

Financial Literacy and Dimensions: A Systematic Roadmap for Future

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ABSTRACT

This review paper presents an understanding of basic concepts of financial literacy and its dimensions. This paper is based on secondary data which were collected from previous research papers and past data. The purpose of this paper is to analyze the level of financial literacy around the world by reviewing the existing literature. Main focus of the study is to know about the different dimensions of the financial literacy and to study interrelationship among financial knowledge, financial attitude, financial behavior and financial self-efficacy. Further, a model of financial literacy is also formed with the help of reviewed literature which can be used for future research. Another objective was to know about the research gaps in the existing literature and to find out any other dimensions or variable under financial literacy. This reviewed literature depicts that level of financial literacy around the world is very low and most of the available reviewed literature studied teachers, students, households and stock market participants but other sections of the society hardly targeted.

Keywords- financial literacy, financial attitude, financial knowledge, financial behaviour, financial self-efficacy

1. Introduction

Financial literacy is a medium to achieve the objective of financial inclusion. It is the ability to read, write and to understand the concept of finance. It answers the different questions like: how much to save, how to make budget, how much to take debt and how much to spend on goods and services? etc. Every person must know the basic concepts of finance. So that he/she can take rational financial decisions. Raven (2005) described financial literacy as a skill which help individual to plan for financial matters and minimize the financial risk. As financial market is highly volatile, therefore it is necessary for the individual to be financial literate. High level of financial literacy leads to efficient use of financial products and services to minimize the risk and maximize the opportunity for return (Grohmann *et al.*, 2014). Whereas the poor level of financial literacy leads to poor money management because it is based on wrong decision making process. Absence of financial literacy leads to wastage of financial resources, mismanagement of money and wealth of an individual and this mismanagement of money adversely affects the allocation of budget for different purposes (Braunstein and Welch, 2002). Ultimately, this all will result into a loss to national income. Therefore, government is taking various steps to enhance the level of financial literacy among the various segment of the society.

Kumar & Anees (2013) found that financial literacy depends on the education level of individual and it can be enhanced by combining financial subject matter with the educational program of schools and colleges. At academic level financial literacy can be inculcated among students. Those students who discuss money matters with teachers have high level of financial literacy (Ali *et al.* 2014). Agarwalla *et al.* (2012) found lack of understanding about basic personal finance concepts among Indians but financial knowledge of highly educated and wealthy individual have been found more. Aydin & Selcuk (2018) noticed that students with high level of financial knowledge have positive financial attitude and financial behaviour. Further, financial attitude is positively related with financial behaviour.

2. Origin of Financial Literacy

Origin of financial literacy has been found in the letter sent from John Adams to Thomas Jefferson on 23 August, 1787 in which he stated that all complexities and confusion in America were not due to defect in their constitution but these were due to ignorance of Coin, Credit and Circulation (Jefferson *et al.*, 1950). Though the word "Financial Literacy" was not widespread very much at that time but, it became popular after 1914, when Smith-Lever Act was passed because that Act introduced the word "Financial Education" which focused on providing learning experience to citizens (Rice, 2017). In 1950s, most of the countries came in contact with this concept and most of the research was done on financial management,

income and expenditure, budgeting and saving during this period (Patil, 2017). Thereafter, National Youth Involvement Board was established in the year 1970 in USA to focus on financial literacy among youth. Then in 1995, the Jumpstart Coalition started a championship in USA for personal financial literacy and Lewis Mandell (1996) developed financial literacy survey for this championship. After that in 2002, guidelines for promoting Consumer Education on Finance were formed by Central Council for Financial Services Information in Japan. FSA (Financial Service Authority) started a national strategy on financial capabilities which resulted in widespread use of this strategy in many countries. In 2003, FACTA (Fair and Accurate Credit Transaction Act, 2003) was developed in United States to improve financial literacy and a National Financial Literacy Month was officially recognized in 2004. CPA (Certified Public Accountants) profession launched a financial literacy initiative called “360 Degrees of Financial Literacy”. In 2005 a comprehensive financial literacy survey of several countries was analyzed by OECD (Organization for Economic Co-operation and Development). Further in 2008, OECD launched the “International Gateway for Financial Education”. Another step was taken by State Bank of Pakistan by launching a financial literacy program to create financial awareness among public in 2011.

2.1 Definition of Financial Literacy

The President Advisory Council on Financial Literacy, USA (PACFL, 2008) defines “Financial Literacy as the ability to use knowledge and skills to manage financial resources effectively for a lifetime of financial well-being”.

OECD INFE (2011) defines financial literacy as “a combination of awareness, knowledge, skills, attitude and behaviour necessary to make sound financial decision and ultimately achieve individual financial wellbeing”.

The working definition of financial literacy for PISA 2012 (OECD, 2012), “Financial literacy is knowledge and understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life”.

Bhargawa (2016) pointed out that financial literacy is one of the pillars of financial inclusion and the main objective of financial inclusion is to provide access to financial services to every individual at affordable cost and this will require financial education. Chakrabarty (2013) explained that financial inclusion has major two elements, one is “Access” and the other is “Awareness”. In developed countries access is not an issue due to developed financial infrastructure. Therefore, awareness is the only issue of concern. In developing countries like India, both the elements require attention.

3. Dimension of Financial Literacy

There are four dimensions for measuring financial literacy. These are financial knowledge, financial behaviour, financial attitude and financial self-efficacy. Firstly, **Financial knowledge** is the ability to understand the financial concepts and capability to manage money. Education is positively related with financial knowledge. High level of education leads to high level of financial knowledge (Agarwalla, *et al.*, 2012). Financial knowledge is treated as skills and ability to understand financial concepts. Financial knowledge means a person possess basic knowledge about financial concepts (OECD, 2013). Financial knowledge is defined as one of the important dimension of financial literacy and it can be measured through concepts like: money, investment, saving, borrowing, etc. (Huston, 2010). Secondly, **Financial behaviour** is the capability to understand impacts of financial decision on one’s circumstances and to make right decision related to cash management, precautions and budget planning. Financial behaviour is affected by macro factors (Inflation, interest, employment, etc.) and micro factors (Cultural values, attitude, belief, etc.) of the environment (Hira, 2012). Financial decisions are affected by financial behaviour and financial behaviour is important dimension of financial literacy (OECD, 2013). Positive financial behaviour leads to more saving, timely payments of financial bills and taking corrective decisions regarding financial products (Agarwalla *et al.*, 2013). Thirdly, **Financial attitude** represents a person’s feelings and thinking towards financial matters. It reflects behaviour of a person. There is positive attitude towards saving and consumption in India (Agarwalla, *et al.*, 2012). Financial attitude can be defined as judgment of a person regarding good or bad outcomes. Financial attitude has a direct impact on the decision making of a person as high financial attitude leads to positive attitude towards planning (Lusardi and Mitchell, 2008). Some researcher has also tried to study fourth dimension of financial literacy, i.e. Financial self-efficacy. **Financial self-efficacy** can be defined as self-confidence of a person in taking financial decisions correctly. Sometimes financial self-efficacy is studied as a part of financial behaviour. Financial self-efficacy is affected by financial behaviour of a person and it varies from person to person according to their behaviour (Mindra and Moya, 2017). Age and racial differences are significantly related with financial self-efficacy and older women reported with higher level of financial self-efficacy (Amatucci and Crawley, 2011).

4. Significance and objectives of the study

Financial literacy is a very broad concept because it is a behavioural as well as a psychological concept. It includes different dimensions of financial literacy such as financial knowledge, financial behaviour, financial attitude and financial self-efficacy. That's why, it is very difficult for new researcher to understand the concept and do research in this area. Therefore, an endeavor has been made here to compile the available literature and classify it according to the different dimensions of financial literacy. So that new researcher can be aware about the available literature, the tools and techniques that have been used by the different researchers to achieve the various research objectives and can learn about the review of literature. The major objective of this exploratory research is to identify the various dimensions of financial literacy and further to classify the available literature on the basis of identified dimensions of the financial literacy. The second objective is to identify the level of financial literacy. The third objective of the study is to identify the interrelationship among different dimensions of the financial literacy. Further, the last objective is to know the research gaps in the field of financial literacy.

5. Research Methodology of the study

To achieve the objectives of the research total 200 research papers have been collected and reviewed from available literature. Out of which 75 research papers have been chosen for deep review on the basis of following criteria:

- (a) These studies represent different dimensions of financial literacy i.e. financial knowledge, financial behaviour, financial attitude and financial self-efficacy.
- (b) These papers have been published during 1964-2024 in a peer reviewed journal. Whereas, excluded articles were published in conference proceeding, textbooks, dissertations and doctoral thesis.
- (c) Empirical studies based on primary and secondary data of different countries of different continents (U.S.A., European countries, U.K., Croatia, China, Dutch, India, U.A.E., Israel, Indonesia, Turkey, Switzerland, Vietnam, Pakistan, Malaysia, Germany, Taiwanese, Great Britain, Estonia, Africa, Uganda, Brazil, Australia, Ghana etc.) have been considered for review because these studies give deep insight of econometrics and statistical research methods in comparison to the conceptual studies.
- (d) The selected papers covers different units of the society e.g. households, investors, businessmen, students, women, entrepreneurs, and retired persons. Further, these respondents class belongs to different sections of the society such as educational institutions, stock market, rural and urban area, family firms and corporates.

Out of these 75 research papers, 71 papers are based on primary data and rest 4 papers are based on the secondary data. All these papers have been deeply studied and reviewed. Thereafter, the review of these studies has been given in paragraph form and also in the tabulation form.

6. Literature Review

Though, large numbers of studies are available on financial literacy all over the world. However, summary of some important studies have been given here according to different dimensions of financial literacy such as financial knowledge, financial behaviour, financial attitude and financial self-efficacy. At last, interrelationship among these dimensions has been shown.

Table No.-1: Review of Literature- Level of Financial Knowledge

Sr. No	Title/ Author	Country/Sample Information	Research methodology	Level of Financial Knowledge
1	Chen & Volpe (1998) An analysis of Personal Financial Literacy among college students	Foreign study (U.S.) based on primary data collected from 924 college students	Comprehensive questionnaire, Cronbach's Alpha and ANOVA	Low level of financial knowledge has been found among college students with regard to wrong answer of questions related to saving, borrowing, insurance and investment.
2	Hung <i>et.al</i> (2009) Defining and measuring Financial Literacy	Foreign study (U.S.) based Secondary data from American Life Panel	4 financial literacy assessment Wave, Cronbach Alpha	Financial literacy level of US respondents from American Life Panel is very low and it becomes major reason for poor financial decision-making.
3	Clercq & Venter (2009) Factors influencing a prospective chartered accountant's level of financial literacy: an exploratory study	Foreign study (South Africa) based on primary data collected from 902 students	Comprehensive questionnaire, Cronbach Alpha, Levene's test of homogeneity of Variance, Independent t-test and ANOVA	Level of financial literacy is significantly affected by age, gender, income and ethical background of a student. Males were found more financial literate than females. Similarly, age group from 30 to 39 were found most financial literate as compared to younger students. Higher level of income leads to higher knowledge of personal finance similarly ethical background also affects level of financial literacy.
4	Lusardi <i>et al</i> (2010) Financial Literacy among young	Foreign study (U.S.) based on Primary data collected from 7417 respondents	Multivariate Analysis, descriptive statistics and Cronbach Alpha has not been reported.	Low level of financial literacy among young adults has been found as very less number of adults has knowledge about inflation and risk diversification and parents are found as a new channel of acquiring financial knowledge.
5	Disney & Gathergood (2011) Financial Literacy and Indebtedness: New Evidence for UK Consumers	Foreign Study (U.K.) based on Primary data collected from 2500 non-retired individuals	Multivariate Regression, Ordinary Least Squares Regression, An Ordered Probit Model and Cronbach Alpha has not been reported.	Financial illiterate households have difficulty in paying their loans, have credit arrears with lower net worth and they use debts at higher cost. On the contrary, financial literate households have tendency to co-hold liquid savings and consumer credit because of their rational financial behaviour.

6	Arora & Marwaha (2013) Financial Literacy Level and Regarding Stock Market	Indian Study based on primary data collected from 100 individual stock investors from Punjab through well-structured questionnaire	Exploratory study where Weighted Average Scores, Chi-Square Test are used for analysis and Cronbach Alpha has not been reported.	High awareness has been noticed about investment in equity whereas moderate level has been found regarding mutual fund scheme and surprisingly least awareness has been found about Unit Linked Insurance Plans and Systematic Investment Plans.
7	Ali <i>et al.</i> (2014) The Financial Literacy of Young Australians: An empirical study and implication for consumer protection and ASIC's National Financial Literacy Strategy	Foreign study (Australia) based on primary data collected from 207 students	Regression Analysis, ANOVA, Multiple Range T-test and Cronbach Alpha has not been reported.	There exist gaps in financial literacy level of students in the area of formal financial literacy, consumer rights awareness and financial knowledge. The student who considers their teachers trustworthy, who discuss financial matter with their parents and teachers were more financially literate.
8	Khan (2016) Impact of Financial Literacy, Financial Knowledge, Moderating Role of Risk Perception on Investment Decision	Foreign study (Pakistan) based on primary data collected from 257 investors	Correlation Analysis, Regression Analysis and Cronbach Alpha has not been reported.	Positive relationship was found among financial literacy, financial knowledge, risk perception and investment decision. The study found less level of financial knowledge among women. The researcher also noticed that young and elderly people with less financial knowledge do more financial mistakes.
9	Adam <i>et al.</i> (2018) Does gender disparity in financial literacy still persist after retirement? Evidence from Ghana	Foreign study (Ghana) based on primary data collected from 334 respondents	Pearson chi-square, independent sample T-test and Cronbach Alpha has not been reported.	Older men continue to uphold their financial literacy and stronger in computational ability. The dominance of males has been found in financial literacy in results.
10	Ergun (2018) Financial Literacy among University students : A study in Eight European countries	Foreign study (European countries) based on primary data collected from 409 respondents through online survey	Cronbach Alpha, Logistic Regression Analysis and Chi-Square Test	Female students, non-business department student, bachelor degree students, students who live with their family, students got information from social media and who did not take any course are less knowledgeable than male students, business department students, Ph.D students, students who do not live with their family, students got

				information from university and who take any finance course respectively. Overall it was found that there exists a medium level of personal financial literacy.
11	Zhang and Xiong (2019) Is financial education an effective means to improve financial literacy? Evidence from rural China	Foreign study (China) based on primary data collected from 1565 rural residents through a questionnaire	Cronbach Alpha, Descriptive Statistics, Ordinary Least Square, Propensity Score Matching, Average treatment effect, Bartlett Test and KMO	In case of participation in financial education, respondents with the demographic factors such as female, higher age, single, higher education level, higher parental education level, agricultural type, higher family annual per capita income and lower risk level had positive impact on level of financial literacy.
12	Shafik and Ahmad (2020) Financial literacy among Malaysian Muslim undergraduates	Foreign study (Malaysia) based on primary data collected from 246 undergraduates through a questionnaire	Cronbach Alpha and Descriptive Statistics	Better financial literacy scores were reported among students who attended the Muamalat related courses. In addition to this, financial literacy of respondent is affected by their social environment and interaction.
13	Sobaih and Elshaer (2023) Risk-taking, financial knowledge, and risky investment intention	Foreign study (Saudi Arabia) based on primary data collected from 590 university students through a questionnaire	SEM analysis and EFA	Researcher found the positive relationship between financial knowledge and risky investment intention because the students who possess financial knowledge are more likely interested in taking risky investment opportunities. Further, it can be seen that students with high level of financial knowledge can manage their money in an efficient way and have positive attitude regarding investments.
14	Palomo <i>et al.</i> (2023) Financial knowledge of pre-university students: Effects of age and gender	Foreign study (Andalusia) based on primary data collected from 9917 high school students through a questionnaire	Classical Test theory and item response theory	Researcher depicted that financial knowledge is significantly affected through age and gender because in some of the situation it was seen that financial knowledge of men is higher than women. On the other hand, the study represents that financial knowledge level of students is higher due to their life experience.
15	Oberrauch & Kaiser (2024) Digital Interventions to Increase Financial Knowledge: Evidence from a Pilot RCT*	Foreign study (Germany) Based on pilot field experiment where data collected from 189 undergraduate students	Regression Model	It was found that online video on financial education is positively associated with level of financial knowledge of students but there is no effect of incentives or reward on the financial knowledge of the students.

Table No.-2: Review of Literature-Level of Financial Behaviour

Sr. No	Title/Author	Country/ Sample Information	Research methodology	Level of Financial Behaviour
1	Lusardi & Mitchell (2007) Financial Literacy and Retirement Preparedness: Evidence and implications for Financial Education	Foreign study (U.S.) based on secondary data	Descriptive statistics, Pseudo R2 and Cronbach Alpha has not been reported.	One time seminar on financial planning is not enough to improve financial planning and saving behaviour of retired worker.
2	Lusardi (2008) Household saving behaviour: The role of Financial literacy, information, and Financial Education programs	Foreign study (U.S.) based on secondary data	Descriptive statistics, regression analysis, Pseudo R2 and Cronbach Alpha has not been reported	Large populations of worker have not even thought of retirement planning and half of the old workers are aware about their pension and security benefit. Overall results show that there is low level of financial behaviour in general people and some of groups like; women, African-Americans, Hispanics, etc.
3	Xiao et al.(2014) Earlier financial literacy and later financial behaviour of college students	Foreign study (U.S) based on primary data collected from panel of college students of USA	Descriptive & correlation analysis, Cronbach Alpha and ordinary least square regression method	Respondents who had more knowledge about personal finance can reduce risk paying behaviour. Only subjective knowledge was correlated with financial behaviour.
4	Sayinzoga <i>et al.</i> (2016) Financial Literacy and Financial Behaviour : Experimental evidence from rural Rwanda	Foreign study (Africa) based on primary data collected from 279 respondents	ANCOVA, OLS model, Balance test and Cronbach Alpha has not been reported	The training related to financial literacy leads to more saving, more borrowing and higher probability of new income-generating activities but monthly expenditure remains same. It is main outcome of the study that benefit of training is limited to those farmers who attend the program and do not spread all over. It leads to low financial behaviour.
5	Ghaffar & Shariff (2016) The level of Financial Literacy in Pakistan	Foreign study (Pakistan) based on primary data collected from 300 respondents	Descriptive statistics, Ordinary Least Square Regression,	Male members of Pakistani society have the habit of saving and middle-aged people are enough wise to take decision related to saving. Females had a low level of financial behaviour.

			Multiple Regression Analysis and Cronbach Alpha has not been reported	
6	Fauziyah & Ruhayati (2016) Developing Students' Financial Literacy and Financial Behaviour by students' Emotional Quotient	Foreign study (Indonesia) based on primary data collected from 120 student respondents	Multiple Regression Analysis, t-test, F-test and Cronbach Alpha has not been reported.	The results depicted that only financial literacy is not enough for financing decision related to personal finance. The study concluded that level of financial literacy and financial behaviour of senior high school (Tasikmalaya) is better than the senior high school of the tourist area (Cianjur).
7	Kalwaji <i>et al.</i> (2017) The effects of financial education on financial literacy and savings behavior	Foreign study (Dutch) based on primary data collected from 2321 children	Descriptive statistics, probit model and Cronbach Alpha has not been reported.	There is positive effect of financial education program on children of age group 12 or less than 12 years. As there is improvement in willingness to save for desired product but there was no such effect on children of age group more than 12 years.
8	Pinjisakikool (2017) The Influence of Personality Traits on Households' Financial Risk Tolerance and Financial Behaviour	Foreign study (Dutch) based on primary data collected from 4026 Dutch population	Exploratory Factor Analysis, Kaiser-Meyer-Olkin Test, Cronbach's Alpha and Bartlett's test of Sphericity	Personality traits extraversion, agreeableness, conscientiousness, emotional stability and intellect did not found significant predictor of financial behaviour of households.
9	Riitsalu & Murakas (2018) Subjective financial knowledge, prudent behaviour and income	Foreign study (Estonia) based on primary data collected from 1125 individuals	Cronbach's Alpha, correlation analysis and regression analysis	Financial well-being is positively correlated with financial behaviour.
10	Potrich & Vieira (2018) Demystifying financial literacy: a behavioral perspective analysis	Foreign study (Brazil) based on primary data collected from 2487 individuals	Cronbach's Alpha, confirmatory factor analysis and structural equation modeling	Financial literacy had a positive relationship with compulsive buying behaviour.
11	Habibah <i>et al.</i> (2018) Household behavior in	Foreign study (Pakistan) based on primary data collected from	Cronbach's Alpha, AVE, R Square and adjusted R	Favorable and positive approach towards mental budgeting leads to positive intention for mental budgeting. Further, favorable attitude

	practicing mental budgeting based on the theory of planned Behavior	275 employed household	square and Structural Model	towards mental budgeting can enhance positive behavior intention for mental budgeting
12	Amari et al. (2020) Evaluating the effects of Socio-demographic characteristics and financial education on saving behavior	Foreign study (France) based on primary data collected from 516 University students by using a questionnaire	Descriptive Statistics, Structural equation Model, Regression Analysis, Cronbach Alpha has not been reported	Income of the respondent had a positive impact on the saving behavior and level of financial literacy is directly associated with saving behavior of respondent.
13	Iramani & Lutfi (2021) An integrated model of financial well-being: The role of financial behavior	Foreign Study (Indonesia) based on primary data collected from 1158 households	Cronbach's alpha, descriptive statistics and correlations, structural equation model	The results show that financial behavior is positively correlated with financial wellbeing of households and financial behavior is also positively affected by the factors such as financial knowledge, financial expertise and internal locus of control. On the other hand, if the factor financial status is studied then it has no effect on the financial behavior of the respondents.
14	Mundi H. S. (2024) Complexity of gender to understand financial behavior. Financial behavior of transgender and cisgender individuals: evidence from India: a qualitative inquiry	Indian Study (Ghaziabad) based on primary data collected from 28 transgender	Thematic and Quantitative analysis on the basis of semi-structured interview	If we talk about income behavior of respondents then we find that transgender have no regular source of income and job security for transgender. In continuation of the same, there is lack of spending behavior, saving behavior and borrowing behavior. This is very difficult for respondents to spend money for their lives as they thought spending means luxury. Absence of saving behavior is due to uncertain income, lack of professional job and secure work. Similarly, borrowing behavior among transgender is also missing because there is lack of knowledge regarding financial sectors and they are not skilled to use credit option.
15	She et al. (2024) Using the Theory of Planned Behaviour to Explore Predictors of Financial Behaviour Among Working Adults in Malaysia	Foreign Study (Malaysia) based on primary data collected from 558 working adults	Partial least square structure equation modeling and CFA	This study reveals that financial knowledge has a positive impact on the financial behavior of the respondents which means that the respondents with higher level of financial knowledge are more responsible regarding their financial behaviour. Moreover, financial behavior is also positively associated with perceived behavioral control and behavioral intention.

Table No.-3: Review of Literature-Level of Financial Attitude

Sr. No	Title/Author	Country/ Sample Information	Research methodology	Level of Financial Attitude
1	Yang et al. (2005) Reliability and validity of a short credit card attitude scale in British and American subjects	Foreign study (Great Britain and the United States) based on primary data collected from 493 undergraduate students from both countries.	Descriptive statistics, Cronbach Alpha, Exploratory Factor analysis and correlation analysis.	It was found that American's cognitive attitudes toward credit cards were associated with money attitudes whereas in case of British respondents, affective and behavioural attitudes were associated with money attitudes. British respondents had negative attitude towards credit card.
2	Edwards et al. (2007) Financial Attitudes and Family Communication About Students' Finances: The Role of Sex Differences	Foreign study (U.S.) based on primary data collected from 1317 young college students	ANCOVA, Descriptive statistics and Correlation, etc. Lack of reliability is the limitation of this study.	Women who are more open with their family about financial matters have high positive financial attitude.
3	Lai (2010) How financial attitudes and practices influence the impulsive buying behavior of college and university students	Foreign study (Asia) based on primary data collected from 906 adolescent Taiwanese college and university students	Cronbach Alpha ANOVA, t-test and Logistic regression analysis	Students with higher impulsive buying behaviors scored higher on both the component of attitude i.e., affective credit attitude and the behavioural credit attitude. Strong relationship has been found between personal financial planning practices, credit attitude, money attitude and impulsive buying behaviour.
4	Pham et al. (2012) The impact of financial management practices and financial attitudes on the relationship between materialism and compulsive buying	Foreign study (Australia) based on primary data collected from 118 participants	Cronbach Alpha, Compulsive buying scale, Financial management scale, Modified financial attitude scale, Material values scale short form, Correlation analysis and Regression analysis	Moderate negative correlation was found between compulsive buying and financial attitude. Here, financial attitude did not significantly moderate the relationship between material values scale short form and compulsive buying scale.
5	Falahati & Paim (2012) Experiencing financial problems	Foreign study (Malaysia) based on primary data	Test of Reliability and validity, Structural equation modeling,	Financial attitude has direct and positive effect in predicting financial problem among students. The female students are

	among university students	collected from 2519 students	confirmatory factor analysis and regression analysis	more influenced by financial attitude than male students.
6	Ibrahim & Alqaydi (2013) Financial literacy, Personal Financial Attitude and Forms of Personal Debt among Residents of UAE	Foreign study(UAE) based on primary data collected from 412 working Individuals	Descriptive statistics, Cronbach Alpha, and Regression Analysis	Residents who have high financial attitude borrow less from credit card. People of UAE tend to borrow from bank rather than using credit cards or borrowing from family member and friends.
7	Koropp et al. (2013) Financial attitudes in family firms: The moderating role of family commitment	Foreign study (Germany) based on primary data collected from 280 German family firms	Cronbach's Alpha, Standard deviation, Bivariate Correlation coefficient, Exploratory Factor analysis, ANOVA, Regression Analysis, etc	There is significant relationship between financial knowledge, positive experience with debt suppliers and financial attitude of owner-management.
8	Paluri and Mehra (2015) Financial attitude based segmentation of women in India: an exploratory study	Indian study based on primary data collected from 177 Indian women	Cronbach's Alpha, Cluster analysis, KMO, Barlett's test of sphericity and Confirmatory factor analysis	Only one third of the respondents are not using financial products and Indian women are more interested in fixed deposits and insurance products. On the other side it was seen that interest rate has greatest influence on propensity to save and materialistic attitude.
9	Phan et al. (2017) Segmentation of financial clients by attitudes and behavior	A foreign study (Switzerland and Vietnam) based on primary data collected from 3988 individuals	Cronbach's Alpha, Exploratory Factor analysis, regression analysis and cluster analysis	Anxious spenders had more complex attitudes regarding financial matters than gut-feeling followers. Further, the dimensions related with financial attitude and financial behaviour is mostly similar in both countries.
10	Aydin & Selcuk (2018) An investigation of financial literacy, money ethics and time preferences among college students	Foreign study (Turkey) based on primary data collected from 1443 University students from 14 campuses	Cronbach's Alpha, Structural Equation Model, exploratory factor analysis and confirmatory factor analysis	Students with higher level of financial knowledge have positive financial attitude and financial behaviour. Further, financial attitude is positively related with financial behaviour.
11	Talwar et al. (2021) Has financial attitude impacted the trading activity of retail investors during the COVID-19 pandemic?	Indian Study (India) based on primary data collected from 404 retail investors	Cronbach's Alpha, Structural Equation Model and artificial neural network (ANN)	The results of the study revealed that trading activity of retail investors is positively affected by all of the categories of financial attitude. Moreover, trading activities are mostly affected by one of the category i.e. interest in the financial issue and least affected by financial anxiety.

				Hench, it can be concluded that the investors who take interest in the financial issue or financial news, will do higher trading in the market even when there is drastic change like: covid, in the economy.
12	Moko et al. (2022) The effect of financial knowledge, financial attitude, and personality on financial management behavior	Foreign study (Indonesia) based on primary data collected from 150 young entrepreneurs	Cronbach's Alpha, Partial Least Square Regression Method and t-test	The results of the study show that financial attitude has significant positive effect on the financial management behavior of the entrepreneurs. The results indicated that the person with high level of financial attitude can manage financial management better than anyone else.
13	Mustafa et al. (2023) The Effects of Financial Attitudes, Financial Literacy and Health Literacy on Sustainable Financial Retirement Planning: The Moderating Role of the Financial Advisor	Foreign Study (Malaysia) based on primary data collected from 416 self-employed individuals	Partial least square structure equation modeling	It was found that there is a positive and significant effect of financial attitude on the financial retirement planning of respondents. Furthermore, it was also concluded that financial advisor play a moderating role between the relationship of financial attitude and retirement planning which means when individual face any problem in financial matter then financial advisor can give advice for better financial retirement planning.
14	Erzincanlı et al. (2024) Role of self-control, financial attitude, depression, anxiety, and stress in predicting consumers' online shopping addiction	Foreign study (Turkiye) based on primary data collected from 694 consumers	Cronbach's Alpha, chi-square test and structure equation modeling	It was found that financial attitude is negatively correlated with depression, anxiety and stress factor. Further, moderate level of financial attitude and self-control is found in the research whereas online shopping addiction is low.
15	Loza et al. (2024) Influence of skills and knowledge on the financial attitude of university students	Foreign study (Peru) based on primary data collected from 531 university students	Cronbach's Alpha, Pearson's correlation and structure equation modeling	It was found that financial knowledge and skills are directly associated with the financial attitude of the respondents as both the factors positively affect the financial attitude. Further, it was also concluded that financial attitude is

				dependent on financial knowledge and skill.
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Table No.-4: Review of Literature-Level of Financial Self-efficacy

Sr. No	Title/Author	Country/ Sample Information	Research methodology	Level of Financial Self-efficacy
1	Danes and Haberman (2007) Teen financial knowledge, self-efficacy, and behavior: A gendered view	Foreign study (U.S.) based on primary data collected from 5,329 male and female high school students	Descriptive statistics and t-test and Cronbach Alpha has not been reported	Male teens are confident about their existing knowledge of money management, whereas female teens learned more about financial concepts in which they were not confident.
2	Amatucci & Crawley (2011) Financial self-efficacy among women entrepreneurs	Foreign study (U.S.) based on primary data collected from 51 women entrepreneurs through web survey	Cronbach's Alpha, one way ANOVA, Correlation Analysis and Exploratory Factor analysis	Age and racial differences were significantly related with financial self-efficacy. Further, level of financial self-efficacy of older women was found high.
3	Lown (2011) Development and validation of a financial self-efficacy scale	Foreign study (U.S.) based on primary data collected from 726 university employee	Cronbach's Alpha, Descriptive Statistics, one way ANOVA, and Exploratory Factor Analysis	Half of the respondents had a high level of financial self-efficacy as they were confident about their financial decision making behaviour.
4	Lim et al. (2014) Financial stress, self-efficacy, and financial help-seeking behavior of college students	Foreign study (U.S.) based on secondary data from the 2010 Ohio Student Financial Wellness Survey (OSFWS)	Cronbach's Alpha, Multivariate analysis, Descriptive statistics and Regression analysis	The black people used to attend courses on financial education and people with high financial self-efficacy tend to seek financial advice from professionals.
5	Farrell et al. (2016) The significance of financial self-efficacy in explaining women's personal finance behavior	Foreign study (Australia) based on primary data from 1542 women	Cronbach's alpha, Exploratory Factor analysis, Correlation analysis, multivariate probit model, Psychometric instrument	Women with higher level of financial self-efficacy have a higher probability of having investment, saving account or mortgage. But it was found that women with higher FSE have less interested in credit card and loan.
6	Montford and Goldsmith (2016)	Foreign study (U.S.) based on	Cronbach's Alpha, Regression	Women had low level of financial self-efficacy that's why they tend to take less risk

	How gender and financial self-efficacy influence investment risk taking	primary data collected from 182 undergraduate students	analysis, correlation analysis, t-test, Exploratory factor analysis, KMO etc.	during investment process. Further no gender differences were found when gender and financial self-efficacy studied together.
7	Mindra et al. (2017) Financial self-efficacy: a determinant of financial inclusion	A foreign study (Uganda) based on primary data collected from 400 individuals	Cronbach's Alpha, confirmatory factor analysis, descriptive analysis, regression and structural equation model	Strong and positive relationship among self-efficacy and financial inclusion was found.
8	Mindra & Moya (2017) Financial self-efficacy: a mediator in advancing financial inclusion	A foreign study (Uganda) based on primary data collected from 400 individuals	Cronbach's Alpha, descriptive analysis, correlation analysis, regression analysis, Confirmatory Factor Analysis, Diagnostic Test and structural equation modelling	Financial self-efficacy was found as the mediator of relationship of financial literacy, financial attitude and financial inclusion.
9	Akhtar & Das (2017) Predictors of investment intention in Indian stock markets	An Indian study based on primary data collected from 920 individual investors	Cronbach's Alpha, Mardia statistic, Structural equation modeling, multiple regression analysis, KMO, Squared Multiple Correlation, Mediation Analysis and confirmatory factor analysis	Intentions of investors influenced by different psychological factors such as attitude, subjective norms and Financial Self-efficacy. Financial self-efficacy plays a double role in the relationship among personality traits and investment intention.
10	Zainudin et al. (2019) Determinants of credit card misuse among Gen Y consumers in urban Malaysia	A foreign study (Malaysia) based on primary data collected from 501 respondents	Cronbach's Alpha, Multiple Linear Regression analysis, Reliability Analysis, Tukey HSD post hoc Test, and ANOVA	Financial self-efficacy has negative correlation with misuse of credit cards among Gen Y in Malaysia.
11	Julianti & Damayanti (2021) The Impact of Financial Knowledge, Financial Self-Efficacy, and Saving Behaviour on Junior High School Students: A Case	A foreign study (Indonesia) based on primary data collected from 750 junior high school students	Multiple Linear Regression and t-test	Results of the study showed that financial self-efficacy has a direct and positive impact on the financial behavior of the students but saving behavior did not affect the financial behavior. In spite of this, it was also noticed that financial self-efficacy of the urban students is higher than the financial self-efficacy of the rural students. This difference may be due to the education facilities in the urban areas are better than rural areas.

	Study of Rural and Urban Area Students			
12	Noor et al. (2022) An Empirical Assessment of Mediating Role of Financial Self-Efficacy on Financial Literacy and Financial Inclusion in Pakistan	A foreign study (Pakistan) based on primary data collected from 307 consumers	Structured equation modeling and confirmatory factor analysis	The researcher found that financial literacy has a positive impact on financial self-efficacy of the respondents. Similarly there is positive impact of financial literacy on financial inclusion of the consumers from Pakistan. Moreover, financial self-efficacy perform mediating role in the relationship of financial literacy and financial inclusion.
13	Kim et al. (2023) Relationships Among Emotion Regulation, Financial Self-Efficacy, and Financial Management Behaviors of Couples	A foreign study (Washington DC) based on primary data collected from 239 couples (478 respondents)	Structure equation modeling, t-test and confirmatory factor analysis.	It was found that emotion regulation is positively associated with financial self-efficacy and financial self-efficacy is positively associated with financial management behavior for both male and female respondents respectively. After that, it was also seen that there is a direct effect of male financial self-efficacy on the female financial management behavior. Moreover, there is no direct relationship among emotion regulation and financial management behavior for both male and female respondents.
14	Aisjah Siti (2024) Intention to use buy-now-pay-later payment system among university students: a combination of financial parenting, financial self-efficacy, and social media intensity	A foreign study (Indonesia) based on primary data collected from 354 students	Descriptive statistics and correlation	It was depicted that the students who get financial knowledge from their parents and discuss the financial issue at home are good at financial decisions which means financial parenting is positively associated with the financial self-efficacy of students. Accordingly, the intension of children regarding buy now pay later is negatively associated with higher level of financial self-efficacy
15	Lone & Bhat (2024) Impact of financial literacy on financial well-being: a meditational role of financial self-efficacy	An Indian Study (Jammu and Kashmir) based on primary data collected from 203 business school faculties	Structured equation modeling, confirmatory factor analysis and mediation analysis	It was depicted that all the indicators of financial literacy has significant effect on the financial self-efficacy of the faculties. However, it is important fact that financial awareness is the indicator which effects highest among all the other indicators of financial literacy. It was also seen that financial self-efficacy plays partial mediating role while studying the impact of financial literacy on the financial well-being of the respondents.

Table No.-5: Review of Literature-Relationship of Financial knowledge, Financial behaviour, Financial attitude and Financial self-efficacy

Sr. No	Title/ Author	Country/Sample information	Research methodology	Findings
1	Lusardi & Mitchell (2008) Planning and Financial Literacy: How do Women fare?	Foreign study (U.S.) based on primary data collected from 785 women respondents	A purpose designed module (HRS), Cronbach Alpha has not been reported	Research shows that older women in US had very low level of financial literacy and they even did not undertake any retirement planning. Results of the study measured that financial knowledge and planning are interrelated and women with higher level of financial literacy are successful planners.
2	Jorgensen & Savla (2010) Financial Literacy of Young adults: The importance of Parental Socialization	Foreign study (U.S.) based on primary data collected from 420 college students	Cronbach's Alpha, Two way ANOVA, Structural equation model	Parents perceived to have a direct and moderate influence on financial attitude and, indirect and moderate influence on financial behaviour, but did not have any influence on financial knowledge.
3	Agarwalla <i>et al</i> (2012) A survey of Financial Literacy among Students, Young employees and the Retired in India	Indian study based on Primary data collected from 1001 students, 983 employees and 983 retired	Descriptive statistics and Correlation Analysis, Cronbach Alpha has not been reported	The results of the study represented that there is lack of understanding among Indians about the basic personal finance and male are found more financially literate than women. Financial knowledge is more among highly educated and wealthy individual whereas individuals from rural area scored less about financial knowledge. The study also concluded that Indian have positive behaviour and attitude related to saving and consumption.
4	Potrich <i>et al.</i> (2015) Development of a financial literacy model for university students	Foreign study (Brazil) based on primary data collected from 534 university students	Cronbach's Alpha, Descriptive analysis, Multivariate analysis and Exploratory Factor analysis	Researcher concludes that environment of society requires self-sufficiency and financial literacy is one of the major requirements for this. In this context, personal financial knowledge and skills are important for decision regarding personal finance. Major findings of this research shows that among all the models, best adjusted model indicates that financial knowledge and financial attitude have positive impact on financial behaviour.
5	Tali te'eni-Harari (2016)	Foreign study (Israel) based on primary	Cronbach's Alpha, One-on-One	The results found that children which are highly involved in saving money had more positive attitude and behaviour towards saving.

	Financial Literacy among Children: the role of involvement in saving money	data collected from 103 first-grade children	Interview, descriptive statistics, Regression Analysis and correlation	
6	Mindra & Moya (2017) Financial self-efficacy : a mediator in advancing financial inclusion	Foreign study (Uganda) based on primary data collected from 400 individuals from rural and urban Uganda	Cronbach's Alpha, Correlation, Structural Equation Model, Bootstrapping Method	The study shows that financial self-efficacy acts as a mediator of the relationship between financial literacy, financial inclusion and financial attitude.
7	Sharma & Pandey (2017) Financial Literacy among working young in rural India	Indian study based on primary data collected from 754 working population	Descriptive statistics and Multinomial logistic regression, Cronbach Alpha has not been reported	It was concluded that financial knowledge is positively influenced by family income and financial behaviour is influenced by gender of the respondent. Financial knowledge and financial behaviour were positively correlated but financial attitude and financial behaviour were negatively correlated.
8	Phan et al. (2017) Segmentation of financial clients by attitudes and behavior	A foreign study (Switzerland and Vietnam) based on primary data collected from 3988 individuals	Cronbach's Alpha, Exploratory Factor analysis, regression analysis and cluster analysis	Anxious spenders had more complex attitudes regarding financial matters than gut-feeling followers. Further, the dimensions related with financial attitude and financial behaviour is mostly similar in both countries.
9	Aydin & Selcuk (2018) An investigation of financial literacy, money ethics and time preferences among college students	A Foreign study (Turkey) based on primary data collected from 1443 University students from 14 campuses	Cronbach's Alpha, Structural Equation Model, exploratory factor analysis and confirmatory factor analysis	Students with higher level of financial knowledge have positive financial attitude and financial behaviour. Further, financial attitude is positively related with financial behaviour.
10	Herawati et al. (2019) Factors that influence	A Foreign study (Indonesia) based on	Structural Equation Model, Test of Reliability,	Financial literacy has a direct relationship with financial self-efficacy i.e. high level of financial literacy tends to high level of financial self-efficacy.

	financial self-efficacy among accounting students in Bali	primary data collected from 518 accounting students from Bali	Test of Validity, descriptive statistics, path analysis and regression model	
11	Setianingsih et al. (2022) The Effect of Financial Knowledge, Financial Planning, Internal Locus of Control, and Financial Self-Efficacy on Financial Management Behavior: A Case Study of SMEs Grocery Stores	A Foreign study (Indonesia) based on primary data collected from 159 SME grocery stores individuals	Multiple Regression Analysis model and ANOVA	It was found that financial knowledge and internal locus of control positively affect the financial management behavior of SMEs grocery stores managers as they are efficiently managing their finance. On the contrary, financial planning and financial self-efficacy are the factors which do not affect the financial management behavior of the respondents which means poor planning and inadequate confidence is the reasons for poor financial management decision making.
12	Banthia & Day (2022) Impact of Financial Knowledge, Financial Attitude and Financial Behaviour on Financial Literacy: Structural Equation Modeling Approach	An Indian Study (Assam) based on primary and secondary data collected from 756 respondents and published sources respectively	Structure Equation Modelling	It was depicted that financial knowledge and financial attitude are positively associated with the financial literacy but financial behavior is negatively associated with financial literacy. Moreover, it was also interesting to know that all the three variable of financial literacy are positively associated with each other.
13	Rahmawati & Marcella (2023) Locus of control, financial knowledge, financial	A Foreign study (Indonesia) based on primary data collected from 92 students	Cronbach's alpha, confirmatory factor analysis and multiple regression models	It was depicted that financial knowledge, financial attitude, locus of control and social economic status are positively associated with the financial management behavior of the students.

	attitude, financial self-efficacy, and social economic status as antecedents of financial management behavior	from faculty of business and management		
14	Prabowo & Nuriyanti (2024) The Influence of Financial Knowledge, Financial Attitudes and Sales Growth on Financial Management Behavior	A foreign study (Indonesia) based on primary data collected from 78 employees from PT KRF	T test, F test and multiple linear regressions	Financial knowledge has a direct effect on the financial management behavior of employees. In the same way, financial attitude is also positively associated with the financial management behavior of the employees.
15	Nurmala et al. (2024) The Influence Of Financial Knowledge, Financial Attitudes, And Personality On Financial Management Behavior	A foreign study (Indonesia) based on primary data collected from 96 students of Bachelorwiyat a Tamansiswa University	Heteroscedasticity Test, Multicollinearity Test, T test, F test and multiple linear regressions	Financial knowledge of the students has a positive impact on the financial management behavior of the students. Similarly, personality has also positive impact on the financial behavior. But, other finding is supported by a very few studies as this study reported that financial attitude does not affect the financial management behavior of the students.

7. Model of Financial Literacy

On the basis of review of literature a model for financial literacy is being suggested here, which will be helpful in further research in the area of financial literacy. This model is prepared with the help of some of the reviewed papers such as:

- **Potrich et al. (2015)**
Major findings of this research shows that among all the models, best adjusted model indicates that financial knowledge and financial attitude have positive impact on financial behaviour.
- **Nano D. (2015)**
The study shows that financial attitude has a mediating effect on the relationship of financial knowledge and financial behavior.
- **Qamar et al. (2016)**
It was depicted that financial knowledge has a positive and moderating impact on the personal financial management behavior. Similarly, financial self-efficacy has a positive impact on the personal financial management behavior.
- **Faique et al. (2017)**
It was found that financial attitude has a positive relationship with financial self-efficacy.

- **Susan & Djajadikerta (2017)**
It was found that financial knowledge has a positive impact on financial attitude and financial attitude has a positive impact on financial behavior of college students.
- **Aydin & Selcuk (2018)**
Students with higher level of financial knowledge have positive financial attitude and financial behaviour. Further, financial attitude is positively related with financial behaviour.
- **Yong et al. (2018)**
It was found that financial knowledge and financial attitude has significant and positive impact on financial behavior.
- **Herawati et al. (2019)**
Financial literacy has a direct relationship with financial self-efficacy i.e. high level of financial literacy tends to high level of financial self-efficacy.
- **Rai et al. (2019)**
In this study researcher found that Financial Attitude, Financial Behaviour and Financial Knowledge are determinants of financial Literacy because of strong association with Financial Literacy.
- **Singh et al. (2020)**
This study was also conducted to find out the relationship between determinants and dimensions of financial literacy. The study concluded that Financial Behaviour is directly associated with Financial Attitude and Financial Literacy is positively associated with financial knowledge, financial attitude and financial behaviour.
- **Herawati et al. (2020)**
This study was conducted to find out the factors that affects financial self-efficacy and its relationship with financial literacy. It was found that Financial Self-Efficacy is directly influenced by Financial Literacy.
- **Coskun & Dalziel (2020)**
It was found that financial attitude has mediating effect on financial knowledge and financial behavior relationship.

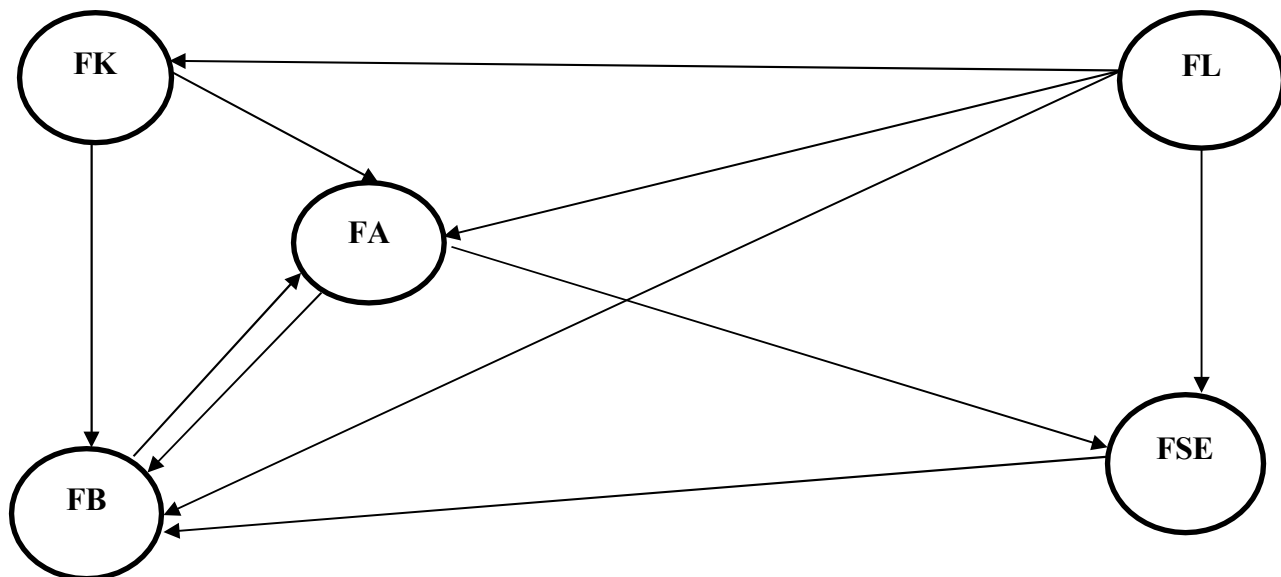


Fig.1 Financial Literacy Model with its Dimensions

This is a proposed model regarding financial literacy and its various dimensions where relationship among dimensions and financial literacy is shown. The model is formed with the help of existing literature which represents the four major dimensions of financial literacy i.e. financial knowledge, financial behavior, financial attitude and financial self-efficacy. The model describe that financial literacy has strong and direct association with these dimensions. This models shows that financial attitude acts as a mediator between the relationship of financial knowledge and financial behavior. Moreover, there is a positive and significant relationship between financial knowledge with financial attitude and financial behavior. Because most of the study represents that the people with high level of financial knowledge have positive behavior and positive attitude towards financial products and

planning. On the other hand, financial behavior and financial attitude have two fold relationships as both the indicators are positively associated with each other.

But, there is low association between financial attitude and financial knowledge as well as financial behavior and financial knowledge. The reason behind this fact is that financial behavior and attitude hardly impact the financial knowledge of a person. Now, the new and emerging dimension of financial literacy i.e. financial self-efficacy has also direct and positive impact with financial literacy. Financial attitude has also a direct effect on the financial self-efficacy which means the people with positive attitude regarding financial matters are confident in monetary decision making. Higher level of confidence in financial matters also directly impacts the financial behavior of a person. So, we can conclude that higher the level of financial knowledge, financial behavior, financial attitude and financial self-efficacy leads to higher level of financial literacy.

8. Gaps in the existing literature

This review of literature represents the characteristics of existing literature on financial literacy. The existing literature helps to understand the basic concepts and dimensions of financial literacy. It represents the scope for future research in the area of financial literacy. After reviewing this literature following research gaps have been identified where future research can be conducted: Most of the studies were based on students, teachers and highly educated personnel. Few studies have been found based on less educated population. Very few studies have been found in which financial literacy level of women has been measured, particularly of working women. Similarly, less studies has been found in which students of different disciplines have been taken as respondents. We could hardly trace a study on credit card behaviour of armed personnel. Therefore, detail study should be conducted to measure the level of financial literacy of Policemen or Armed forces or Security force personnel. Further, the effect of locality on the financial literacy level of respondent has not been identified in the available literature. Further, little work has been done on the level of financial literacy of different segments of Indian society as Indian society can be classified on the basis of different castes and religions. Also very few studies are available regarding relationship between stock market return and financial literacy level of the retail investors. On the basis of this background scope for further research can be defined through the following research titles:

- a. Level of Financial Literacy among Working Women
- b. Level of Financial Literacy among Retail Investors
- c. Assessing level of Financial Literacy among Police and defence Personnel
- d. Level of Financial Literacy among the Migrated Labour Class
- e. Impact of Financial Knowledge on the Financial Behaviour and Attitude of Capital Market Investors
- f. Causes of low level of Literacy
- g. Determinants of Financial Literacy
- h. Level of Financial Literacy among the Unorganised Retailers
- i. Proposed model of financial literacy can be confirmed in the further research.

9. Conclusion

This paper would contribute in better understanding of concept and dimensions of financial literacy. Further, it has identified the research gaps in the area of financial literacy because most of the reviewed research papers have reported low level of financial literacy. However, lot of research is being done on different dimensions of financial literacy around the world particularly in developing and underdeveloped countries. The policy makers are not aware about the determinants or causes of low level of financial literacy. However, Government and financial institutions are taking various steps to improve the level of financial literacy among households, investors, labour class and employees etc. to enhance the level of financial inclusion by making easy availability or reach of the financial products and services to the vulnerable section of the society at low level of cost to achieve the goal of economic development. That's why number of seminars and workshops on financial literacy and financial inclusion are being conducted by policy-makers, educators, bankers and regulators to enhance the level of financial literacy.

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