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Determinants Of Financial Literacy: A Structural Equation Modelling Approach

[1]Anusha N, [2]Dr. Anouja Mohanty

[1]Research Scholar, School of Commerce and Economics, Presidency University
Assistant Professor, St. Francis College, Bengaluru – 56004, Karnataka
Email: anusha.nagaraj03@gmail.com
[2]Assistant Professor, School of Commerce and Economics, Presidency University, Bengaluru
Email: anouja.mohanty@presidencyuniversity.in

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1.1. **Abstract**

The study explores the key determinants of financial literacy, focusing on financial education, social influence, and financial self-efficacy. Using a Structural Equation Modelling (SEM) approach, data were collected from 277 respondents and analysed to test the proposed hypotheses. Exploratory Factor Analysis (EFA) identified three core factors influencing financial literacy. Financial education, social influence, and financial self-efficacy emerged as significant predictors of financial literacy, explaining 62.4% of the variance. The findings underscore the importance of promoting financial education programs and fostering peer discussions to enhance financial literacy in organizations. Implications for policy and practice are discussed.

Keywords: Financial education, social influence, financial literacy and financial self-efficacy

1.1. Introduction

Financial literacy is a crucial skill that enables individuals to effectively manage their personal finances, navigate complex financial decisions, and achieve financial well-being. It refers to the ability to understand and apply various financial concepts such as budgeting, saving, investing, debt management, and retirement planning. More broadly, financial literacy encompasses the knowledge, skills, attitudes, and behaviors necessary for sound financial decision-making. With the rise of more sophisticated financial products and digital banking platforms, financial literacy has become even more important for individuals to safeguard their financial health in today's economy.

Individuals with higher financial literacy tend to experience better financial outcomes, as they are more likely to save regularly, plan for retirement, and manage debt responsibly. Conversely, those lacking financial literacy are at greater risk of making poor financial choices that can lead to negative outcomes, such as over-borrowing, low savings rates, and inadequate retirement funds. According to Lusardi and Mitchell (2017), financially literate individuals are not only better at managing their money but also exhibit higher levels of financial resilience, allowing them to navigate unexpected economic shocks more effectively.

Despite the importance of financial literacy, research indicates that many populations worldwide, including in both developed and developing countries, struggle with basic financial concepts. For example, a global study by the Organisation for Economic Co-operation and Development (OECD) found that less than 50% of adults in most countries can correctly answer questions about inflation, interest rates, and risk diversification (OECD, 2020). Certain demographic groups, including younger individuals, women, and those from lower socioeconomic backgrounds, tend to have particularly low levels of financial literacy. This lack of financial literacy can contribute to a variety of personal and societal financial problems, including over-indebtedness, inadequate retirement savings, and an inability to cope with financial crises.

Recognizing the widespread need for improved financial literacy, governments, educational institutions, and financial organizations have increasingly emphasized the importance of financial education programs. These programs aim to equip individuals with the knowledge and skills necessary to manage their personal finances effectively. Financial education is often delivered through schools, community programs, online platforms, and workplace initiatives. However, while there is growing evidence that financial education can improve financial literacy, there remains a need to better understand the factors that influence financial literacy and the mechanisms through which these factors operate.

In addition to financial education, other factors such as social influence and financial self-efficacy play critical roles in shaping financial literacy. Social influence refers to the impact that family, friends, and peers have on an individual's financial attitudes and behaviors. Social learning theory posits that individuals often learn financial habits by observing and interacting with their social environment, making social influence a powerful determinant of financial literacy. Furthermore, financial self-efficacy, which reflects an individual's confidence in their ability to manage financial tasks, has been shown to predict financial behavior and literacy. Individuals with high financial self-efficacy are more likely to engage in sound financial practices, such as budgeting and saving, compared to those with low self-efficacy (Farrell et al., 2016).

Given the multifaceted nature of financial literacy, it is essential to adopt a comprehensive approach to identify its key determinants. Structural Equation Modeling (SEM) offers an advanced statistical method to explore these relationships by simultaneously testing multiple variables and their interconnections. SEM allows researchers to assess the direct and indirect effects of financial education, social influence, and financial self-efficacy on financial literacy, providing a clearer picture of how these factors interact to shape financial knowledge and behavior.

This study aims to explore the determinants of financial literacy through a Structural Equation Modeling (SEM) approach. Specifically, it investigates the roles of financial education, social influence, and financial self-efficacy as key predictors of financial literacy. By examining these factors, this research seeks to offer valuable insights into how different variables contribute to financial literacy and inform the design of more effective financial education programs. The findings from this study will be particularly useful for policymakers, educators, and organizations looking to enhance financial literacy across diverse populations and promote financial well-being on a larger scale.

Literature Review

Financial literacy has gained increasing attention due to its essential role in improving individual financial outcomes, such as saving, investment, and debt management. Given the complexity of modern financial systems, it has become critical to understand the factors that influence financial literacy. Several recent studies have attempted to pinpoint the key determinants, leading to the identification of variables such as financial education, social influence, and financial self-efficacy, all of which are vital in promoting financially literate behaviors.

Financial Education and Financial Literacy

Financial education is considered the foundation for developing financial literacy. A growing body of research supports the link between financial education and improved financial decision-making. According to Lusardi and Mitchell (2017), individuals who participate in financial education programs exhibit higher levels of financial literacy and tend to make more informed financial decisions. Financial education helps individuals understand core concepts such as budgeting, saving, debt management, and investing.

More recent studies also highlight the significance of financial education in various demographic groups. For example, Xu and Zia (2022) noted that financial education tailored to the specific needs of women, young adults, and low-income populations can significantly increase their financial literacy levels. This aligns with findings by Grohmann et al. (2021), who emphasized that targeted financial education is more effective in bridging knowledge gaps and fostering long-term financial competence.

Moreover, digital platforms have also emerged as significant tools in disseminating financial education. According to Brown et al. (2021), online financial literacy programs are gaining prominence due to their flexibility and scalability. These platforms provide interactive learning modules that can enhance users' understanding of personal finance concepts.

Hypothesis 1 (H1): Financial education positively influences financial literacy.

Social Influence and Financial Literacy

Social influence has emerged as another critical determinant of financial literacy. It refers to the impact that an individual's family, friends, and peers have on their financial behaviors and decisions. Shim et al. (2010) argue that individuals who are frequently exposed to discussions about financial matters are more likely to develop positive financial habits. This is supported by recent research, which suggests that social networks can function as informal channels of financial education, where individuals learn from each other's financial experiences.

A study by Urban and Urban (2021) reinforced this, indicating that peer groups and family influence can shape financial attitudes, especially among young adults. Individuals often mimic the financial behaviors of their peers, either consciously or unconsciously, which further highlights the role of social environments in developing financial literacy. The study also

pointed out that financial literacy could be enhanced in family settings through regular discussions on money management, savings, and investments.

Social learning theory (Bandura, 1977) also underpins this dynamic by suggesting that people acquire knowledge and behaviors by observing others. The social context, therefore, plays a critical role in either reinforcing or undermining financial literacy efforts.

Hypothesis 2 (H2): Social influence positively impacts financial literacy.

Financial Self-Efficacy and Financial Literacy

Financial self-efficacy is an individual's belief in their capacity to manage financial tasks effectively. This psychological factor has been linked to financial behavior and literacy in numerous studies. Research by Farrell et al. (2016) found that individuals with higher financial self-efficacy are more likely to engage in sound financial management practices, such as budgeting and long-term financial planning.

Recent work by Serido et al. (2020) further suggests that financial self-efficacy is critical in predicting financial resilience, particularly in times of economic uncertainty. Their findings indicate that individuals with high financial self-efficacy are better equipped to adapt to financial challenges, making them more confident in managing their financial affairs. Additionally, a study by Chong et al. (2023) demonstrated that boosting financial self-efficacy through personalized coaching and financial management tools leads to higher financial literacy levels and improved financial behaviours.

These findings highlight the importance of building financial self-efficacy as part of any effort to improve financial literacy. By empowering individuals to believe in their ability to manage money, financial education programs can have a more lasting impact.

Hypothesis 3 (H3): Financial self-efficacy positively impacts financial literacy.

Emerging Determinants of Financial Literacy

While financial education, social influence, and self-efficacy remain central, recent studies have also identified other emerging determinants of financial literacy. For instance, technological literacy has been recognized as increasingly vital. According to Tang et al. (2021), as digital banking and online financial services become more prevalent, technological proficiency is becoming an essential component of financial literacy. Individuals who are adept at using digital platforms are more likely to engage in sound financial practices, such as online banking and investment.

Furthermore, financial socialization during adolescence has been shown to play a crucial role in shaping financial literacy in adulthood. A study by Jorgensen and Savla (2022) highlighted that financial discussions and allowances during childhood are strong predictors of adult financial literacy. This underscores the importance of early financial education in fostering long-term financial competencies.

Another growing area of research is the role of gender in financial literacy. Studies have consistently shown that women tend to have lower financial literacy levels compared to men (OECD, 2020). However, a recent study by Bucher-Koenen et al. (2021) found that when provided with equal access to financial education, women demonstrate substantial improvements in financial literacy, often outperforming their male counterparts in specific areas such as savings and debt management. This suggests that addressing gender disparities in financial education can have significant implications for enhancing overall financial literacy.

Objectives:

To assess the impact of financial education on financial literacy.

To evaluate the role of social influence and financial self-efficacy in determining financial literacy.

Research Methodology

This study adopts a quantitative research design using Structural Equation Modeling (SEM) to examine the relationships between financial education, social influence, financial self-efficacy, and financial literacy. A 1-7 Likert scale (1 = strongly disagree, 7 = strongly agree) was employed to measure respondents' perceptions of these factors. Data were collected from 277 respondents from Bengaluru through an online survey. Participants were selected using convenience sampling, and the sample included individuals from diverse demographic backgrounds. Before conducting SEM analysis, Exploratory Factor Analysis (EFA) was employed to identify the key determinants of financial literacy.

constructs.

Data analysis and results

Table 1: Demographic Profile of Respondents

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	140	50.5
	Female	137	49.5
Age Group	18-25 years	75	27.1
	26-35 years	102	36.8
	36-45 years	68	24.5
	46 years and above	32	11.6
Education Level	High School	34	12.3
	Bachelor's Degree	120	43.3
	Master's Degree	95	34.3
	Doctorate	28	10.1
Occupation	Student	62	22.4
	Employed (Private Sector)	128	46.2
	Employed (Public Sector)	53	19.1
	Self-employed	34	12.3
Monthly Income (INR)	Below 25,000	85	30.7
	25,000 - 50,000	97	35.0
	50,001 - 75,000	55	19.9
	Above 75,000	40	14.4
Marital Status	Single	143	51.6
	Married	120	43.3
	Divorced/Widowed	14	5.1

The demographic profile of the respondents reflects a balanced distribution in terms of gender, with 50.5% male and 49.5% female participants. The majority of respondents fall within the age group of 26-35 years (36.8%), followed by 18-25 years (27.1%) and 36-45 years (24.5%), with a smaller proportion being 46 years and above (11.6%). In terms of education, most participants hold a Bachelor's degree (43.3%), while 34.3% have a Master's degree, and a smaller number have a high school education (12.3%) or Doctorate (10.1%). Regarding occupation, a significant portion is employed in the private sector (46.2%), followed by students (22.4%), public sector employees (19.1%), and self-employed individuals (12.3%). In terms of monthly income, the largest group earns between INR 25,000 - 50,000 (35.0%), followed by those earning below INR 25,000 (30.7%), with fewer respondents in the higher income brackets of INR 50,001 - 75,000 (19.9%) and above INR 75,000 (14.4%). Marital status reveals that 51.6% are single, 43.3% are married, and a smaller percentage (5.1%) are divorced or widowed. This demographic distribution provides a diverse sample for analyzing various trends and behaviors.

Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) was used to identify the core determinants of financial literacy in the current study. Before conducting the analysis, the Kaiser-Meyer-Olkin (KMO) test was applied to assess sample adequacy, yielding a value of 0. 891, which surpasses the recommended threshold of 0.60, indicating that the sample size is sufficient for factor analysis. Bartlett's test of sphericity was also significant at the 1% level, reinforcing the data's suitability for analysis. The EFA was executed using Principal Component Analysis with varimax rotation. Following the criterion of selecting factors with Eigenvalues greater than 1, three factors were extracted, collectively explaining 79.24% of the total variance, confirming a strong explanatory capacity for the model.

Reliability and Validity

The internal consistency of the scale items was assessed using Cronbach's alpha to determine reliability, with the results presented in Table 1. All alpha values exceeded the recommended threshold of 0.70 (Hair et al., 2010), indicating strong reliability. Additionally, convergent validity was confirmed through Average Variance Extracted (AVE) values, which

were all above 0.5. Discriminant validity was evaluated by comparing AVE values with Maximum Shared Variances (MSV), and since all AVE values exceeded the MSV, discriminant validity was established (Fornell and Larcker, 1981).

Items	Loadings	Mean	Alpha	AVE	MSV
Q1	.744	4.64	0.949	0.861	0.643
Q2	.769	4.70			
Q3	.770	4.68			
Q4	.805	4.46	0.933	0.822	0.593
Q5	.806	4.63			
Q6	.809	4.51			
Q7	.866	4.72	0.957	0.847	0.666
Q8	.838	5.01			
Q9	.846	4.93			
Q10	.875	5.10			
Q11	.895	4.53	0.942	0.843	0.646
Q12	.886	4.76			
Q13	.878	4.58			

The table provides insights into the performance of items based on several key metrics: factor loadings, mean scores, Cronbach's Alpha, Average Variance Extracted (AVE), and Maximum Shared Variance (MSV). The loadings for the items range from 0.744 to 0.895, indicating strong factor correlations, as values above 0.70 are generally considered good indicators of validity. The mean scores for the items range from 4.46 to 5.10, suggesting that respondents generally have favorable attitudes towards the items measured, with higher scores reflecting greater agreement or satisfaction.

Cronbach's Alpha values are all above 0.90, which signifies excellent internal consistency and reliability of the scales. Specifically, Q1-Q3 have an Alpha of 0.949, Q4-Q6 have 0.933, Q7-Q10 show 0.957, and Q11-Q13 reflect 0.942. These high values suggest that the items within each group are measuring the same underlying construct with precision.

The AVE values, which measure the amount of variance captured by the construct in relation to the variance due to measurement error, range from 0.822 to 0.861, all exceeding the 0.50 threshold, indicating that the constructs have good convergent validity. The MSV values range from 0.593 to 0.666, suggesting that while the items are distinct, there may be some overlap in variance, though not enough to cause concern about discriminant validity.

Hypothesis testing using Structure equation modelling (SEM):

Structural Equation Modeling (SEM) is a statistical approach utilized to examine and analyse intricate relationships among variables within a theoretical framework. In this study, Maximum Likelihood Estimation was employed for SEM due to its robustness, its capability to handle diverse data distributions, and its well-established theoretical basis (Blunch, 2013).

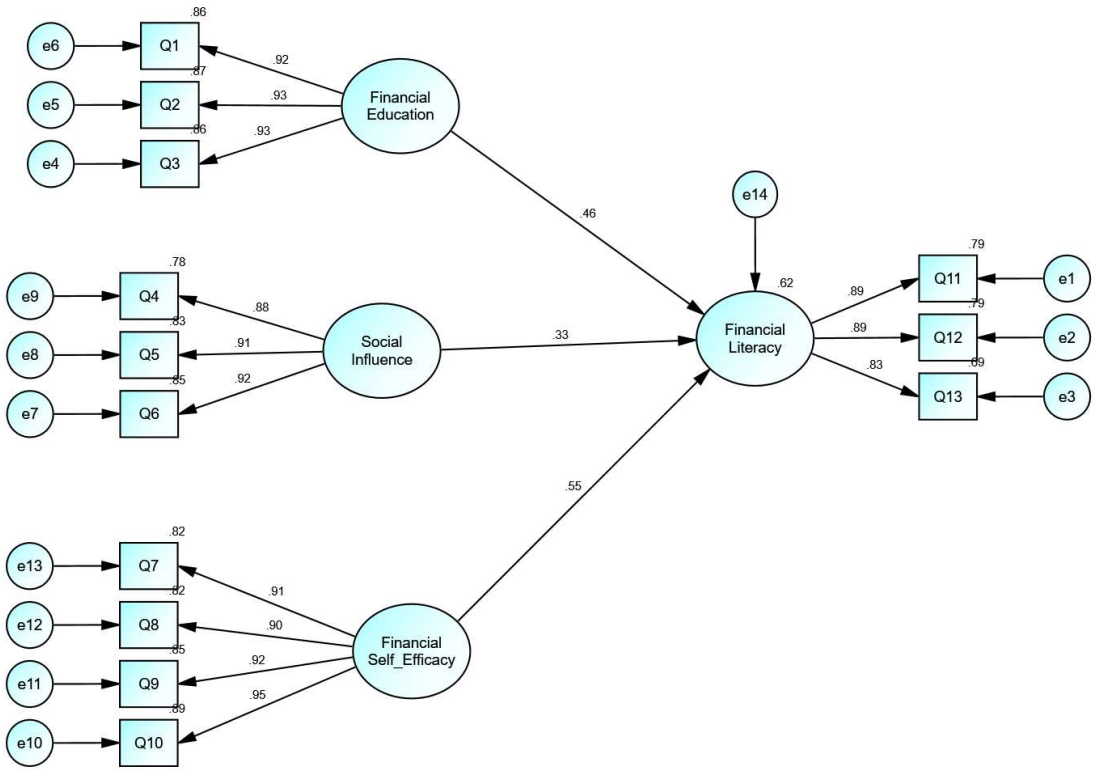

Table 2: Hypothesis results using SEM

Hypotheses	Standardized regression weights (β)	Standard error	Critical ratio (T value)	P value	Result
Financial Education→ Financial Literacy	0.456	.031	9.910	0.000	H1 accepted
Social Influence→ Financial Literacy	0.334	.031	7.417	0.001	H2 accepted
Financial Self Efficacy→ Financial Literacy	0.552	.031	11.862	0.000	H3 accepted

Table 3: Model Fit indices:

Goodness of fit indices	CMIN/DF	CFI	GFI	AGFI	TLI	NFI	RMSEA
Calculated value	1.945	0.987	0.945	0.915	0.983	0.975	0.057
Criterion	<3	>0.9	>0.9	>0.8	>0.9	>0.9	<0.08

The results from Table 2 and Figure 1 underscore significant predictors of financial literacy. Firstly, **financial education** shows a positive and substantial impact on financial literacy with a standardized regression weight of 0.456 (p = 0.000), confirming **H1**. This supports earlier findings, such as those by Lusardi and Mitchell (2017), who identified financial education as a key contributor to improving financial understanding and decision-making skills.
Secondly, **social influence** also plays a significant role, with a standardized regression weight of 0.334 (p = 0.001), thus supporting **H2**. This aligns with the work of Shim et al. (2010), who highlighted the influence of social factors such as family and peer discussions in shaping financial behaviors and literacy.
Lastly, **financial self-efficacy** emerges as the strongest predictor, with a standardized regression weight of 0.552 (p = 0.000), confirming **H3**. This is consistent with studies like Farrell et al. (2016), which emphasize the importance of self-efficacy in fostering confidence and competence in managing finances.
The p-values for all paths are below 0.05, and critical ratios exceed 1.96, ensuring that the hypotheses are statistically significant. This confirms the robustness of financial education, social influence, and financial self-efficacy as key determinants of financial literacy.

Coefficient of determination (R^2) for financial literacy is 0.624. This indicates that approximately 62.4% of the variance in financial literacy is explained by three factors selected in present model. In addition, the model fit indices values (refer table 3) are fulfilling the threshold criteria, therefore confirming the predictability of current model.

Implications

Based on the study's findings, it is confirmed that financial education significantly influences financial literacy, organizations should invest in comprehensive financial literacy programs. These programs can include workshops, seminars, and online resources tailored to employees' needs. Since social influence plays a significant role in shaping financial literacy, managers should encourage a culture of peer learning and open discussion about personal finance. For instance, creating financial wellness groups or mentorship programs within the organization could help foster a community of shared financial learning. This could also reduce stigma around financial discussions and encourage more employees to seek financial guidance from their peers. As financial self-efficacy is a strong predictor of financial literacy, companies should focus on building employees' confidence in managing their personal finances. This can be achieved through personalized financial coaching or providing tools that allow employees to track and manage their finances more effectively.
The current study provides valuable insights into the factors influencing financial literacy, but there are numerous areas where future research could expand on these findings. One promising direction is conducting longitudinal studies to track changes in financial literacy over time, which would provide a deeper understanding of how financial education, social influence, and self-efficacy evolve and impact decision-making across different life stages. Additionally, future research could focus on more diverse demographic groups, exploring how financial literacy varies across different regions, cultures, and socioeconomic levels. Investigating the role of digital financial tools, such as mobile banking and investment platforms, could also provide insights into the relationship between technological adoption and financial literacy. Moreover, addressing gender disparities in financial literacy through targeted interventions could help mitigate inequalities and improve financial outcomes for women and marginalized groups.

Conclusion

This study highlights the critical role of financial education, social influence, and financial self-efficacy in shaping financial literacy. The findings emphasize the need for organizations to invest in comprehensive financial education programs and promote peer learning to boost employees' financial confidence and decision-making skills. Given the substantial impact of financial self-efficacy, personalized financial coaching could further enhance financial literacy levels, contributing to overall well-being and productivity.
For future research, exploring the role of digital tools and online platforms in financial literacy development could provide valuable insights. Additionally, examining the long-term effects of financial education interventions across different demographic groups and industries would offer a broader understanding of how financial literacy initiatives can be tailored for diverse populations.

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