the financial knowledge to increase business performance and address limitation of business growth.

3. Conceptual Framework

In this study, the conceptual framework (figure 1) is about explaining the association between financial literacy (FL), financial inclusion (FI), and entrepreneurial success (ES), with financial inclusion as a mediating variable between financial literacy and entrepreneurial outcomes. Entrepreneurs acquire financial literacy by learning what they need to know and what skills are needed to analyse and use financial resources, to make sound decisions, and to navigate the maze of financial products and services. On the contrary, Lusardi and Mitchell (2014) argue that simply having financial knowledge is not enough toward entrepreneurial success, if there is no access to the financial resources. Financial literacy is vital for entrepreneurs to leverage their financial literacy into tangible business outcomes; but financial inclusion, the ease of using and accessing formal financial services (savings, loans, insurance) is critical. As argued by Sarma (2012) and Beck et al., (2007), access to finance equips entrepreneurs with the infrastructure – from raising capital to managing risks – to carry out their businesses successfully.

Using this framework (figure 1), FL is found to influence FI by allowing entrepreneurs to find and use the financial services that can aid in growing and sustaining their business. Demirgüç-Kunt et al. (2015) point out that the financial literate entrepreneurs have more trust and confidence in formal financial systems than the less financially literate entrepreneurs and hence are more likely to approach financial institutions. It in turn leads to financial inclusion, since people who know more about finance are able to access, and benefit from, credit, savings, and insurance products. This point is supported by Klapper et al. (2016) who show that financial literacy is positively associated with greater participation in the formal financial system. Finance inclusion also serves as a mediator in the relationship between financial literacy and entrepreneurial success as it's critical to cash flow management, investment on growth opportunities as well as in financial crises. The combination of financial literacy and inclusion enables entrepreneurs to successfully scale their businesses and achieve sustained sucess according to Burgess and Pande (2005). This framework concludes with an emphasis on the linkage of financial literacy and inclusion in the advancement of entrepreneurial success in developing economies where the availability of financial services imposes a huge barrier to business growth.

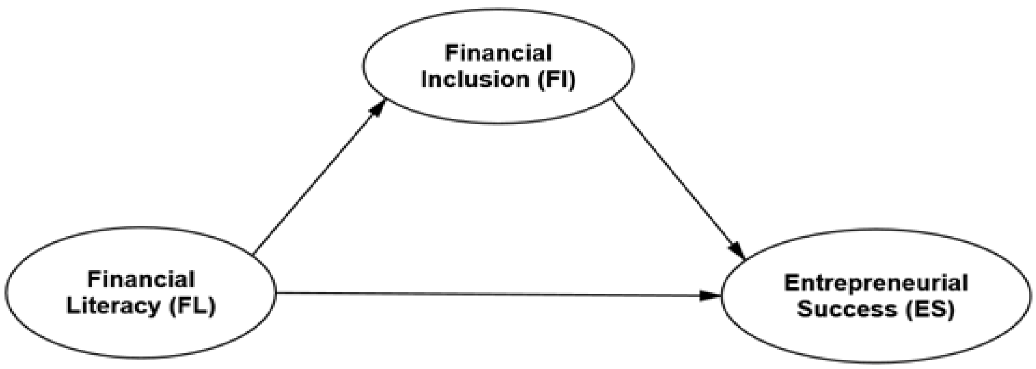

Figure 1: The hypothetical model of Financial Literacy (FL) on Entrepreneurial Success (ES) through the Financial Inclusion (FI)

4. Research Gap and Research Questions

Although several studies have examined the effects of financial literacy (FL), entrepreneurial success (ES), and financial inclusion (FI) overall, none, to date, have examined how financial inclusion affects the relationship between financial literacy and entrepreneurial success, specifically for small and medium enterprises (SMEs) in developing economies such as Kerala. While Lusardi and Mitchell (2014) and Demirgüç-Kunt et al. (2015) have recognised the central role of financial literacy in fostering access to formal financial services, they are silent on the mediating effects of financial inclusion on entrepreneurial success. Research by Sarma (2012) and Beck et al. (2007) also shed light on the role of financial inclusion in promoting business growth, but only in a very limited way, as it has not completely addressed the influence of financial literacy on enhancing better utilisation of the use of financial services; however, in a comprehensive model, it influences the rate of entrepreneurial success. However, we lack knowledge of the combined impact of financial literacy and inclusion on business results in Kerala's MUDRA scheme context. Furthermore, Klapper et al. (2016) and Burgess and Pande (2005) highlight the important link between financial inclusion and business sustainability, without explicitly investigating the role of financial literacy as a prerequisite to financial inclusion and the subsequent effect on entrepreneurial performance. This study seeks to fill this gap by examining how financial inclusion moderates the relationship between financial literacy and entrepreneurial success in Kerala's MUDRA scheme.

This study addresses the following questions to understand the relationship between financial literacy (FL), financial inclusion (FI), and entrepreneurial success (ES) among entrepreneurs under the MUDRA scheme in Kerala. The first is to gauge the effect of financial literacy on entrepreneurs' business performance under the MUDRA scheme, implying how the monitoring level of financial knowledge affects entrepreneurs' capacity to manage and grow their businesses. Lusardi and Mitchell (2014) put more emphasis on the fact that having financial literacy enables a better ability to decide and, in turn, positively impacts business performance. Second, in the second part of the study, we examine how the mediating role of financial inclusion shows that financial inclusion helps financial literacy in entrepreneurial success as it offers pertinent financial services that entrepreneurs require to convert financial knowledge into business growth. Building on Sarma (2012) and Beck et al. (2007), the commercial benefits of access to financial products and services render financial inclusion a crucial intermediary between the effect of financial literacy on entrepreneurial performance. Klapper et al. (2016), and Burgess and Pande (2005), further point out that financial inclusion helps entrepreneurs with the resources needed to expand their business and achieve long term entrepreneurial success.

5. Statement of the Problem

While it is acknowledged at the desk that financial literacy and financial inclusion can contribute immensely to entrepreneurial growth, there still remains an immense gap in understanding the direct effects of achieving the second factor jointly by both of these factors in making entrepreneurial success under schemes such as the MUDRA scheme in Kerala. However, not every entrepreneur possesses financial literacy skills that will aid in making sound financial decisions, and their prevalence in small business owners of developing countries is low, thus limiting their exploitation of business opportunities (Atkinson & Messy, 2012; Grohmann, 2018). Likewise, financial inclusion, where necessary financial services are made available, is important for entrepreneurial growth and has not been fully studied as a mediator in the relationship between financial literacy and entrepreneurial success (Dupas et al., 2018; Fungáčová & Weill, 2015). The literature largely separately examines financial literacy and financial inclusion and the compound effects of these factors on entrepreneurial outcomes, which could provide useful guidance in designing policies to encourage entrepreneurship support (Cámara & Tuesta, 2014; Zins & Weill, 2016). By addressing this research gap, an understanding is gained towards making the socio-economic impact of financial inclusion and education initiatives sustainable and profitable to the entrepreneur by enrolling in the MUDRA scheme.

6. Objectives of the Study:

- To assess the impact of financial literacy on the business performance of entrepreneurs under the MUDRA scheme.
- To examine the mediating role of financial inclusion in the relationship between financial literacy and entrepreneurial success.

7. Research Methodology

7.1. Research Design:

The research approach that is adopted in this study is quantitative research, with regard to the type that aims at establishing the relationship between Financial Literacy (FL) and Entrepreneurial Success (ES) and the mediating role of Financial Inclusion (FI) in between Financial Literacy and Entrepreneurial Success.

The data has been collected with a structured questionnaire, but where possible, available instruments for FL, ES, and FI have been used.

7.2. Sample:

This study employed stratified random sampling to ensure the representation of entrepreneurs across four distinct types of financial institutions in Kerala: the State Bank of India (SBI), a public sector bank; Federal Bank, a private sector bank; Kerala Gramin Bank, a regional rural bank; and ESAF Small Finance Bank, a small finance bank, with 60 entrepreneurs selected from each category, resulting in a total sample of 240. To determine the sample size, Cochran's formula was used, ensuring statistical reliability based on population proportion, confidence level, and margin of error. Stratification ensured that each banking category was adequately represented, while random selection within each stratum minimized bias. This method provides a comprehensive understanding of the variations in financial literacy, financial inclusion, and entrepreneurial success across banking sectors, enhancing the generalizability and robustness of the findings.

7.3. Tools:

The questionnaire was structured into four sections: basic demographic data, Financial Literacy (FL), Entrepreneurial Success (ES), and Financial Inclusion (FI). Responses to the items in these sections were recorded using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The reliability of the scale was assessed using Cronbach's alpha, with a target value of 0.70 to ensure that all items in the scale demonstrated high reliability. For content validity, the items were evaluated to confirm their relevance and alignment with the theoretical construct. To further ensure the effectiveness of the questionnaire as a tool for collecting data on Entrepreneurial Success in Kerala's MUDRA Scheme, a pilot test was conducted. This allowed for the identification of inconsistencies, refinement of the questionnaire, and comparison with previous research.

7.4. Techniques:

Descriptive statistics used in the survey data analysis and SEM that is, Structural equation Modelling (SEM) explore the relationship of Financial Literacy (FL) and Entrepreneurial Success (ES), and the Mediating Role of Financial Inclusion (FI) in between Financial Literacy and Entrepreneurial Success. Moreover, this theory is based on the assumption that there is a specific structure among the values that can be seen in a diagram. SEM estimates the structural paths and evaluates the standardized coefficients and significance levels. Goodness-of-fit indices, including CFI, TLI, RMSEA, and SRMR, were used to assess the model fit.

8. Data Analysis and Interpretations

The demographic profile of 240 entrepreneurs sampled in this study, including gender, age, education, business experience, business type, MUDRA loan type and loan purpose, are brought out in table 1. Of the sample, 40% are female and 60% are male entrepreneurs. Age Distribution indicates that 30.8% are above 40 years, 27.9% are between 35 and 40, 25.4% are below 30, 15.8% are between 30 and 35. With regard to educational qualifications, 32.1% have postgraduate degrees, 24.6% are graduates, 22.9% have attended secondary education and 20.4% have a higher secondary qualification. Their experience levels are different starting from 42.1 per cent that has less than 3 years of having work experience, 26.7 per cent has 5-7 years, 22.1 per cent has 3-5 years and 9.2 per cent was above 7 years. Entrepreneurs are doing their businesses in various sectors as other 24.6% are in manufacturing, 23.3% in agriculture and allied activities, 22.1% in services, 12.5% in food services, 10% in retail and 7.5% in trade. The loans accessed in the MUDRA category were 38.3 per cent in Kishore Category (Rs. 50,001 to

Rs. 5 lakh), 34.6 per cent for Shishu (up to Rs. 50,000) and 27.1 per cent in Tarun Category (Rs. 5 lakh to Rs. 10 lakh). The main targets of these loans are business start up (28.8%), equipment or asset purchase (39.6%) and working capital (31.7%). The strands in this profile include diverse entrepreneurs using MUDRA loans for business ends across sectors in the state of Kerala.

Table1: Demographic Profile of Entrepreneurs

Gender	No. of Entrepreneurs	Percent
Male	144	60.0
Female	96	40.0
Total	240	100.0
Age	No. of Entrepreneurs	Percent
Below 30	61	25.4
30 - 35	38	15.8
35 - 40	67	27.9
Above 40	74	30.8
Total	240	100.0
Educational Qualification	No. of Entrepreneurs	Percent
Secondary	55	22.9
Higher Secondary	49	20.4
Graduate	59	24.6
Postgraduate	77	32.1
Total	240	100.0
Experience in Business	No. of Entrepreneurs	Percent
Less than 3 years	101	42.1
3–5 years	53	22.1
5–7years	64	26.7
More than 7 years	22	9.2
Total	240	100.0
Type of Business:	No. of Entrepreneurs	Percent
Manufacturing	59	24.6
Services (e.g., consulting, repair, professional services)	53	22.1
Retail (e.g., grocery stores, clothing shops)	24	10.0
Trade (e.g., wholesale, distribution)	18	7.5
Agriculture and Allied Activities (e.g., dairy, poultry, farming)	56	23.3
Food Services (e.g., restaurants, catering)	30	12.5
Total	240	100.0
Type of MUDRA loan	No. of Entrepreneurs	Percent
Shishu (up to Rs. 50,000)	83	34.6
Kishore (Rs.50,001 to Rs.5 lakh)	92	38.3
Tarun (Rs. 5 lakh to Rs. 10 lakh)	65	27.1
Total	240	100.0
Main purpose of the MUDRA loan	No. of Entrepreneurs	Percent
Starting a new business	69	28.8
Purchasing equipment or assets	95	39.6
Working capital needs	76	31.7
Total	240	100.0

Source: *Author's own Complitation*

8.1. Model Fit

For the SEM, model fit examination is highlighted as it would help to determine if a given theoretical framework is capable of explaining the data given. First has to be building up the foundation of how their construct dimensions impact their items. We conduct a "construct validity" on the dimensions of the relationship between Financial Literacy (FL) and the Entrepreneurial Success (ES), i.e. total effect as part of Figure 2 and the Direct effect of Financial Inclusion (FI) on Entrepreneurial Success (ES) through the Financial Inclusion (FI) in Figure 3. The values determine the model's worthiness of the data defined in Table 2.

Total Effect

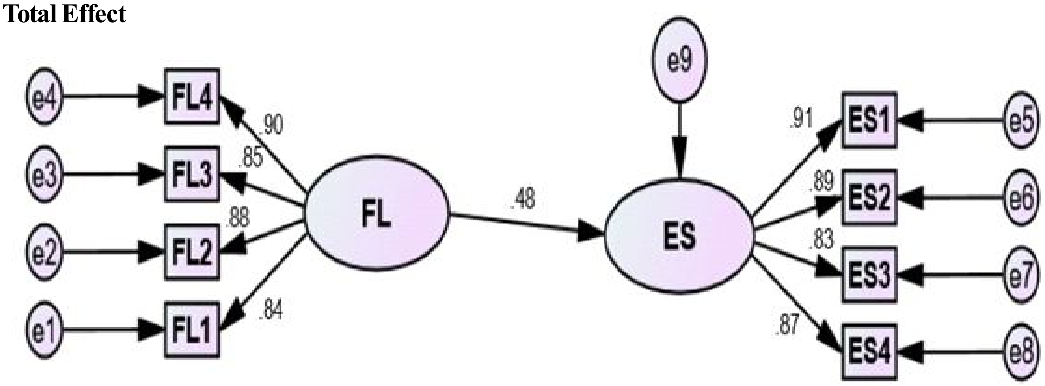

Figure 2: Total Effect of Financial Literacy (FL) on Entrepreneurial Success (ES)

Direct Effect:

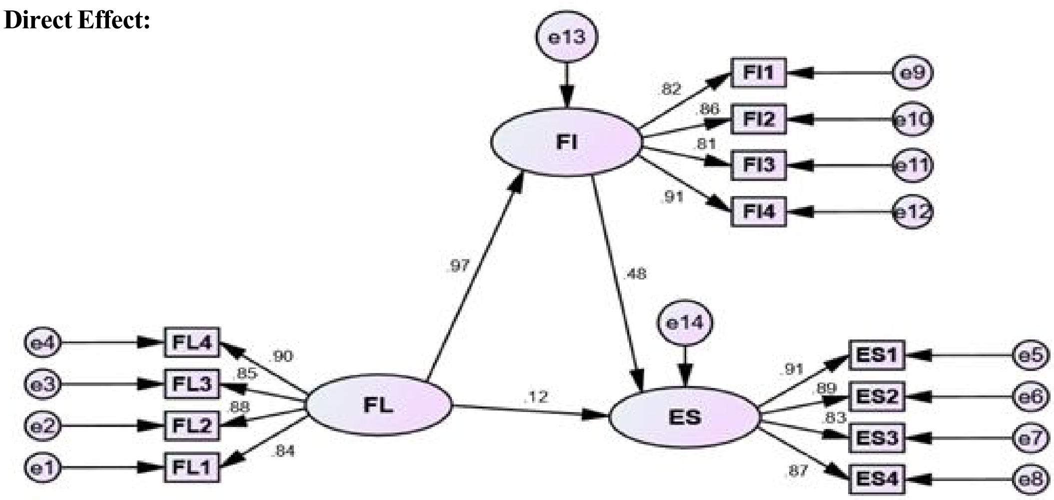

Figure 2: Direct effect of Financial Literacy (FL) on Entrepreneurial Success (ES) through the Financial Inclusion (FI)

The correct model indices are found in Table 2. In the model fit requirements, all (GFI>0.9, IFI>0.9, NFI>0.9, and CFI>0.9) are all greater than 0.9, the Goodness of Fit to Degrees of Freedom ratio is less than 3, and RMSEA < 0.08. A higher SRMR is shown to reduce the plausibility of the model. An acceptable model is one in which the RMSEA is less than 0.08, and CMIN/DF is less than 3.

Table 2: Model Fit Measures related to the Financial Inclusion (FI) on Entrepreneurial Success (ES) through Financial Inclusion (FI))

Model Fit Indices	Citation	Threshold Limit	Estimated Value	Interpretation
Normed Chi-Square	Kline, R. B. (2015), Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003)	< 3	159.228/ 55- CMIN/DF = 2.895	Excellent
CFI	Hu, L. T., & Bentler, P. M. (1999),Marsh, H. W., Hau, K. T., & Wen, Z. (2004)	> 0.90	0.911	Acceptable
GFI	Bentler, P. M., &Bonett, D. G. (1980),Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019)	>.90	0.934	Good
IFI	Bentler, P. M. (1990), Hooper, D., Coughlan, J., & Mullen, M. R. (2008)	>.90	0.922	Good
NFI	Kline, R. B. (2015).	>.90	0.917	Good
RMSEA	Browne, M. W., & Cudeck, R. (1993)	< 0.08	0.055	Acceptable
SRMR	Hu, L. T., & Bentler, P. M. (1999)	< 0.06	0.049	Excellent

Source: Author's own Complitation

Table 3: The hypothetical relationship between the Financial Inclusion (FI) on Entrepreneurial Success (ES) through Financial Inclusion (FI))

Dependent Variable	<---	Independent Variables	Estimate	S.E.	C.R.	P
FI	<---	FL	0.741	0.058	12.776	***
ES	<---	FI	0.629	0.123	5.114	0.001
ES	<---	FL	0.121	0.023	5.260	0.277

Source: Author's own Complitation

Hypothesis 1: Financial literacy (FL) has a significantly positive effect on Financial Inclusion (FI) among entrepreneurs.

The hypothesis suggests that the relationship between the dependent variable FI and the independent variable FL is positive and strongly significant, at the 0.05 level of significance. This perfectly corresponds with the findings of the carried-out regression analysis, for which the coefficient was estimated to be 0.741 suggesting a positive relationship such that as FL rises, FI is expected to increase. The standard error estimate of 0.058 indicates the sort of fluctuation in the estimated coefficient; although it established the coefficient is statistically significant, there is a confidence interval when it comes to estimation. Looking at the coefficient, a t-statistic of 12.776 is derived by dividing the coefficient by the standard error. Similarly, the computed p-value of 0.000 (***) shows that this association is highly significant at most common standards of significance (commonly set at $p < 0.05$), which translates to the evidence strongly rejecting the null hypothesis. This finding suggests that changes in FL have a considerable positive impact on FI.

Hypothesis 2: Financial Inclusion (FI) has a significant positive effect on Entrepreneurial Success (ES). The hypothesis suggests that the relationship between the dependent variable ES and the independent variable FI is positive and strongly significant, at the 0.05 level of significance. This perfectly corresponds with the findings of the carried-out regression analysis, for which the coefficient was estimated to be 0.629 suggesting a positive relationship such that as FI rises, ES is expected to increase. The standard error estimate of 0.123 indicates the sort of fluctuation in the estimated coefficient; although it established the coefficient is statistically significant, there is a confidence interval when it comes to estimation. Looking at the coefficient, a t-statistic of 5.114 is derived by dividing the coefficient by the standard error. Similarly, the computed p-value of 0.001 shows that this association is highly significant at most common standards of significance (commonly set at $p < 0.05$), which translates to the evidence strongly rejecting the null hypothesis. This finding suggests that changes in FI have a considerable positive impact on ES.

Hypothesis 3: Financial Literacy (FL) has a significant positive effect on Entrepreneurial Success (ES).

Financial Literacy (FL) are applied within this framework as a predictor of Entrepreneurial Success (ES), the dependent variable. A positive relationship is determined by the standardized estimate of 0.121, indicating as FL increases, ES increases correspondingly. Although the computed p value of 0.277 indicates that this association is very strongly not significant most widely accepted critical significance (usually $p < 0.05$), this amounts to strong evidence not to reject the null hypothesis i.e. no relationship was demonstrated by Financial Literacy (FL) and Entrepreneurial Success (ES). The estimate carries a critical ratio (C.R.) of 5.260 which indicates some influence, but it is not statistically significant. The result may suggest that even though financial literacy promote entrepreneurial success, mediating factors or intervening variables such as financial inclusion might be required to magnify this effect.

8.2. Mediation Effect

To test the mediation effect of Financial Inclusion (FI) on the relationship between Financial Literacy (FL) and Entrepreneurial Success (ES), the researchers used the bootstrapping method with an iteration number of 5000 as suggested by Preacher and Hayes (2008). The given research was done at a 95% confidence level.

Hypothesis 4: Financial Inclusion (FI) mediate the relationship between Financial Literacy (FL) and Entrepreneurial Success (ES).

Table 4: Total Effect of Financial Literacy (FL) to Entrepreneurial Success (ES)

Effect	Standardized Estimation	Un Standardized Estimate	S.E.	C.R.	P-value
Total Effect (FL → ES)	0.483	0.563	0.093	6.042	***

Source: Author’s own Complitation

Table 4 shows the total effect of Financial Literacy (FL) on Entrepreneurial Success (ES) is shown by a standardised estimate of 0.483, which shows a moderate positive relationship between FL and ES. The resultant coefficient estimate is statistically significant ($p < 0.001$) and likely to exist with its unstandardized estimate of 0.563, standard error (S.E.) of 0.093 and critical ratio (C.R.) of 6.042. It implies that, as financial literacy increases, entrepreneurial success also increases.

Table 5: Direct Effect of Financial Literacy (FL) to Entrepreneurial Success (ES)

Effect	Standardized Estimation	Un Standardized Estimate	S.E.	C.R.	P-value
Direct Effect (FL → ES)	0.121	0.121	0.023	5.260	0.277

Source: Author’s own Complitation

Table 5 show that the standardised estimate of Financial Literacy (FL) on Entrepreneurial Success (ES) is 0.121, which is considered a relatively weak positive relationship. The unstandardized estimate is 0.221 (S.E. = 0.023, C.R. = 9.609), and the standardised estimate is 0.221. Yet in this case, the p value of 0.277 indicates that the direct effect ES on FL is not statistically significant, so that the coefficient does not have a statistically significant effect on ES at a statistically meaningful level.

Table 6: Indirect effect of Financial Literacy (FL) on Entrepreneurial Success (ES) through Financial Inclusion (FI)

Effect	Standardized Estimation	Un Standardized Estimate	S.E.	C.R.	P-value
Indirect Effect (FL→ FI → ES)	0.362	0.442	0.070	6.314	0.004

Source: Author's own Complitation

Table 6 indicate that Financial Literacy (FL) has a statistically significant indirect effect on Entrepreneurial Success (ES) via Financial Inclusion (FI), with a standardised estimate of 0.362, which is moderate positive. The unstandardized estimate then is 0.442 (S.E. = 0.070, C.R. = 6.314, p = 0.004). This significant indirect effect implies that Financial Inclusion is a strong mediated factor in the path between FL and ES. That is, higher financial literacy improves financial inclusion, which improves entrepreneurial success. Thus, this mediation effect implies that financial inclusion increases the pathway from FL to ES by strengthening the pathway from FL to FI and from FI to ES, i.e., financial inclusion mediates the effect of financial literacy on entrepreneurial success.

Table 7: Types of Mediation and their Effects on Variable Relationships

Effect	Standardized Estimation	p-value	Result	Mediation
Total Effect (FL → ES)	0.483	0.000	Significant Impact	Full Mediation
Direct Effect (FL → ES)	0.121	0.277	Not Significant Impact	
Indirect Effect (FL→ FI→ ES)	0.362	0.004	Significant Impact	

Source: Author's own Complitation

Table 7 reveals that the total, direct, and indirect effects of Financial Literacy (FL) on Entrepreneurial Success (ES) through using Financial Inclusion (FI) as a mediator are shown in Table 6, using Baron and Kenny's (1986) original approach. It is shown from the analysis that FL has a positive total effect on ES (0.483), which is significant at $p<0.05$. When predicting ES with FL as a predictor, we obtained the direct effect estimate of 0.121 and a p-value of 0.277, implying that ES is not significantly related to FL. The direct effect itself is not statistically significant ($p = 0.277$); however, the indirect effect through the FI is still significant (0.362, $p = 0.004$). This implies that the effect of FI on ES does not depend on the direct impact of FL on ES at all but rather is mediated by the ES increase via FI. Collectively, the positive indirect effects suggest that FI is a full mediator and also increases the level of FL in ES. Through this comprehensive mediation analysis, we confirm that indirect pathways are the crucial contributors to entrepreneurial success. On this basis, researchers argue that Financial Inclusion (FI) fully mediates the relationship between Financial Literacy (FL) on Entrepreneurial Success (ES).

8.3. Model Validity and Reliability

In Structural Equation Modelling (SEM), Model validity and reliability are assessed with composite reliability, convergent validity and discriminant validity. Composite reliability (CR), and values greater than 0.7 are considered acceptable (Hair et al., 2019). This is the Convergent validity, which is checked by AVE and the degree of variance of the ideal items included in the construct; thus, items aggregated to a construct that have correlation of 0,5 or more will be well correlated to share a common variance (Forns & Larcker, 1981). Model reliability and validity can be checked with simultaneous use of both the Fornell-Larcker criterion and the discriminant validity (Henseler et al., 2015) measures and these in conjunction offer a thorough verification of robust results from the robust SEM.

Table 8: Composite Reliability and Convergent Validity of the Model related to Financial Literacy (FL) on Entrepreneurial Success (ES) through Financial Inclusion (FI)

	CR	AVE	MSV	MaxR(H)
FL	0.925	0.754	0.336	0.941
ES	0.928	0.764	0.319	0.936
FI	0.913	0.850	0.301	0.940

Source: Author's own Complitation

An assessment of the composite reliability (CR), average variance extracted (AVE), mean shared variance (MSV), and MaxR(H) maximum shared variance for the variables of the model's of Financial Literacy (FL), Entrepreneurial Success (ES) and Financial Inclusion (FI) are provided in table 8. Internal consistency of the items measuring each construct was sustained (the composite reliability values span the range of 0.913 to 0.928). The values of AVE, which range from 0.754 to 0.850, indicate that indicators can sufficiently explain variances of variables with a little available measurement error. Good convergent validity is such a figure. We observe a large MSV range across these factors, from 0.301to 0.326, which suggests that a large chunk of the variance of each construct is accounted for by factors that do not load onto any other constructs' common factors. The 0.936 to 0.941 MaxR(H) explain that constructs are discriminant in that the squared correlations are less than the communality between constructs and indicators due to the indicators being significantly related to the constructs rather than vice versa. The findings of the study indicate that the model employed has fulfilled all the necessary conditions for validity and reliability, which provide reasons for assuming that model is formally reflecting constructs.

Table 9: Discriminant Validity of the Model related to Financial Literacy (FL) on Entrepreneurial Success (ES) through Financial Inclusion (FI)

	FL	ES	FI
FL	**0.869**		
ES	0.625	**0.874**	
FI	0.587	0.721	**0.851**

Source: Author's own Complitation

Table 9 reveals the results of the discriminant validity test for FL, ES, and FI, which are the three variables involved in the model. Table's association shows squared correlations between every two variables. At the diagonal lie the scores of the AVE of each construct, and the off-diagonals confirm the squared correlation between constructs. The values of the diagonals are larger in magnitude than those on the cross-diagonals. This shows that each construct shares more statistically with its indicators than do the indicators of the others. It contributes to the discriminant validity of the model through the division of language constructs into isolated components. Squared correlation numbers are from as low as 0.587 (which translates into 58.7% of shared variance) to 0.721 (which is more than 72.1% of shared variance), confirming that each construct is different internally. In sum, the mentioned results demonstrate that the model's factors have appropriate discriminate validity needed for different measurements.

9. Findings and Suggestions

This study finds a positive correlation between financial literacy, financial inclusion, and entrepreneurial success among MUDRA scheme-based entrepreneurs in Kerala. Entrepreneurs with a higher level of financial literacy tend to perform better in business and provide a better tool for managing financial resources, making more informed business decisions, and making more optimal use of financial products available. Furthermore, we show that financial literacy mediates the relationship between financial literacy and business outcomes and that being more accessible to financial services supports the positive representation of financial literacy on business outcomes. In fact, the fact is, entrepreneurs with access to financial services like credit, insurance and savings products also have the firms that grow and thrive. Though there are advocates of financial inclusion and improved financial literacy for bettering entrepreneurial development in Kerala, the study emphasises that it equally requires bettering financial literacy and provision of financial inclusion, and thereby certain initiatives directed at improved financial literacy and improved access to financial services can have a substantial impact on the success of entrepreneurs in Kerala.

Based on the findings of this study, policymakers and financial institutions in Kerala need to emphasise improving financial literacy programs, especially for entrepreneurs operating under the MUDRA scheme. These programs should teach entrepreneurs practical financial management skills such as budgeting, saving, and investing so that entrepreneurs can run their businesses well. It is also essential for entrepreneurs to expand financial inclusion by increasing access to credit, insurance, and other savings products, with a particular focus on increasing access to such products in rural and underserved areas. Collaboration between financial institutions, whether public, private, or small finance banks, should work together to provide customised financial products for small businesses. In addition, the government may introduce incentives for financial institutions offering financial literacy training and inclusion initiatives that would serve as breeding grounds for entrepreneurship. Investments in efforts of this kind can narrow the financial literacy gap, and therefore promote entrepreneurial success of Kerala's small and medium sized enterprises and facilitate the state's economic development.

10. Conclusion

This study has practical implications in terms of the need to arm entrepreneurs with financial knowledge and increase their access to financial resources. By understanding financial management, entrepreneurs can then make wise decisions, thereby improving their business performance. This ensures that entrepreneurs have access to key financial services, including credit, insurance, and savings, so they can grow and sustain their businesses. For this, financial literacy programs focusing on the needs of small business owners under the MUDRA scheme are required. These entrepreneurs inherently need products and services tailored to their needs, which financial institutions should work together to offer. Furthermore, government policies should incentivise financial inclusion growth and promote practices that combine financial education with access to financial services. Thus, if Kerala does this, it could have a more supportive environment for smaller businesses, so that they succeed and contribute to general economic growth.

Scope for further research

1. A comparable study with a larger and more varied sample may be done to make sure the findings are applicable to a broader population.

2. In addition to those dimensions of financial inclusion and financial literacy, more dimensions like employability and entrepreneurial competencies can be identified to measure the association between those dimensions and the satisfaction of the beneficiaries.

3. A comparative study can be conducted to evaluate and compare the performance of different central and state government entrepreneurial schemes. This analysis will provide valuable insights for policy making and the respective authorities.

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