

Financial Literacy: A key pre-requisite to improve individual savings

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Abstract

The rapid development of financial institutions, changing socioeconomic conditions as well as rising consumerism has contributed to the changing financial behaviour particularly in savings of individual consumers. In this context, the role of financial literacy and financial education has gained considerable interest among policy makers so as to ensure responsible financial decision making. The current study based on 400 commercial bank customers in Kerala identified variation in financial literacy level in terms of gender, age, caste, education, income as well as SHG membership. Further, the study established that financial literacy had a positive significant impact on the savings behaviour.

Keywords: Financial Literacy, Savings, Financial Behaviour, Financial Knowledge, Financial Attitude, Financial Awareness

1 Introduction

India experienced rapid growth over the past couple of years following liberalisation, privatisation and globalisation of the economy apart from combined effort of various stakeholders. However, even after such rapid growth, not all sections of the population have equally benefitted. As per (Oxford Poverty and Human Development Initiative, 2018) report, India with 364 million people below poverty ranks top in the list. Exclusion from financial services was identified as one of the major reasons. Various studies have pointed out the importance of financial literacy and the role it plays in reducing inequality, empowering vulnerable sections etc. As per (OECD INFE, 2011) financial literacy is essential to make sound financial decisions using a combination of attitude, awareness, skill as well as knowledge to ensure financial well-being.

Financial literacy / education assumes increased importance under such changed circumstances. Financial literacy enables an individual to make optimal utilisation of his/her money via informed and effective decision making. As per former RBI Governor (Subbarao, 2010), while access is provided by financial inclusion (supply side), awareness is provided by financial literacy (demand side) making both financial inclusion and financial literacy integral for overall wellbeing of the society.

2 Benefits of financial literacy/financial education

Various studies (Behrman et al., 2012; Lusardi & Mitchell, 2014; Matewos et al., 2016; OECD & G20, 2013; Reddy, 2006) have pointed out multiple benefits of financial literacy and financial education i.e.

As per (Capuano & Ramsay, 2011), enabling financial literacy level benefits 1) individuals 2) financial system 3) economy. In the case of financial system, benefits included increased

competition, quality, market discipline, risk coverage, getting over pro cyclical in lending etc. In the case of economy, the study points out that, improved financial literacy level improves savings level and retirement planning, realistic financial knowledge assessment, better bargaining power, improved financial efficiency. Additionally, the community benefits in terms of overall increase in financial inclusion level and better understanding of government policies.

Other benefits include improving financial inclusion by enabling people to seek/receive financial services and products (Gupta & Kaur, 2014; Nalini, 2011), supporting various programs in health, education, other development programs aimed at poverty reduction (Mundy, S., Musoke, 2011), ensures risk reduction via better understanding of investment options (Subha & Shanmugha, 2014), helps to create household budgets, financial planning for short and long term etc. (Reddy, 2006)

As per National Strategy for Financial Education Report (IRDA, 2012) report, financial education provides the following benefits i.e. a.) Protection against exploitative practices of money lenders by making individuals financially aware b) Responsible financial decision skills gained through financial education helps avoid over indebtedness c) Small enterprises by improving their financial transactions via better understanding financial products and services thus improving their overall business d) Prevent people from indiscriminate use of financial products without realisation of risks involved e) Increase depth of financial markets. f) Positive spill over and Multiplier effect.

Financially literate individual \rightarrow Savings \uparrow + Investment $\uparrow \rightarrow$ Individual financial well-being \uparrow + Society well-being \uparrow

3 Current Status of Financial Literacy

As per S & P FinLit survey (Lusardi & Mitchell, 2014), only 1 out of 3 adults are financially literate with wide variations across countries. In the case of India, the report points out that only 27 % of the adults are financially literate. As per VISA International Financial Literacy Barometer Report (VISA, 2012) India with a score of 35 (out of 100) ranked 23 out of 28 countries. Further, MasterCard Index of Financial Literacy (MasterCard, 2015) ranked India 13 out of 17 countries (Score – 60/100).

4 Barriers of financial Literacy

Previous studies have pointed out various barriers to financial literacy. These include Personal barriers (in terms of inability to maintain minimum balance w.r.t low income category people), low overall level of financial literacy and awareness regarding various financial products and services, low technological and social inclusion levels acting as barriers (e.g. social barriers in terms of cultural changes etc., technological barriers in terms of low digital financial awareness), Linguistic barriers (Mundra, 2015). As per (Reddy, 2006), following globalisation, the financial and economic landscape of India underwent significant changes with the availability of a myriad of financial products and services for the customers which has increased risks unless chosen wisely with proper information. Further he points out that, the following challenges exist in terms of providing an enabling environment for ensuring financial education in India i.e. a) Wide variety of languages in different states b) Variation in literacy level between states c) Variation in dependency ratio d) Divergences between rural – urban areas e) Variation in banking penetration between various regions. Additionally, information asymmetry between financial services providers and customers also create various problems

(e.g. Customer complaints regarding high user fee charges) i.e. in the case of absence of proper awareness w.r.t financial products and services.

5 Financial Literacy and Savings

Household savings have been a topic of interest by researchers around the world as it helps to understand household financial investment. (Deuflhard & Georgarakos, 2015) in their study finds 12 % increase in returns following 1 standard deviation improvement in financial literacy. Further, households with superior financial literacy are able to identify accounts with higher interest across banks. As per the standard model of inter temporal choice, an individual maximises expected lifetime utility with availability / distribution of lifetime resources, age etc. playing important roles in decisions w.r.t savings subject to inter temporal budget constraints (Lusardi, 2008). Thus financial literacy plays a dominant role in savings decisions and thereby wealth creation. Additionally, financial sophistication also plays an important role. (Pangestu & Karnadi, 2020) in their study on Generation Z students in Indonesia finds positive influence of financial literacy on savings behaviour. Further, countries exhibiting overall higher financial literacy levels exhibit higher level of savings (Jappelli & Padula, 2011). (Bayar et al., 2017) finds positive relation between financial literacy, income, age, education etc. with savings.

Financial sector development by improving the efficiency of financial intermediation and giving more alternatives can improve individual/household savings (King & Levine, 1993; Levine, 1997), however, lack of financial literacy can act as a barrier for financial sector development (Bayar et al., 2017).

Financial literacy supports the economy at micro/macro levels in terms of households, financial systems and the economy as a whole i.e. at the micro level – financial literacy enables households to plan and save for future, save/invest in financial market while at the macro level – financial literate households support via quantitatively/qualitatively the development of financial sector thereby improving the economy as well as the standard of living (Bayar et al., 2017).

(Lusardi, 2003) in her research finds majority of the respondents with low financial literacy not having enough savings after retirement. (Hilgert & Hogarth, 2003) finds positive correlation between credit management score and financial knowledge with low financial literate respondents having lower chances for accumulating wealth.

Objectives.

The objectives of the current study are as follows i.e. a) To identify the financial literacy level of banking customers and to categorise them into low/medium/high levels b) To identify if any significant association exists between financial literacy level w.r.t demographic as well as socioeconomic variables c) To understand the impact of demographic as well as socioeconomic variables on savings behaviour d) To understand the role of financial literacy level on savings behaviour. Keeping these objectives in mind, the following hypothesis has been developed i.e.

6 Hypothesis

H0A: There exists no significant association between financial literacy level and demographic as well as socioeconomic variables

H0B: There exists no significant impact of demographic as well as socioeconomic variables on savings behaviour

H0C: There exists no significant impact of financial literacy level on savings behaviour

7 Methodology

7.1 Research Framework

The research framework of the study is divided into 2 parts. In the first part, the study uses extensive literature review to identify the various determinants of financial literacy. Survey questionnaire is developed and face to face interviews conducted.

Further, on the basis of responses received from the questionnaire, respondents are classified into low, medium and high levels of financial literacy. Later Chi-square analysis is performed to understand the association between socioeconomic as well as demographic variables with financial literacy. In the second part, the study uses logit model to understand the various determinants of savings behaviour.

7.2 Sampling

The study uses multistage stratified random sampling technique to identify 400 respondents from 50 commercial banks spread across 25 villages in Kerala State. Further, the customers are classified on the basis of bank (PSBs vs Others) i.e. customers meeting more than 50 % of their credit requirements for the past 2 years from PSBs are classified PSB customers and remaining as Others.

7.3 Financial Literacy dimensions

As per (OECD/INFE, 2018) financial literacy is essential for taking sound financial decisions and ensuring financial well-being using a combination of awareness, knowledge, skill, attitude and behaviour. Previous research has identified various dimensions of financial literacy. For e.g. (Orton, 2007) identified financial literacy in terms of a) Financial understanding and knowledge b) Financial skills and competence c) Financial responsibility. (Remund, 2010) classified dimensions of financial literacy into a) Financial knowledge b) Financial communication c) Financial ability d) Financial behaviour e) Financial confidence while (Atkinson & Messy, 2012) identified financial literacy in terms of awareness, knowledge, skills, attitude, behaviour etc. The current study uses Financial Attitude, Financial Knowledge, and Financial Awareness as the main dimensions of Financial literacy.

- a. Financial Attitude: (Ameliawati & Setiyani, 2018) identifies financial attitude in terms of opinion/state of mind of an individual w.r.t personal finance. Thus financial attitude plays an important role in terms of savings, borrowings etc. (Agarwalla et al., 2012). Various studies have identified link between financial attitude and financial literacy (Grable, 1997; Kasman et al., 2018; Rai et al., 2019). Further, (Gharleghi, 2015) in their study finds financial attitude having a direct impact on financial literacy. The current study uses 5 financial attitude related statements with responses evaluated using a 5 point Likert scale.
- b. Financial Knowledge: Financial knowledge helps individuals to have an understanding of key financial facts/concepts thereby enabling them to make informed financial decisions

(CFPB, n.d.). As per (Howlett et al., 2008; Rai et al., 2019), financial knowledge is an important determinant of financial literacy. Further, financial knowledge has a positive impact on retirement planning (Rooij et al., 2011). To measure financial knowledge of respondents, the current study incorporated statements based on calculation w.r.t simple interest, attitude w.r.t risk /return and knowledge of inflation. Each correct response is given a score of 1.

- c. Financial Awareness: Financial awareness by making people aware of various products and services, awareness w.r.t what they can and what they should demand from financial institutions stimulating the demand side while supply side is taken care by financial inclusion (Kumar, 2013). Lack of awareness can act as a barrier towards accessing financial products and services. In the case of financial awareness, respondents were evaluated based on their perceived level of awareness w.r.t deposits, advances, tech based services, other financial products, service charges using a 5 point Likert scale.

Financial Literacy level is calculated as the average score obtained from the 3 dimensions i.e. Financial Attitude, Financial Knowledge, and Financial Awareness. Further, Financial Attitude, Financial Knowledge, Financial Awareness and Financial literacy levels are classified into low/medium/high levels based on (Mean \pm S.D) values.

Analysis of socioeconomic and demographic variables using frequency distribution is shown in table 1.1. The study consisted of a sample of 400 respondents with 200 each from PSBs and others. 76 % of the respondents are males while females formed 24 %. Married category formed 87.25 % while unmarried category formed 12.75 %. Respondents belonging to the age group 36-45 years constituted the highest followed by 26-45 years, 46-60 years, 0-25 years and lastly 60+ year group. Castewise classification showed general category forming 63.50 % of the total. 49 % of the respondents are graduates while 2.25 % are post graduates. 34.50 % of the respondents studied only till class 10th. Govt. sector employed 16.75 % of the respondents. Maximum no of respondents belonged to the income category 10,001 – 20,000 Rs per month. Majority of the respondents are members of Self Help Groups (SHGs)

8 Financial Literacy: Socio Economic Analysis

Table 1.1: Socio economic & Demographic characteristics analysed w.r.t Financial Literacy level

Socio economic & Demographic characteristics		N %	Financial Literacy			Significance (P)
			Low	Medium	High	
Gender	Male	76.00%	19.70%	66.10%	14.10%	0.000
	Female	24.00%	20.80%	61.50%	17.70%	
Marital Status	Married	87.25%	18.90%	65.30%	15.80%	0.257
	Unmarried	12.75%	27.50%	62.70%	9.80%	
Age	0 - 25 Years	1.25%	40.00%	40.00%	20.00%	0.008
	26 - 35 Years	24.75%	17.17%	61.62%	21.21%	
	36 - 45 Years	53.75%	13.95%	64.65%	21.40%	
	46 - 60 Years	19.50%	16.67%	56.41%	26.92%	
	60 + Years	0.75%	33.33%	66.67%	0.00%	
Caste	General	63.50%	15.00%	66.90%	18.10%	0.010
	OBC	29.50%	30.50%	58.50%	11.00%	
	SC	5.25%	23.80%	71.40%	4.80%	
	ST	1.75%	14.30%	85.70%	0.00%	
Education	10th	34.50%	37.70%	58.00%	4.30%	0.000
	12th	14.25%	24.60%	64.90%	10.50%	
	UG	49.00%	6.60%	70.90%	22.40%	
	PG	2.25%	11.10%	44.40%	44.40%	
Occupation	Business	35.75%	14.00%	68.50%	17.50%	0.636
	Govt.	16.75%	6.00%	62.70%	31.30%	
	Private	25.00%	17.00%	70.00%	13.00%	
	Self employed	22.50%	43.30%	55.60%	1.10%	
Income	0 - 10,000 Rs	7.50%	73.30%	26.70%	0.00%	0.000
	10,001 - 20,000 Rs	45.50%	26.40%	64.30%	9.30%	
	20,001 - 30,000 Rs	39.00%	6.40%	70.50%	23.10%	
	30,001 - 40,000 Rs	6.75%	3.70%	70.37%	25.93%	
	40,000 + Rs	1.25%	0.00%	60.00%	40.00%	
Major Bank	PSBs	50.00%	17.00%	66.00%	17.00%	0.231
	Others	50.00%	23.00%	64.00%	13.00%	
SHG Membership	Yes	75.00%	19.70%	65.00%	15.30%	0.009
	No	25.00%	21.00%	65.00%	14.00%	

Source: Primary & computed data

The first part of the study uses Chi-square analysis to understand the association between socioeconomic as well as demographic variables with financial literacy. From the table 1.1 it can be observed that, statistically significant association between Gender, Age, Caste, Education, Income, SHG membership with financial literacy levels at 5 % level of significance. However no significant association was found between financial literacy levels and Marital Status, Occupation, Major bank

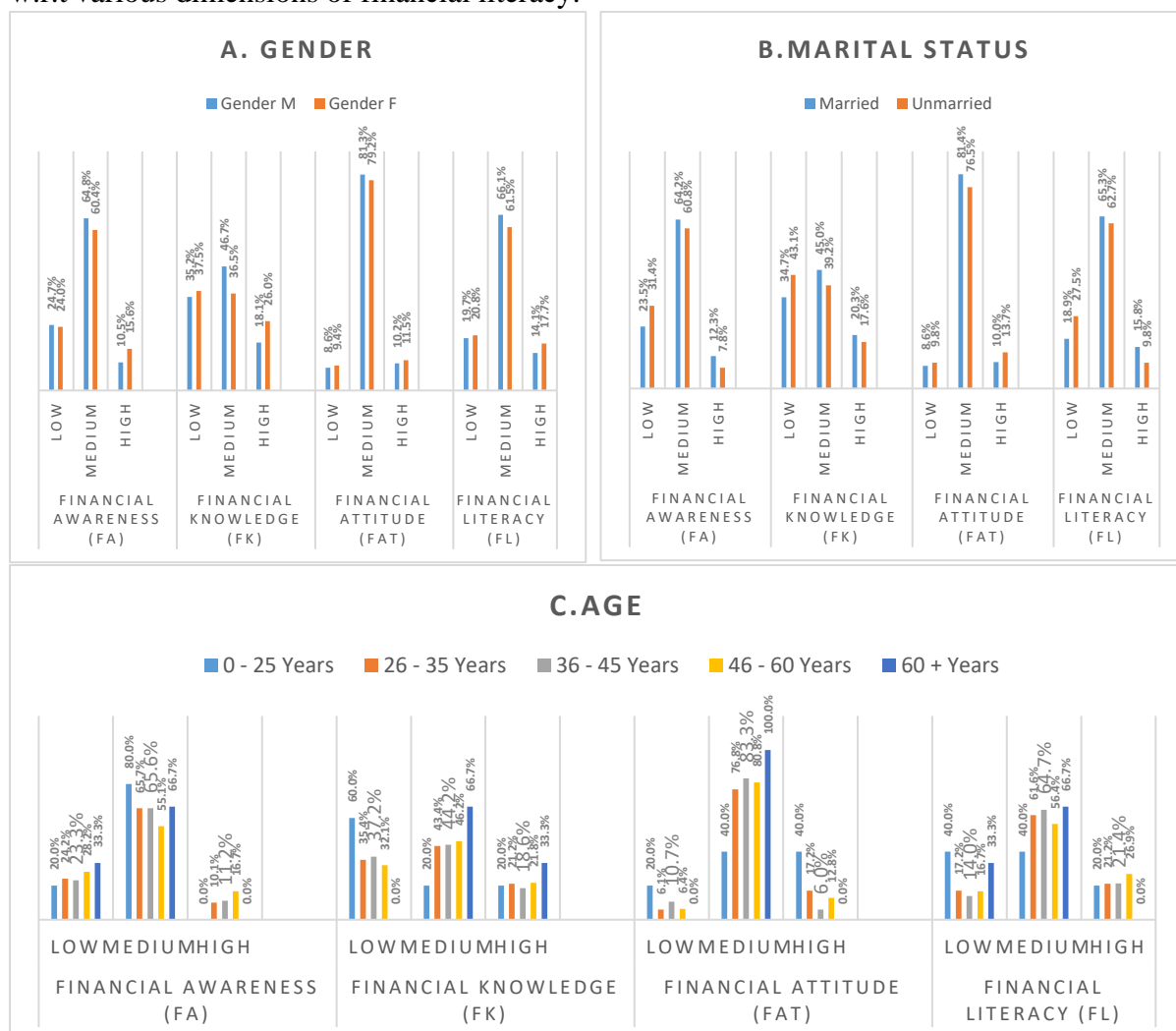
In the case of gender, both males as well as females belonged to medium category of financial literacy. In the case of caste, General category respondents formed the largest section of respondents having high level of financial literacy

44 % of the respondents with Post Graduate degree and above had high level of financial literacy, followed by respondents with UG degree, 12th class and lastly 10th class. Respondents' educated upto 10th class formed the largest section with 37.7 % under low level of financial literacy.

Financial literacy level of low income category (0-10,000 Rs per month) formed the largest section under low level of financial literacy consisting of 73.3 %, while financial literacy for respondents with monthly income more than 40,000 Rs formed the largest section under high level of financial literacy. Financial literacy level of respondents having SHG membership was found to be slightly higher than non-members with 15.3 % of members falling under the category of high level of financial literacy.

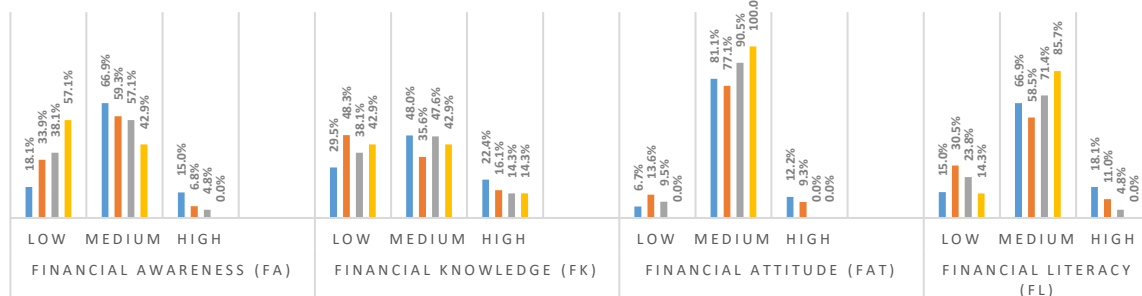
Figure 1.1 shows the graphical representation of socio economic and demographic variables (i.e. Gender, Marital Status, Age, Caste, Education, Income, Employment, Major Bank, SHG membership etc.) analysed w.r.t Financial Awareness (FA), Financial Knowledge (FK), Financial Attitude and lastly Financial Literacy (FL). Further each dimension is further classified into low/medium/high categories.

Figure 1.1: Graphical representation of socio economic and demographic variables analysed w.r.t various dimensions of financial literacy.



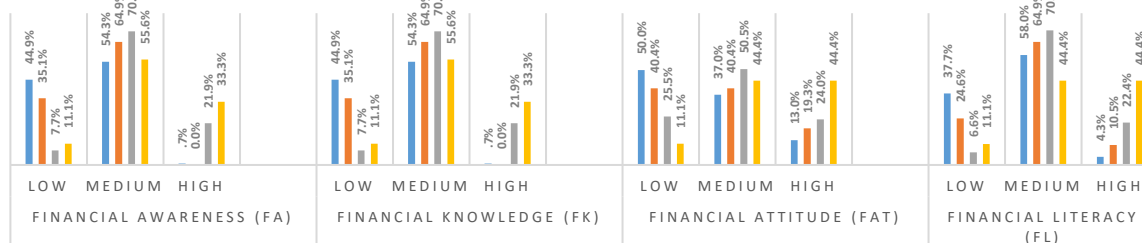
D. CASTE

General OBC SC ST



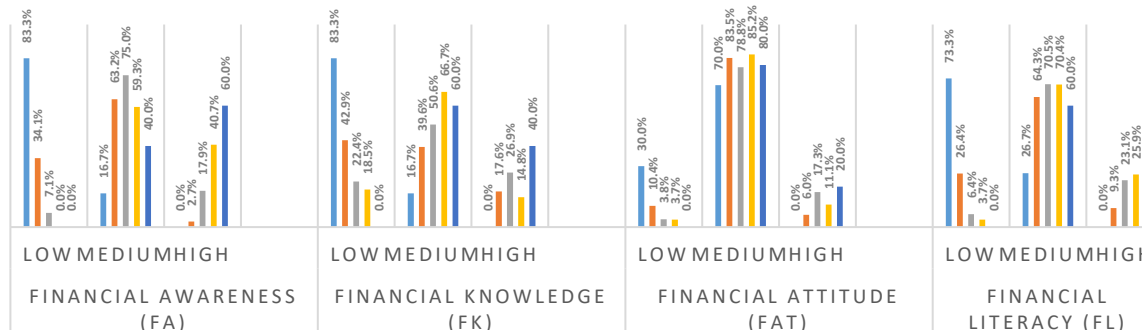
E. EDUCATION

10th 12th UG PG



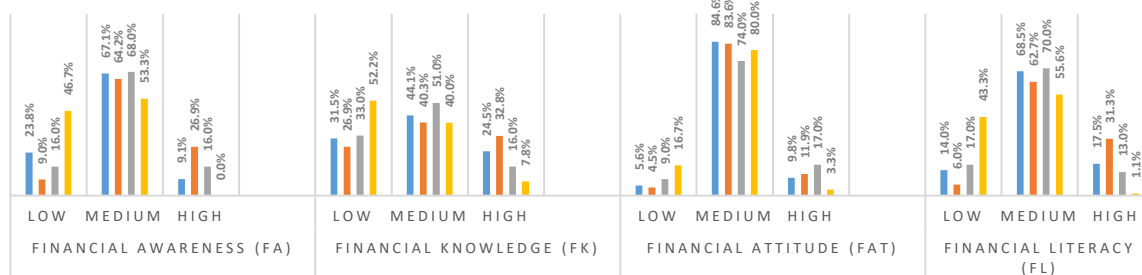
F. INCOME

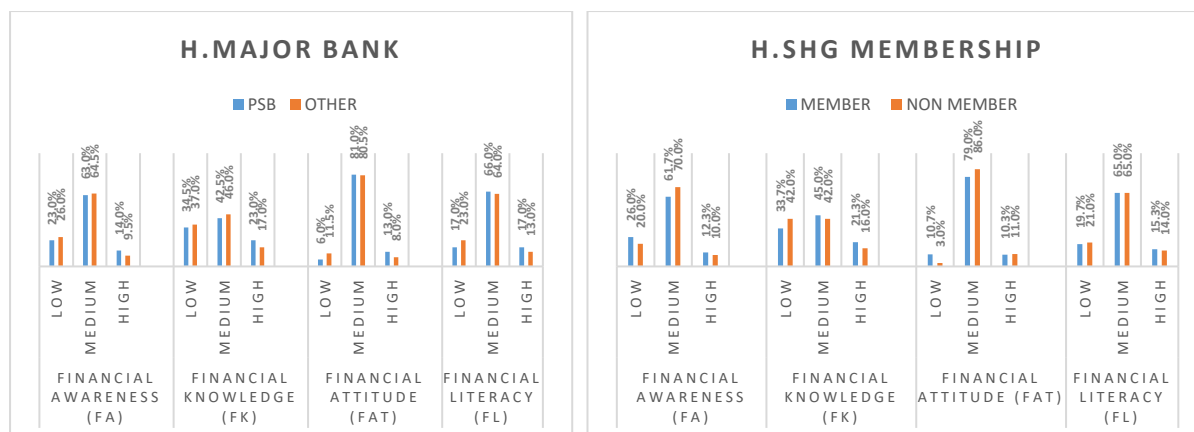
0 - 10,000 Rs 10,001 - 20,000 Rs 20,001 - 30,000 Rs 30,001 - 40,00 40,000 +



G. EMPLOYMENT

BUSINESS GOVT PRIVATE SELF





Source: Primary & computed data

9 Econometric Model

Both logit as well as probit models can be used to analyse the determinants of savings behaviour (Mahdzan & Tabiani, 2013; Murendo & Mutsonziwa, 2017). The current study uses logit model to undertake the study on customers of commercial banks in Kerala to identify the determinants of savings behaviour.

The model specification developed for the current study is as follows i.e.

$$P(\text{Savings}=1 \mid x) = \text{Log} [P_i/(1-P_i)] = \beta_0 + \beta_1 \text{Gender} + \beta_2 \text{Age} + \beta_3 \text{Agesquare} + \beta_4 \text{MaritalStatus} + \beta_5 \text{Caste} + \beta_6 \text{Education} + \beta_7 \text{Income} + \beta_8 \text{Occupation} + \beta_9 \text{Dependents} + \beta_{10} \text{SHGmembership} + \beta_{11} \text{SHGyears} + \beta_{12} \text{Bank} + \beta_{13} \text{FinancialLiteracy} + \varepsilon$$

9.1 Dependent Variable

Here, Savings is the dependent variable i.e.

Savings = 1 (positive savings) if respondents specified spending lower than income in the past year, while Spending = 0, otherwise (Mahdzan & Tabiani, 2013).

9.2. Independent Variables

X1 = Gender (dummy) = 1 if the respondent is male, 0 otherwise

X2 = Age i.e. Age of the individual in years

X3 = Agesquare i.e. Square of the age of individual in years

X4 = MaritalStatus (dummy) = 1 if the respondent is married, 0 otherwise

X5 = Caste (dummy) = 1 if the respondent belongs to General Category, 0 otherwise

X6 = Education (dummy) = 1 if the respondent is atleast a graduate, 0 otherwise

X7 = Income = monthly household income of the individual

X8 = Occupation (dummy) = 1 if the respondent is a govt. employee, 0 otherwise

X9 = Dependents = No of dependents the respondents has to support

X10 = SHGmembership (dummy) = 1 if member, 0 otherwise

X11 = SHGyears = No of years of association with SHG by the individual

X12 = Bank (dummy) = 1 if major bank is PSB, 0 otherwise

X13 = Financial Literacy = Financial Literacy of the respondent

9.3 Regression Output

Table 1.2: Determinants of savings behaviour – Regression (Logit Model)

Variable	B	Sig.
Constant	1.904	.001
Gender	.177	.031
Age	.006	.001
Agesquare	-.001	.021
Marital Status	.028	.929
Caste	.121	.041
Education	.485	.004
Family Income	0.066	.000
Occupation	.097	.676
Dependents	-.292	.012
SHG membership	.554	.001
SHG years	.215	.046
Major Bank	-.115	.453
Financial Literacy	.210	.022

Logit regression was undertaken taking into consideration the dichotomous nature of the dependent variable as part of the multivariate analysis and the results are shown in table 1.2.

Table 1.2 shows statistically significant ($p < .05$) and positive relation between gender and savings behaviour, showing that savings attitude of males are higher than females supporting previous research (Fonseca et al., 2012). Gender gaps exists in savings, with women having lower savings level than men as a result of higher life expectancy, shorter work tenure, lower earnings have raised their level of financial risk (Weir & Willis, 2000)

The variable age has a positive coefficient (.006) which is statistically significant at $p < .05$ level, pointing out that savings behaviour increases with age. However, the variable agesquare was found to have a negative significant relation with savings behaviour indicating that savings increase upto a certain age and then decreases. (Pena et al., 2014) finds individuals in middle age group being more banked compared to young/elderly population. As per the life cycle hypothesis economic model, individuals plan their consumption – savings over their lifetime acting, with rising saving levels during the initial period while working, later turning into dissaveers during retirement.

Caste was found to have a positive and statistically significant ($p < .05$) relation with savings behaviour pointing out that savings behaviour of General category is higher compared to other categories. (Hnatkovska & Lahiri, 2013) in their study finds decline in savings rate of SC/STs between 1983 and 2010 mainly due to wage uncertainties.

The variable education was found to have a positive coefficient (.485) which was also statistically significant ($p < .05$) showing that respondents with a minimum educational level of UG and above had a positive savings. The result is supported by previous research e.g. (Juster, 1975) finds better educated individuals were able to protect themselves against inflation, sought

capital gains, saved primarily for their children thereby benefitting themselves as well as the society, whereas less educated individuals saved to maintain their current income.

The study established family income as a significant factor explaining savings behaviour. This is pointed out from table 1.2 showing positive and statistically significant relation between family income and savings ($p < .05$). The results corroborates previous research on the topic (e.g. (Avery & Kennickell, 1991) finds higher savings level for families with higher income)

Savings behaviour was found to have a negative, but statistically significant relation with no of dependents ($p < .05$). As no of dependents increases amount of savings is expected to decrease.

Savings behaviour and SHG membership was found to have a positive and statistically significant relationship ($p < .05$). Further, Savings behaviour and No of years of SHG membership was found to have a positive and statistically significant relationship ($p < .05$). The result is supported by previous research e.g. (Swain & Varghese, 2008) finds that longer membership in a SHG had a positive impact on asset creation, savings, net income etc.

The study established financial literacy as a significant factor explaining savings behaviour. This is pointed out from table 1.2 showing positive and statistically significant relation between financial literacy and savings ($p < .05$) thereby rejecting the null hypothesis *HOC: There exists no significant impact of financial literacy level on savings behaviour*. The results corroborates previous research on the topic (Bayar et al., 2017; Mahdzan & Tabiani, 2013).

No statistically significant relation ($p > .05$) was observed w.r.t variables Major Bank (PSBs vs Others), occupation, marital status and savings behaviour.

10 Conclusion

Although financial landscape has underwent rapid changes in the last few years with the introduction of new products and services, it is now understood that a large section of the population especially vulnerable sections still remain under banked. Additionally people are being exposed to a multitude of products and services, without proper awareness, usage of the same may result in various problems and involve risks like indebtedness, loss of income resulting in erosion of wealth and mental distress.

The results of the current study shows statistically significant association between Gender, Age, Caste, Education, Income, SHG membership with financial literacy levels at 5 % level of significance. Further, the study points out the importance of financial literacy in savings behaviour. In this situation, the results of the current study emphasis the role of financial education to raise awareness w.r.t financial products and services.

(OECD, 2005) via Recommendations on Principles and good practises for financial education and awareness provides the following recommendations i.e. a) Schools should act as starting points for financial education b) Financial Education should form part of programs on welfare assistance c) Promotion of international cooperation w.r.t financial education should be

encouraged d) Regular assessment of financial education provided by various financial institutions e) Clearly distinguish between financial education and commercial advice.

Various stakeholders like RBI, SEBI, IRDA, PFRDA etc. has taken multiple initiatives to raise the overall awareness levels w.r.t financial products and services. These include programs like Project Financial Literacy (To disseminate among target groups various information regarding RBI as well as concepts w.r.t general banking), Financial Literacy Week (To increase awareness on key topics related to finance/banking), Financial Literacy and Credit Counselling Centres (FLCCs) (To ensure deepening of credit counselling, FLCCs conduct various literacy camps on monthly basis) etc. being initiated by RBI, while SEBI organised 'Visit SEBI Programme', encouraged investors associations to conduct various investor education programs etc. IRDA, PFRDA also organised workshops, seminars etc. to raise awareness.

However, further coordinated effort ensuring equity in financial education is essential to ensure gap in financial literacy is bridged.

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