1.1 Introduction and motivation of the study

Today, it can be said that the structure of the financial environment has become dangerously complex for the consumers over a short span of time (Boshara et al. 2010). From a broader prospective, when consumers are lacking knowledge of financial concepts and cannot make sound financial decisions which is most essential to their financial well-being, market operations and competitive practices are compromised (Braunstein, 2002). In many countries governments are increasingly concerned about financial illiteracy of their citizens. Today, every country is struggling for economic prosperity and it is especially hard for young people who have never learned how to budget, plan to achieve financial security or be involved financially enough (Kelly, 2002). In recent times, concern for the levels of financial literacy in society as a whole has grown considerably and is expected to grow even more important in the future (Fox et al., 2005). Now, in advanced financial markets, consumers are facing the challenge to distinguish the available financial products and services from each other (Greenspan, 2005). Researchers have undertaken several recent studies of financial literacy in the United States. For instance, a survey conducted for the National Council on Economic Education by Harris Interactive (National Council on Economic Education, 2005) indicated that nearly all USA adults believe that understanding economics is important but actual financial knowledge was found bitterly deficient for both high school students and working-age adults.

Large household surveys on financial capability and money management in, for example, the United Kingdom, New Zealand, Ireland, the United States, and the Netherlands highlight significant heterogeneity in financial behaviour and show that the typical household does not manage household finances well (Atkinson, McKay, Kempson, & Collard, 2006; OECD, 2005; Van Rooij, Antonides, & de Groot, 2008). One particular shortcoming is that households tend to be short-sighted when making financial decisions and may be ill-prepared for retirement. This is a matter of concern for policymakers as, over the
past two decades, individuals and households have been increasingly expected to take responsibility for their own retirement security. In fact, many US employees have very little savings on the verge of retirement (Lusardi, 2003, 2004; Lusardi & Mitchell, 2007). According to Mandell, (2008) the access to credit has become easier, the market is deregulated, therefore, the need of financial literacy is like never before in this rapid growth of marketing financial products. An exploratory study by Clercq et al., (2009) has revealed that undergraduates and even chartered accountants have limits in financial literacy, hence an international instrument was used to measure financial literacy and it concluded that age, gender, language, race and income level do have an impact on the level of financial literacy.

When people have less financial capability, they are less able to absorb any financial crisis, like those happened in the previous years. Financially literate investors are more habitual to the stock market fluctuations and are able to handle risks (Jappelli, 2010). High level of financial literacy contributes to the individual financial well being (Almenberg & Save-Soderbergh, 2011). The OECD reported that ill-informed financial decisions occurred due to lower level of financial literacy (PISA/OECD, 2012). Policy makers are now taking into the consideration financial education as a remedial practice for the complex financial decisions over the last few years in western countries (Fernandes, Lynch & Netemeyer, 2013).

Indian culture has family traditions and practices prevalent in the context of financial literacy that are equally important as other factors like age, gender, education level etc. Trivedi & Trivedi (2014) called financial literacy as an essential and also one of the most relevant issues of the present time.

1.2 Origin and Development of Financial Literacy

Financial Literacy movement is growing globally by the collective efforts of economies and National-International organisations.

In the early survey studies evidenced that students did not have proper training or knowledge for sound financial decisions. Israelson, (1991) reported that during the 1950s, the half of the studies was done on the topics comprising issues of financial management, income and expenditure, security and retirement, household budgeting and savings etc. United States of America
established the ‘Cooperative Extension Service’ in 1914 to develop financial skills by providing learning experiences (Cooperative Extension Service, 2000). The JumpStart Coalition for Personal Financial Literacy has been performing surveys to measure the financial literacy level of high school seniors since 1997 (Duguay, 2006).

In addition to the JumpStart Coalition, the Department of the Treasury has been a leader in encouraging the development of financial education. Through their efforts, the Office of Financial Education was developed in May of 2002. Part of their mission is to help Americans make better choices in managing their finances especially in areas as saving, home ownership, retirement planning, and credit management. Through the Department of the Treasury, the Financial Literacy and Education Commission has been working to develop financial education for all people in the United States (United States Department of the Treasury, 2009). In United States of America, one of the first Acts which was established to improve financial literacy education was 'Financial Literacy Education Improvement Act (United States Department of the Treasury, 2002). With this act, there were many strategies developed like Money-Based Math Curriculum in 2001 that used practical personal financial situation to explain mathematical and basic finance concepts to students in grades seven to grade nine (Financial Literacy and Education Commission, 2006). These advancements prevailed in countries like UK and USA and many others too. The Govt of Australia, in 2004, the formation of a Financial Literacy Foundation was recommended by the National Consumer and Financial Literacy Taskforce.

The Organization for Economic Co-operation and Development (OECD) launched in 2008 the ‘International Gateway for Financial Education’ for financial education programs as a clearinghouse, information and research worldwide. OECD and Russia’s G-20 Presidency issued a report on Advancing National Strategies for Financial Education, detailing progress by the governments of the world’s major economies in implementing national strategies for improving financial education in 2013. In India, the Reserve Bank of India initiated to establish Financial Literacy and Credit Counselling Centres in 2007 all over the country to provide financial education and counselling to both urban and rural populations free of cost.
1.3 Conceptual Framework of Financial Literacy

A vast literature is present on this issue and it provides large number of definitions. In one of the early studies, Noctor, Stoney & Stradling (1992) called financial literacy ‘the ability to make informed and effective decisions while managing money’. The general concept of financial illiteracy revolves around individual’s inability to manage their personal finances’ (USA Today, 1994). Thus, Financial Literacy can be said to be the propensity to use financial resources effectively so that the economic well-being and security is assured.

U.S. Government Accountability Office (GAO, 2011) specified financial literacy as, ‘the capability of making knowledgeable judgments and taking fruitful actions for management of money, understanding the available financial choices, planning and spending wisely, and managing the for paying for a child’s education, job loss or saving for retirement. The Canadian Foundation for Advancement of Investor Rights (CFAIR, 2009) reported financial literacy as “owning skills, knowledge and self-efficacy to successfully carry out the financial transactions encountered in everyday life.” It can also be said that the process of financial literacy begins with communicating information, empowering consumers to take action to improve their financial well-being which is the ultimate goal. Financial literacy is essential for promoting access to finance by creating awareness and suitable environment that encourages desired financial behaviours such as saving, budgeting, or raising credit wisely.

According to RBI (2008), financial literacy can broadly be defined as “Providing familiarity with and understanding of financial market products, especially rewards and risks, in order to make informed choices”. Mason and Wilson (2000) defined financial literacy as a “meaning-making process” in which individuals use a combination of skills, resources, and contextual knowledge to process information and make decisions with knowledge of the financial consequences of that decision. Vitt et al. (2000) defined it as: the ability to read, analyze, manage, and communicate about the personal financial conditions that affect material well-being. It includes the ability to discern financial choices, discuss money and financial issues without (or despite) discomfort, plan for the future, and respond competently to life events that affect everyday financial decisions, including events in the general economy.
Hung et al. (2009) specified financial literacy as “knowledge of basic economic and financial concepts, as well as the ability to use that knowledge and other financial skills to manage financial resources effectively for a life time of financial well being. Huston (2010) proposed, “Financial literacy should be conceptualised as having two dimensions- understanding (personal financial knowledge) and use (personal finance application).” Program for International Student Assessment (PISA) has been provided by the Organization for Economic Cooperation and Development (OECD, 2012), stated: “A combination of awareness, knowledge, skill, attitudes and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing”. This definition is the most popular among different studies across the globe and widely accepted. The present study also takes it into consideration for financial literacy measurement. OECD, (2014) again stated: “Financial Literacy is Knowledge and understanding of financial concepts and the risks, and the skills, motivation and the 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”.

Table 1.1: Derived definition of Financial Literacy

<table>
<thead>
<tr>
<th>Financial Literacy is:</th>
<th>Characterised by:</th>
<th>Is affected by:</th>
<th>Leads to:</th>
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1.4 Empirical evidence on Financial Literacy

Given the corresponding increase in the volume of research on the financial literacy and financial education, there is no better time to take a stock of the evidence than now (Xu & Zia, 2012). For the purpose of a fruitful comparison of the existing literature among the various countries, the literature review of the empirical studies is divided into two parts which are Eastern literature and Western Literature:
1.4.1 Western literature of Financial Literacy

There are numerous literatures available on this relevant topic of Financial Literature. Developed Nations like US, Australia, New Zealand etc. have been found more concerned about the financial-economic growth aspects of the country through financial literacy. Most of the studies in the literature are conducted in these western countries.

In the early studies, Bernheim (1995, 1998) pointed out that most households are following the traditional methods for savings and are not capable of solving simple calculations and lack basic financial understanding. Volpe & Chen (1998) in their study surveyed 924 college students to examine their personal financial literacy and showed that participants answer about 53% of questions correctly. Financial knowledge was found low in Non-business majors, women, students in the lower class ranks, under age 30 and less work experienced individuals. Many studies like Bernheim, Garrett and Maki (2001) and Bernheim and Garrett (2003) showed that those who were given financial education in their high school or in the workplace tend to save more. The effectiveness of financial education programs do not have an uniform results. There are some evidences of retirement seminars having influence on saving and retirement plans (Bernheim & Garrett, 2003; Lusardi, 2004; Clark & d’Ambrosio, 2008) whereas some evidences found less or no influence on savings by educational programs (Duflo & Saez, 2003; Madrian & Shea, 2001). Due to this the worth of financial education programs is questionable all over.

Ferguson (2002) specified that individuals do mistakes and to avoid them considerable knowledge and set of skills are required. Hilgert, Hogarth and Beverly (2003) examined data from the 2001 Survey of Consumers and found that financial knowledge can be linked to financial practices statistically. Moore (2003) also reported low levels of financial knowledge in Washington State. Different studies tried to measure financial literacy and reported low financial literacy score of the respondents indicating it as a common feature in developing economies and European countries like Australia, and Japan (OECD, 2005; Lusardi & Mitchell, 2007). Ford et. al. (2007) found intimidation to be negatively associated with financial knowledge and interest in financial market of college students of US. Lusardi & Mitchell (2007) in their survey in USA
found that half the respondents surveyed could not make a simple calculation regarding interest rates and did not know the difference between nominal and real interest rates, did not know that holding a single company stock is riskier than holding a stock mutual fund. These findings were similar to the work of Christelis, Jappelli, & Padula (2010), which used data very similar to the U.S. Health and Retirement Study and found that most respondents in Europe scored low on numeracy scales. Similar findings are reported by Agnew and Szykman (2005), who devised a financial literacy survey as part of an experiment held at a mid-size public university in the Southeast US designed in the spirit of a John Hancock Financial Services Defined Contribution Plan Survey (2002).

Large household surveys on financial capability and money management in, for example, the United Kingdom, New Zealand, Ireland, the United States, and the Netherlands highlight significant heterogeneity in financial behaviour and show that the typical household does not manage household finances well (Atkinson, McKay, Kempsom, & Collard, 2006; OECD, 2005; Van Rooij, Antonides, & de Groot, 2008). Samy et. al. (2008) indicated that the determinants of credit card are significantly dependant on a student’s year of study, credit card status and daily routine, which has a strong relevance to respondents’ knowledge of credit cards in Australia. Lusardi (2008) in her work evaluated financial literacy in US on different points of time and found categories like women, less educated, African-Americans and Hispanics with widespread financial illiteracy. Rooij, Lusardi and Alessie, (2009) told that households lack foresight while making financial decisions and are not prepared for retirement. This is a matter of concern for policymakers as, over the past two decades, individuals and households have been increasingly expected to take responsibility for their own retirement security. Also, many employees in US have very little savings on the verge of retirement (Lusardi, 2003, 2004; Lusardi & Mitchell, 2007).

Jump$tart coalition conducted several surveys for measuring personal financial literacy between 1997 and 2007 in US and found that percentage of high school students who were passed was very less and this data had little deviation (Mandell, 2008). National Council of Economic Education also confirmed these findings (NCEE, 2005), consists of a 24-item questionnaire in
which adult respondents scored of 'C' grade on an average for these questions, the category of respondents from level of high school scored even worse with securing only an 'F' grade.

In 2008, World Bank conducted a financial literacy Survey of over 1600 households in Russia. The results of the survey declared that Russian population had low level of financial literacy as unsatisfactory (Rutledge, 2009). Klatt (2009) found that there are some barriers that women in USA are not participating fully in retirement planning and not as comfortable as men in seeking financial advice. The study of Mandell & Klein (2009) examined the impact of a personal financial management course on high school students and observed that the course did not create a major difference between students. The study raised serious questions about the effectiveness of financial literacy courses of high school in longer term. The results of the study by Hung et. al. (2009) reported that many in US are not involved in retirement preparedness and have low level of financial literacy. Mckenzie (2009) found that majority of participants in his study in US learned about managing money on their own or at home from family members. Lack of planning is high not only among young USA respondents, but also among older adults (45-59 years old). Among low income respondents, retirement planning is low or even nonexistent Lusardi (2010). These findings are consistent with data on retirement planning from other surveys, such as the Health and Retirement Study and Retirement Confidence Survey that well documented lack of retirement planning, even when retirement was not far away (Lusardi, 1999, 2009; Yakoboski & Dickemper, 1997).

Jappelli (2010) used international panel data on 55 countries from 1995 to 2008 and reported substantial heterogeneity of financial and economic competence across countries, and that human capital indicators (PISA test scores and college attendance) are positively correlated with financial literacy. Miller (2010) stated that a cultural understanding and perspective around approaching the financial market is critical to fully understand the financial plight of African Americans and the values that they uphold in their communities and families. As policies and programs geared towards financial literacy education becomes more prevalent during difficult economic times, a step must be taken to absorb the cultural aspects of financial management. Lusardi et. al.
(2010) showed that only one-third or less than that young adults have understanding of, inflation, interest rates and diversification of risk. They also found that demographic variables strongly influence financial literacy along with financial sophistication. The results of the study of Calamato (2010) are similar to other studies in US who have documented the low level of financial literacy. His study revealed that parental involvement did not affect children’s financial literacy. Rooij, Lusardi & Alessi (2011) in their empirical study in Netherlands, found that most households lack knowledge of fundamental financial concepts, lack of literacy prevents households from participating in the stock market.

There exist vast differences in knowledge among respondents; women and those with low educational attainment display the lowest levels of financial knowledge. Financially literate individuals are more likely to plan for retirement that leads to financial well-being (Almenberg & Save-Soderbergh, 2011), more likely to participate in financial markets and perform better on their portfolio choice (Rooij, Lusardi & Alessie, 2011) and more likely to accumulate higher mounts of wealth (Lusardi & Mitchell, 2011). Donohue (2011) stated that women in US need greater understanding of institutional operations and product functioning aspects of personal finance in order to be financially literate. Letkiewicz (2012) in his study suggested that conscientiousness and financial literacy are important and that a dual emphasis on increasing conscientiousness and financial literacy is likely to have a positive impact on consumer finances. Stangl & Matthews (2012) had evident that young New Zealanders are exposed to informal financial education and lack opportunities to formal education to assist their development of sound personal financial management skills. Lusardi & Mitchell (2013) opined there is still much to learn about the most cost-effective ways to build financial knowledge in population at large.

The results of Luksander et. al. (2014) showed that according to the measured criteria, young people whose income is covered by their family only to a small extent, males, older people and people with a higher income are characterised by more advanced financial literacy. The paper of Michaud, Lusardi & Mitchell (2015) used stochastic life cycle model incorporating endogenous knowledge accumulation to evaluate six different financial literacy program scenarios. They showed that participation rates in such programs are
low due to high cost of acquiring knowledge and does not benefit everyone. The low income and less-educated have less to gain from participating in such programs.

The above literature survey of Western countries’ literature shows that financial literacy is a matter of concern in these countries and thus, cannot be taken for granted.

1.4.2 Eastern literature of Financial Literacy

In the study of Beal & Delpachitra (2003) research for Australia’s first national survey had found that financial literacy was not high in Australian Students. They claimed the reason behind this was the lack of development of financial skills along with education in high schools. (ANZ & RMR, 2003) was conducted on behalf of the ANZ bank. The findings indicated that whereas Australians were overall financially literate, there were certain groups with particular challenges.

Using exploratory research, in their study Clercq & Venter (2009) analysed financial literacy of undergraduate students studying to become Chartered Accountants in South Africa. Their study showed that females were less financially literate. Age has influence on financial literacy as with age group 30 to 39 years was found the most financially literate in the sample. The younger students were the least financially literate. Cole et. al. (2009) used original survey data from India and Indonesia and showed that financial literacy is programs may not have the effect on the likelihood of opening a bank account on the sample, but do find modest effects for uneducated and financially illiterate households.

The results from a study in UAE, Al-Tamimi & Bin Kalli (2009) found that the UAE investors are less financially literate and mostly influenced by income level, workplace activity and education level. Also, a significant relationship between investment decisions and financial literacy was found. Oseifuah (2010) tried to assess the level of financial literacy and impact on youth entrepreneurship in South Africa. The study revealed that financial literacy among youth entrepreneurship appeared to be above average and contributing meaningfully to their entrepreneurship skills.
Boon, Yee & Ting (2011) suggested that most individuals in Malaysia who have yet ensued personal financial planning were held back by their financial literacy level. Further, the preparedness of the financially literate individuals is reflected in their involvement in the multiple aspects of personal financial planning. The study of Sabri (2011) also revealed that Chinese students were more likely to learn financial knowledge from their parents, perhaps this explains why they learned less from peers compared to their Malaysian counterparts. Another study of Shambare and Rugimbana (2012) attempted to address the paucity in the body of knowledge by investigating the nature and extent of financial literacy in students in South Africa. Overall, results indicate moderate levels of financial illiteracy; suggesting that even among the educated, there is a need to reinforce basic financial concepts.

Bönte & Filipiak (2012), in their empirical study in India found that a majority of Indian households are simply not aware of various financial instruments and very few invest in these instruments. Individuals belonging to backward castes are less informed about financial instruments and less likely to participate in financial markets. In the study of Thilakam (2012) it was found that the rural people in India have low level of awareness and they lack knowledge of various saving and investment avenues. They only put their faith majorly in traditional instruments like savings in bank, insurance, in the form of land or building and gold etc.

Sucuahi (2013) in his study, focussed on micro entrepreneurs of Philippines, observed that males and those who at least had college level education were more financially literate.

The findings of a Malaysian study (Ramaswamy et. al., 2013) indicate that overall, management students at the University of Mauritius attach a sound level of importance to financial literacy to their subject of study. as they have a medium level of knowledge and skills in financial literacy and in savings and borrowings.

Ibrahim & Alqaydi (2013), in their study on UAE found no significant differences between the mean score of males and females. The results also indicate that individuals with strong financial attitude tend to borrow less from
credit cards and more likely to borrow from banks or from friends/or family members.

**Bashir et. al. (2013)** reported the ignorance of individuals about basic and advanced financial literacy in Pakistan. The study found people financial illiterate and also a positive relationship between financial literacy and some psychological aspects like hopelessness, religiosity, financial satisfaction, retirement plan intention and risk preference.

In the study of **Agarwalla et. al. (2013)** it was delineated that the level of financial literacy among the working young in urban India is similar to the levels that prevail among comparable groups in other countries. **Bhushan & Medury (2013)** in his Indian empirical study figured out that salaried individuals have level of financial literacy which cannot be termed as satisfactory. Their level of financial understanding differed significantly according to demographic and socio-economic factors. **Mathivanan and Mohanaranjini (2013)** reported a positive growth in the financial awareness of Indian women in Coimbatore city and shift in their investment avenues from traditional bank savings towards modern typically risky capital market operations. **Ravikumar (2013)** in his empirical study detailed that respondents having age up to 18 years, having professional education, belonging to Muslim religion, working in agricultural sector, having 3 to 5 members dependent in family, living in urban area in a leased house, with annual gross income of up to Rs. 20,000 likely to have a lower level of financial literacy.

The Study of **Mahdzan & Tabiani (2013)** they suggested policymakers to increase financial literacy of households by implementing various financial education programmes, to further influence saving rates at the national level in Malaysia. A positive impact of financial knowledge was found on financial behaviour.

Another study on Saudi investors conducted by **Tariq Saeed (2014)** proves that males are more financially literate than females. Age group also had a significant impact on respondents.

Findings of the study conducted by **Ali & Mbarire (2014)** on employees of Port Authority of Kenya suggested that the overall financial literacy level of the employees is low and gets affected by gender, age, education levels, other wealth
factors and sources of information & financial advice, whereas it does not get affected by occupation status & type, and personal income.

Among Indian studies, in the study of Shetty and Thomas (2014) it was found that the financial knowledge among student in Mumbai is poor as compared to the global standards. A large part of this is due to poor numeracy skills and can be attributed to the poor elementary and primary education system as documented in other studies.

In the Indian study of Bhushan (2014) in Himachal Pradesh results showed statistically significant difference in awareness level has been found for bank fixed deposits, savings account, public provident fund, mutual funds, stock market investments and bonds. Respondents having low financial literacy are traditional and have their faith in financial products which are considered safe and do not invest much in financial products having higher risk. Another study of Gupta and Kaur (2014) showed that micro entrepreneurs in Himachal Pradesh possess low financial skills like managing cash inferiorly, maintaining substandard records, less awareness of financial instruments and savings etc.

Baluja (2016) claimed in his paper that role of financial planning is largely acknowledged in India, while the significance of financial literacy is still lagging behind. The results from the survey of Rawat and Gambhir (2017) showed that financial literacy level amongst majority of his sample taken, lied in the intermediate range and there is much scope for improvement.

Overall, eastern literature survey of financial literacy does not show a vast difference from the western literature. But it can be said that the level of financial literacy is more vulnerable in eastern countries.

1.5 Evaluation of Financial Literacy

Lusardi and Mitchell (2008, 2011) propounded a specified set of questions around the capability to solve questions related to compound interest; understanding of inflation; and understanding of risk diversification and used them in several survey studies in the USA and abroad like Health and Retirement Study (HRS). Results indicated that the older U.S. population was quite financially illiterate. Lusardi and Tufano (2009) showed that ‘debt literacy’ is low as well. Only one-third of respondents knew how long it would take for debt
to double if one were to borrow at a 20 percent interest rate. This lack of knowledge confirms conclusions from Moore’s (2003) survey of Washington state residents where she finds that people frequently fail to understand interest compounding, along with the terms and conditions of consumer loans and mortgages. Moreover, knowledge of risk and risk diversification remains low even when the questions are formulated in many different ways (Kimball & Shumway, 2006; Yoong, 2011; and Lusardi, Schneider & Tufano 2011).

1.5.1 Test based Financial Literacy

The vast literature of financial literacy exerts a long debate as to how it differs from its related concepts like numeracy and cognitive abilities. In their study Hastings et. al. (2013) evidenced that a higher level of financial literacy was found in people with more cognitive and numeracy skills. This result was in the consonance with earlier studies which associated these set of skills with informed financial behaviour (Banks & Oldfield, 2007; Grinblatt et. al., 2009; Christelis et. al., 2010). Therefore, it is suggested that general cognitive abilities are to be ensured along with the different facets of financial literacy for an effective financial education program. It can be argued that levels of financial literacy do not vary due to cognitive factors only. Therefore, it should be studies in different dimensions also. From the literature reviewed by Hung et al (2009) of 18 countries and it was observed that approach based on test-performance had become widespread for financial literacy measurement. The instrument in these tests used questions related to basic understanding of financial terms and products/services along with general mathematical abilities. Some of the studies took the mean scores for the measurement while others used them as indicating variables (Jappelli 2010; Gathergood 2012). Many of them tried advanced techniques like Principal Component Analysis (PCA) (Behrman et al. 2012; Klapper et al. 2013; Lusardi et al. 2014); and some used Iterated Principal Factor Analysis also (Van Rooij et al. 2011), or Cluster Analysis (Lusardi & Tufano, 2015). However, the relationship of financial literacy with financial behaviour was found robust according to the technique applied. Earlier, Lusardi & Mitchell (2008) for a special module of the Health and Retirement Study (HRS) had constructed three specific test questions termed as
'Big Three’ related to simple numeracy calculation, inflation and risk Diversification. 2 more questions were added by them subsequently. Klapper et al (2015) devised four questions very much similar to ‘Big Three’ for survey of financial literacy in more than 140 economies. The OECD went further and for the 2012 PISA assessment followed an even broader outlook on financial literacy (OECD 2014).

PISA (Program for International Student Assessment) tried to measure financial literacy of 15 year old students by using 40 questions in three dimensions viz. Financial knowledge and understandings (content), mental strategies and approaches (process) and financial situations (contexts) (Stolper & Walter, 2017). For international comparisons, test based approach can be said better despite the lack of definite set of questions available. Hastings et. al., (2013) doubted if some questions are suitable for measurement. The level of financial literacy depicted in the surveys are often criticised for not showing the true state of financial knowledge and behaviour etc due to the sensitivity of respondents towards the wordings of the questions (Lusardi & Mitchell, 2011; van Rooij et. al., 2011). Study of Meyer et. al. (2015) disclosed that over the years, quality of data provided by the household surveys has been declined.

1.5.2 Self-Assessed Financial Literacy

Measurement of financial literacy has an alternative approach that is becoming prevalent asking every respondent to self assess their financial literacy. The items in this approach are more or less same as the items developed by Lusardi & Mitchell, (2014); OECD, (2008) and others. However, there are evidences that respondents may not be confident enough with their efficacy (Agnew & Szykman, 2005). This is a hindrance in measuring financial literacy correctly where respondents are not even known to this biasness (Lusardi & Mitchell, 2014). Older respondents are also found to be overconfident in test scores, however, they performed poorly (Gamble et. al. 2015; Lusardi & Tufano, 2015; Lusardi & Mitchell, 2011). Recent literature on self assessment and test based measurement of financial literacy discussed if this overconfidence is beneficial to the individuals. Some stated the overconfidence as a problem, while
a positive correlation between investment ability and overconfidence for the group of highly-educated men was established by Bannier and Neubert (2016). Self reported and test-performance based measurement of financial literacy both can be used to predict retirement savings or planning (Parker et al, 2012); and tendency to hold stocks (Van Roiij et al., 2011). Bannier and Neubert (2016) differentiated between both self assessed and test-based evaluation as the self assessed financial knowledge is connected with the investment options who are more risky whereas the test based evaluation is associated with low risk investment avenues (real estate, mutual funds etc.).

A relevant study by Allgood and Walstad (2016) compared results from both approaches and reported that financial literacy is independently correlated with financial behaviour in both ways and found significant in indicating results. Finally, Kramer (2014) and von Gaudecker (2015) evidenced the role of overconfidence reduces the propensity to seek professional financial advice while comparing the test based and self-assessed financial literacy.

Several authors have used different measures to acknowledge the financial literacy of students. These studies have a long list of questions and many of them provide a subtle evaluation. The goal of evaluating student financial knowledge around the world has recently been taken up by the OECD’s Programme for International Student Assessment (PISA), which in 2012 added a module on financial literacy.

According to this module, Financial Literacy can be measured in these major sections:

1. Financial Knowledge
2. Financial Behaviour
3. Financial Attitude
4. Financial Awareness

1. **Financial Knowledge**: Financial Knowledge is the understanding of basic financial concepts like budgeting, saving etc. A financially literate person is supposed to have some essential proficiency of financial terms and own some financial skills in different situations. Hogarth & Beverley (2003) stated financial literacy as financial knowledge. According to Kintsch (1988) financial knowledge can be used to filter, comprehend, organize, and encode new
information that passes through the constraints imposed by one's financial capacity.

2. **Financial Behaviour**: financial behaviour can be defined as those common practices that are related to money management. These practices include dealing with cash, credit, saving and investments (Xiao, 2008). Financial Behaviour is crucial for having financial literacy and some argue it is most important. The positive financial behaviour consists of acts like expenditure planning, budgeting and ensuring financial safety and avoiding over-use of credit etc.

3. **Financial Attitudes**: Financial attitudes can be referred as what a person believes or how it values the different financial terms. for example if he/she believes that saving is important (Chowa et. al., 2012). Attitude of a person about money has an important impact on his/her financial literacy. Attitude towards money, life style, social status, formal financial education etc influences personal financial literacy and thereby future prospects (Joseph, 2012). Attitudes are important indicator of financial literacy. A person with negative attitude towards saving for future will be less inclined to undertake a positive financial behaviour. Likewise, one can give a priority to short-term wants and subsequently they are unlikely to have emergency savings or to make longer term financial plans.

4. **Financial Awareness**: Financial Awareness assures that the consumer is informed about the various financial products that are available in the financial market along with their different characteristics like risk and returns associated with them.

   OECD has been measuring the overall financial literacy among individuals of several countries by conducting surveys worldwide. The data of which thus, becomes internationally comparable. This approach has been adopted by the researchers worldwide. It provides a suitable basis to measure financial literacy along with its various dimensions. Earlier to this, the concepts like financial literacy, financial knowledge, financial capability etc. have been used interchangeably. But now, OECD has provided a clear presentation of relations and differentiation among these concepts.
In order to have the ability to act and be financially capable, people require knowledge and skills to manage their personal and household finances. All other things equal, people who have greater knowledge and understanding about finances and possess financial management skills are more likely to make good financial decisions. As a nationally representative study finds, financial knowledge is associated with positive financial practices (Hilgert et al., 2003). Financial literacy is nothing but knowledge about personal management of finances. Financial literacy gives consumers the necessary knowledge and skill required to assess the suitability of various financial products and investments available in the financial market (Kumari & Viz, 2010).

Jacob, Hudson, and Bush (2000) in their study reported financial knowledge as an essential survival tool more than being a convenient tool. More financially knowledgeable households are more likely to plan for retirement, even after controlling for a large set of socioeconomic characteristics, including education and income.

Any measurement of financial literacy will surely have some limitations as both the measures can be termed as inter-temporal model of financial decision making that would put in place that individuals will need to know (Huston, 2010). There is always a possibility that true measurement of financial knowledge will have a 'measurement error'.

1.6 Influencing Factors of Financial Literacy

Hendrix et al. (1987) and Jacobson et al. (1996) found low levels of financial literacy leads to financial stress and subsequently have an impact as absenteeism. Ullah (1990) reported that psychological well-being is affected by financial stress and financial stress works as a mediator on the effect of income and mental health. These financial problems may result into divorces, mental illness and several other unhappy experiences (Kinnunen and Pulkkinen, 1998) and higher level of physical impairment and illness (Drentea and Lavrakas, 2000). The results of Hira and Mugenda (2000) indicated that spending behaviour, perception of financial situation satisfaction differ according to gender. The study of Hogarth & Hilgert (2002) showed that respondents, who are single, have lower income, are from minority and either
young or old (not from middle age) are less financially knowledgeable. The results of Mandell & Klein (2007) showed that motivation is an important driver of financial literacy. A study done by Klatt (2009) suggested conducting workshops and seminars for women as they face lack of confidence and knowledge regarding money management and investment. According to Vig (2017) low levels of financial literacy is hindrance in for individual in making judicious financial decisions. Al-Tamimi and Kalli (2009) reported that financial literacy is also dependent upon workplace activity. Bumcrot et. al. (2011) tried to describe how financial literacy is distributed across the fifty states of US. They found financial literacy and poverty level are significantly correlated in a state. Vyvyan et. al. (2014) stated that counsellors view confidence, self-esteem and self-belief as equally important determinants of financial capability in financial literacy development programs in Australia. According to Ali & Mbaire (2014) financial literacy levels gets affected by financial advice & sources of information along with general demographic variables like age, gender etc.

1.7 Major Outgrowths of Financial Literacy

i. Sound Financial Behaviour: Several studies showed that financial literacy is positively related to self-beneficial financial behaviour. Hilgert, Hogarth, and Beverly (2003) found that those who were more financially literate had higher financial practices index scores that indicate financial knowledge is related to financial behaviour. It is observed that households who tend not to plan for retirement, demonstrate low levels of financial literacy and borrow credit at high rates (Stango & Zinman, 2006), and also acquire fewer assets (Lusardi & Mitchell, 2007). Lusardi and Tufano (2009) found that financial illiteracy is characterised by lack of knowledge about basic financial terms and incapacity to take sound judgements in borrowing and retirement planning ultimately, poor financial management. This can steer households in all debt and living substandard.

ii. Financial Well-being: The evidences show a strong relationship between financial literacy and household well-being (Lusardi & Mitchell, 2007; Cole et al, 2009). Existence of Financial Well being can be assured by ensuring that the
people in the economy possess the notable strength in taking sound financial decisions (Trivedi & Trivedi, 2014). There is evidence that individuals under-save, fail to invest wisely and are often indebted (Mitchell, 2011; Poterba et al., 2007). Financial wellbeing and financial literacy are correlated (UNDP & PFIP, 2010). To have wealth and to have one’s life served by those created wealth like achieving any personal intent or to enjoy a financially pleasant life style can be termed as financial well-being. In his study, Joseph (2012) reported overall well-being factors as namely, employment, health, family relationships and economic status.

Absenteeism at work may be due to poor financial management (Bagwell, 2002). In order to avoid or solve financial problems Financial literacy skills are helpful which ultimately brings a prosperous happy, and healthy life (CBF, 2004). A large number of people are facing the challenge of financial illiteracy and it poses threat to economic well-being and sustainable development (CBF, 2004; Morton, 2005). When consumers lack financial knowledge, it costs substantially and negatively to consumers as well as the society (Perry and Morris, 2005).

### Table 1.2: Major Supporting Literature of Outgrowths of Financial Literacy

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<th>Supporting Literature</th>
<th>Major Outgrowth</th>
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### iii. Sustainable Economic Growth: Both the individual and the economy are benefitted by the ameliorated level of financial literacy. Lower levels are seen in developing countries, particularly (Max New York Life, 2008). In India, reportedly, labourers surveyed were found storing the savings in the form of cash at home and borrowing credit at higher rates from local known moneylenders. Borrowing high interest loans and no interest savings, which
involves high risk of theft or waste of savings makes a poor pattern of financial behaviour. Only by providing the financial education and improving financial literacy this phenomenon can be changed.

After facing the phenomenon of global crisis, the economies through the globe have been concerned about the disparities in financial knowledge among people. Also, efforts are being made to fill these disparities with targeted programs (OECD, 2005). Outcomes beyond what have been studied to date are likely to be of interest, including, for instance, borrowing for student loans, investment in health, reverse mortgage patterns, and when to claim Social Security benefits, decisions that all have far-reaching economic consequences. Additional work is also needed to learn more about the directions of causality between financial knowledge and economic wellbeing, though the early results offered here are promising (Lusardi & Mitchell, 2013). Financial Literacy makes an investor more empowered and leads economy towards financial inclusion, consumer protection and ultimately financial stability (Pooja, 2014). Baluja (2016) in her study on women's financial literacy suggested that the nation's overall development needs women investors as well which would result into more liquidity in the market and boosting in the scope of industry.

1.8 Research gap Identification

Most of the studies which are contributing to the evidence on measurement of financial literacy can be seen in western countries (Bernheim, 1995, 1998; Bernheim & Garrett, 2003; Lusardi, 2004; Hilgert, Hogarth & Beverly, 2003; Agnew & Szykman, 2005; Lusardi & Mitchell, 2007; Atkinson, McKay, Kempson & Collard, 2006; OECD, 2005; Van Rooij, Antonides & de Groot, 2008; Mandell, 2008; Jappelli, 2010; Almenberg & Save-Soderbergh, 2011; Rooij, Lusardi & Alessie, 2011; Luksander et al., 2014; Michaud, Lusardi & Mitchell, 2015). These are centric to the measurement of financial literacy of students or young adults only and very few tried to develop a model in their study (Potrich, Viera & Silva, 2016).

While, amongst Indian studies, few empirical evidences (Shetty & Thomas, ND; Bhushan, 2014; Agarwala et al., 2013; Gupta & Kaur, 2014; Sekar & Gauri, 2015; Agarwalla et al., 2012) tried to measure financial literacy for specific
sections, like, student, female, entrepreneur etc., while some studies (Gupta & Negi, 2014; Bhushan & Medury, 2013; Thilakam, 2012; Ravikumar, 2013) support larger sections. There is seldom any Indian study which focuses on standardisation and scale validation for financial literacy.

1.9 Summary of the Chapter

The theoretical and conceptual framework of Financial Literacy has been thoroughly discussed in this chapter. Therefore this chapter has been divided into three parts. The first part of discussion clearly highlights the conceptual framework of Financial Literacy and conceptual development of the terminology over the past decades. The second part deals with a comprehensive literature review along with the classification and comparison of the available literature into Eastern Literature and Western Literature. The review of literature and the genesis shows that the concept originated in Western countries first and very soon it spread all over the major economies and simultaneously became the one of the hottest topic of the world. The concept was focussed by the economists, socialists, academicians and policy making bodies all over the world and lots of research work have been taken up since. It has been realised that level of financial literacy must be high among the individuals of an economy for the proper functioning and success of financial market in that economy. The empirical and conceptual researches conducted in this field have been arranged in yearly ascending order.