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Rural Transformation through Financial Literacy: A Study of Aligarh District

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1. INTRODUCTION

Access to finance, especially by the rural households and vulnerable groups is a pre-requisite for employment, economic growth, poverty reduction, social cohesion, and financial wellbeing. Further, access to finance will empower the vulnerable groups by giving them an opportunity to have a bank account, to save and invest, to ensure their homes or to partake in credit, thereby facilitating them to break the vicious circle of poverty. A well developed financial system of a country brings the poor people into the mainstream of the economy and allows them to contribute more actively to their personal economic development. But certain groups in the society suffer financially as well as social exclusion which often causes poverty.

Financial system in India becomes increasingly sophisticated especially after digitalization of financial products and services, and to be able to make efficient and informed judgments aimed to promote wellbeing. The market participants need to be able to understand correctly financial and digital updates provided by financial institutions. Therefore the concept of digital and financial literacy became more important nowadays and considered as the base and primary step for inclusion in the financial system. Digital financial literacy is having the knowledge, acquired skills and developing necessary habits to effectively use digital devices to for financial transactions (OECD-INFE, 2011). It is the ability to learn, monitor and effectively use financial resources to improve the well-being and economic security of an individual. It provides information regarding digital and financial products and services, based on that an individual can select the right product which suits his/her needs. It plays a vital role in financial inclusion, inclusive growth and sustainable prosperity. It ensures that digital financial services are to be reached to weaker sections or unreached especially in rural area. It will help the people to be informed and confident in their financial decisions process regarding the savings and wise application of that savings. Hence, it has become an increasingly important requirement for functioning in modern society and to transform rural India.

In an article on financial inclusion published in Economic Times (2015) by Rajat Gandhi rightly pointed out that, "No matter how many banks you open and how many boots you have on the ground, if a person does not know about the financial options that are open to him, policies, schemes and financial instruments will mean little. It is important for a person to firstly know what to look for and only then think of the benefits that he can obtain from it". Financial education is aimed to provide people with such knowledge which could help them to maintain household budgets, choose among various savings plans, control their debts, as well as be prepared for making investment decisions. In spite of demonetization and global revolution in mobile communication along with the rapid advancement of the digital financial system, it is unable to include the poor households financially especially from the rural area.

Digital technologies are increasingly integrated in the economy and are making a significant impact in the financial industry by introducing new products and services. These significant changes strengthen digital financial literacy has become an important component of the global policy-making agenda that adapt rapidly to this changing environment. Due to the importance of digital and financial literacy RBI, Central Government and various authorities are undertaking many projects and programmes to make the people financially literate and access to finances helps the poors to lift themselves out of poverty. Even then many of the individuals are unfamiliar with even the most basic economic concepts needed to make sensible saving and investment decisions. This has serious implications for saving, retirement planning and other financial decisions.

2. REVIEW OF LITERATURE

There are number of studies conducted on financial literacy of various countries and groups by Organisation for Economic Co-operation and Development (OECD), International Network on Financial Education (INFE) and Annamaria Lusardi (2008, 2009a, 2009b, 2010, 2011, 2013, 2014). Annamaria Lusardi & Olivia S. Mitchell (2011) highlights the importance of financial literacy in an increasingly risky and globalized marketplace in which people must be able to make well-informed financial decisions. Atkinson and Messy (2012) defined financial literacy is a combination of awareness, knowledge, skill, attitude and behavior necessary to make sound financial decisions and ultimately achieve financial wellbeing.

Ghaffar & Sharif (2016) examined the level of financial literacy in Pakistan. The study revealed that the persons, who have more financial knowledge, usually save money. It was found in the study that middle-aged and older people were careful in spending their money and male respondents usually have better saving habits. Further it was also found that respondents earning high salaries agree that financial literacy do help in leading a financially secure life.

Studies on financial literacy among households in India's context are scanty. A vast literatures concerning the financial literacy of various groups like women (Arora. A, 2016), teachers (Martin et. Al, 2010), Illiterate (Devaraju B.H et al. (2011), urban (Agarwala, S.K et.al, 2013) were found. The Financial Literacy & Inclusion Survey was also conducted by National Institute of Securities Market (NISM, 2014) to carry out for assessing the state of financial inclusion and financial literacy.

In the research study by Abdul and Sunitha (2016) measures the level of financial literacy and evaluates the impact of demographic and socio-economic attributes on financial literacy among the educated young adults in Kerala and majority of the respondents in the study conveyed the need for financial education.

Finau et.al (2016) examined rural dwellers' perceptions of digital financial services (DFS) to identify which factors may enhance or impede their adoption. DFS are provided by mobile network operators, either individually or in collaboration with commercial banks. The study found that DFS uptake is hindered by agents' lack of liquidity and the implicit costs that agents impose on consumers. In addition, consumers tend to fully spend the funds received through mobile money, but fail to use their mobile phones for saving purposes.

Agarwalla Sobhesh et.al (2012) conducted a study among 3000 individuals, and found that "Financial knowledge among Indians is very low than the International standards. But the financial behavior and attitude of the employees and retired seems to be positive. The financial knowledge among the women are marginally high than the men. Greater access to consumption credits has influenced the financial behavior of young employees".

3. RESEARCH FRAMEWORK

Although research in the financial literacy field has increased over the years, there is little consistency in the way how it is defined, as several authors address the topic differently, assigning different connotations to it (Hung, Parker, & Yoong, 2009). Also, studies have highlighted the ambiguous use of financial literacy, especially in grasping the differences between these constructs, i.e. financial knowledge or financial education. In this way, Robb, Babiarz and Woodyard (2012) make a distinction between the terms, claiming that financial literacy involves the ability to understand financial information and make effective decisions by using such information, while financial education means simply recalling a set of facts, i.e. financial knowledge. In short, the main focus of financial education is knowledge, while financial literacy involves, in addition to knowledge, the individuals' behavior and financial attitude. Thus, as stated by Mccormeck (2009) and Huston (2010), financial literacy goes beyond the primary idea of financial education.

A definition that properly covers this idea is proposed by the OECD, where financial literacy is regarded as a combination of awareness, knowledge, skill, attitude, and behavior needed to make sound financial decisions and ultimately achieve individual financial well-being (OECD, 2013). Thus, the OECD addresses financial literacy in three dimensions: financial knowledge, financial behavior, and financial attitude. This paper adopts such a definition, where financial literacy is defined as a combination of financial behavior, financial knowledge, and financial attitude.

The authers like Chen and Volpe (1998); Agarwal et al. (2009); Lusardi and Mitchell (2011); Atkinson and Messy (2012); OECD (2013); Scheresberg (2013); Dew (2008); Calamato (2010); Brown and Graf (2013); Servon and Kaestner (2008); Mottola (2013); Kim and Garman (2004); Calamato (2010) Monticone (2010); were identified relationships between financial behavior, financial knowledge and financial attitude and socioeconomic and demographic variables which in turn affect financial literacy. The socio-economic and demographic variables are age, religion, caste, gender, education, marital status, APL/BPL, occupation, family size, landholding, income.

4. OBJECTIVES OF THE STUDY

a) To determine the level of financial literacy among rural households in Aligarh;

b) To examine the association between financial knowledge, financial behavior and financial attitudes of respondent.

c) To find the relationship between demographic factors and financial literacy of the households.

d) To find out the factors influencing the financial literacy among rural households in Aligarh.

5. METHODOLOGY OF THE STUDY

There are several approaches were used to look at the association between socio demographic factors and the financial literacy of respondents. Firstly, we have created cross tables that show the number of people within a particular demographic who fall into low, moderate and high financial literacy. We have also looked at the average overall financial literacy score for each demographic; and finally we have used correlation analysis to measure the relationship between three components of financial literacy namely financial knowledge, behavior and attitudes and multivariate linear regression analysis to explore the associations across several demographic categories simultaneously. For this analysis, we have focused on key socio-demographic information: gender, age, education level, caste, religion, marital status, size family, size of land holding, type of ration card and income.

It is likely that the different dimensions of the financial literacy could be related to each other. For instance, high financial knowledge could influence both the financial behavior and attitude. Alternatively, poor financial attitude could lead to less desirable behaviour. These relationships need to be examined to gain insights into how the different dimensions of financial literacy influence each other. The literature available has consistently examined such relationships between the three dimensions through the intermediate variables such as income and education. In addition, financial knowledge by most researchers on the issue has been measured by financial information rather than understanding of concepts in finance.

The study uses an entirely new approach for exploring the linkages between the three dimensions of financial literacy. The methodology proposed assesses the inter-linkages after removing the possible influence of respondent specific values of socio-demographic variables. The participants were ranked separately according to their scores on Financial Knowledge, Financial Behavior and Financial Attitude. The Spearman's Rank Correlation Coefficient was then computed for the three distinct pairs of dimensions to explore the nature of relationship between the three dimensions.

Financial literacy is a combination of awareness, knowledge, skill, attitude and behavior necessary to make sound financial decisions and ultimately achieve financial wellbeing. A comprehensive approach of measuring financial literacy will be employed by comprising three independent dimensions representing three different aspects of financial literacy namely financial knowledge, behavior and attitude for this study as proposed by Organization for Economic co-operation and Development (OECD). The overall financial literacy score is measured through a sum of the three components of financial literacy.

$$\textbf{Financial Literacy} = \textbf{Financial Knowledge} + \textbf{Financial Behavior} + \textbf{Financial Attitudes}$$

In order to identify factors determining financial literacy of rural households, multiple regression analysis adopted for the three response variables namely, financial knowledge, financial behaviour and financial attitude was separately and financial literacy in overall. The model specification is specified as follows;

$$\boldsymbol{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \cdots\cdots\cdots + \beta_n X_n + ui}$$

6. SAMPLING TECHNIQUE AND SAMPLE SIZE

The target population in this research covered the district of Aligarh. A survey method was used to collect data using a questionnaire schedule. Due to time constraints, the sample size for this survey was set at 400 respondents. Non-probability convenience sampling was used and this involves selecting random sampling units that are the easiest and fastest to obtain for the research sample.

7. RELIABILITY AND VALIDITY

Reliability is the extent to which a variable is consistent in what it is intended to measure. Validity addresses whether the research measures what is said would be measured. The Cronbach`s alpha coefficient of the 25 items of financial literacy was 0.711 and the result of Cronbach`s alpha for three independent variable was 0.755. The Cronbach`s alpha value was above 0.6 and this is considered acceptable. Pilot testing of the questionnaire was done and this provided with some idea of the questionnaire's face and content validity. Experts were also asked to comment on the representativeness and suitability of the questions.

8. SOCIO-ECONOMIC DEMOGRAPHIC FACTORS AND FINANCIAL LITERACY

The socio-economic and demographic variables like age, religion, caste, gender, education, marital status, APL/BPL, occupation, family size, landholding, income are affect financial literacy. As far as gender is concerned, the larger proportion of male respondents than female respondents gained high scores in financial literacy. The average financial literacy score of male is highest having 26.53 as against female 24.27 as shown in Table 1.

Table 1: *Gender-wise Financial Literacy*

Gender	Low Financial Literacy	Moderate Financial Literacy	High Financial Literacy	Total Respondent	Average Financial Literacy Score
Female	18	114	4	136	24.27
Male	12	182	70	264	26.53
Total	30	296	74	400	

The core questionnaire captures detailed information about each respondent's highest level of education. There is a relationship between increased levels of education and high financial literacy scores. Greater financial literacy levels are found in individuals with higher education levels and greater access to financial information. However, it should also be noted that some people have achieved high scores despite low levels of education, indicating that high levels of financial literacy levels are possible even amongst those who have not completed formal education. The overall average financial literacy score of illiterate is 18.7, followed by lower primary 24.3, upper primary is 25.1, higher seconfary school is 29.1 and graduates having highest financial literacy score of 32.9. It shows that with increasing the level of education of households the financial literacy is also expected to rise.

Table 2: *Education-wise Financial Literacy*

Level of Education	Low Financial Literacy	Moderate Financial Literacy	High Financial Literacy	Total Respondent	Average Financial Literacy Score
Illiterate	24	91	1	116	18.7
LP	5	24	2	31	24.3
UP	1	53	1	55	25.1
HSS	0	127	17	144	29.1
Graduates	0	1	53	54	32.9
Total	30	296	74	400	

The religion wise financial literacy shows those Hindu respondents are more financially literate followed by Christian and Muslim (Table. 3). But there is no significant difference among the religion is not found indicating that religion do not play any significant role in determining the financial literacy.

Table 3: *Religion-wise Financial Literacy*

Religion	Low Financial Literacy	Moderate Financial Literacy	High Financial Literacy	Total Respondent	Average Financial Literacy Score
Muslim	24	133	32	189	25.29
Hindu	6	101	37	144	26.50
Christian	0	62	5	67	25.52
Total	30	296	74	400	

The marital status is also correlated with the financial literacy level of households. According to Research (2003) and Brown and Graf (2013), singles have a significant propensity to lower financial literacy levels, when compared to married individuals. In general, when people have a low financial literacy level, they run the risk of making bad financial decisions that, in the long term, may result in debts and the latter endanger the well-being of their relationships (Calamato, 2010). Ratifying such evidence, Dew (2008) found that consumer debt is a major threat to marital satisfaction and, therefore, married individuals have higher financial literacy levels. This study also found the same result as expected that married respondent have high financial literacy than others as their responsibility regarding financial matters will increase when they become married.

Table 4: *Marital Status and Financial Literacy*

Marital Status	Low Financial Literacy	Moderate Financial Literacy	High Financial Literacy	Total Respondent	Average Financial Literacy Score
Married	19	191	53	263	27.31
Unmarried	8	83	21	112	25.95
Widow	3	22	0	25	24.10
Total	30	296	74	400	

The average financial literacy score among the social groups shows that general groups have highest financial literacy (29.66) followed by Scheduled caste (26.76), other backward classes (25.72) and lowest Scheduled Tribe having 25.43.

Table 5: *Social group-wise Financial Literacy*

Social Groups	Low Financial Literacy	Moderate Financial Literacy	High Financial Literacy	Total Respondent	Average Financial Literacy Score
SC	9	70	40	119	26.76
ST	4	19	2	25	25.43
OBC	13	136	1	150	25.72
General	4	71	31	106	29.66
Total	30	296	74	400	

The card wise information shows that those are below the poverty line is expected to have low income people and expected that low financial literacy and APL cardholders are high income group likely that high financial literacy. As expectation this study also shows above poverty line card holders are highest average financial literacy score than others. But majority of respondents from both groups are lies on moderately financial literate group.

Table 6: *Card-wise Financial Literacy*

Type of Card	Low Financial Literacy	Moderate Financial Literacy	High Financial Literacy	Total Respondent	Average Financial Literacy Score
APL	18	132	58	209	26.33
BPL	12	164	16	192	25.04
Total	30	296	74	400	

Regarding income, Atkinson and Messy (2012) found that low income levels are associated with lower financial literacy levels. In a study on financial literacy, students from high-income families had significantly higher knowledge levels than students from low-income families (Johnson & Sherraden, 2007). In addition, low-income individuals are more likely to drop out of school, something that, in the long run, contributes to their financial illiteracy (Calamato, 2010). There is also in this case the possibility of reverse causation: individuals with high financial literacy levels, when making better financial decisions, achieve higher income level than individuals with low financial literacy levels. The table 7 also shows the results as expected that increasing level of income led to increasing financial literacy. The respondents with higher income have higher financial literacy and vice versa. Thus, overall the pattern indicates that respondents from the higher level of income were more likely to be in the highest scoring of financial literacy. Further analysis by income confirms that in general higher income is associated with higher average scores.

Table 7: *Income-wise Financial Literacy*

Level of Income	Low Financial Literacy	Moderate Financial Literacy	High Financial Literacy	Total Respondent	Average Financial Literacy Score
Less than 5000	19	181	0	200	24.33
5000-10000	10	72	4	86	24.51
10000-20000	1	39	23	63	27.45
Above 20000	0	4	47	51	31.46
Total	30	296	74	400	

The number of dependent family members are concerned, aiming at family well-being, individuals with dependent family members might have greater concern with the budget, thus higher financial literacy level. However, do not corroborate this expectation. The study found that families with dependent individuals were more prone to show low financial literacy levels, that is those having a child are more likely to show higher financial literacy levels than those with two or three children. A potential explanation for these results lies on the reverse causality: individuals with high (low) financial literacy level are more (less) concerned about family planning.

Table 8: *Family Size and Financial Literacy*

Family Size	Low Financial Literacy	Moderate Financial Literacy	High Financial Literacy	Total Respondent	Average Financial Literacy Score
1.00	0	43	19	62	27.14
2.00	1	51	13	65	26.29
3.00	1	39	18	58	27.05
4.00	3	24	12	39	26.61
5.00	3	45	7	55	25.50
6.00	15	61	5	81	24.13
7.00	7	33	0	40	23.7

It is expected that financial literacy increase with increase in age, as people become more knowledgeable, and their attitudes and behaviours change accordingly. Surprisingly, data reveals that young respondents are highest financial literacy than middle age group and old one. Table 9 shows average financial literacy of age group 18-40 is highest having 27.70 followed by middle age group (25.30) and old people (22.00). The new generation people have highest financial literacy than old.

Table 9: *Family Size and Financial Literacy*

Age Group	Low Financial Literacy	Moderate Financial Literacy	High Financial Literacy	Total Respondent	Average Financial Literacy Score
18-40	1	87	57	145	27.70
40-60	8	181	17	206	25.30
Above 60	21	28	0	49	22.00
Total	30	296	74	400	

9. INTER-LINKAGES BETWEEN FINANCIAL KNOWLEDGE, BEHAVIOR AND ATTITUDE

The correlation analysis between financial knowledge, financial behavior and financial attitudes shows positive and highly significant. This bears out the belief that adequate financial knowledge would lead to responsible and exhibit more positive financial behaviour. Similarly, respondents with positive attitudes towards the longer term exhibit more positive behaviours. It would appear that the professed sensible financial attitude towards money and finance was accompanied with positive financial behavior on the part of respondents. This indicates the possible self financial control among respondents.

Table 9: *Correlation Coefficient*

	Financial Knowledge	Financial Behavior	Financial Attitude
Financial Knowledge	1.00	0.876**	0.651**
Financial Behavior	0.876**	1.00	0.500**
Financial Attitude	0.651**	0.500**	1.00

***. Correlation is significant at the 0.01 level (2-tailed).*

10. DETERMINANTS OF FINANCIAL LITERACY

The table shows that the coefficient determination of R-Square is 0.858. It indicates that income, caste, occupation, religion, age, family size, landholding, gender, marital status, card, education have contributed up to 85.8 % towards financial literacy.

Table 10: *Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.926[a]	.858	.854	1.39686
a. Predictors: (Constant), Income, Caste, Occupation, Religion, Age, Family size, landholding, Gender, Marital Status, Card, Education				

Table 11: *ANOVA[a]*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4589.421	11	417.220	213.824	.000[b]
	Residual	757.077	388	1.951		
	Total	5346.497	399			
a. Dependent Variable: Financial Literacy Score						
b. Predictors: (Constant), Income, Caste, Occupation, Religion, Age, Family size, landholding, Gender, Marital Status, Card, Education						

Based on the table above, the F value is 213.824 is significant at the level of 0.000 ($p <0.05$). Hence, the overall regression model for Income, Caste, Occupation, Religion, Age, Family size, landholding, Gender, Marital Status, Card, education level is working properly in explaining the difference in financial literacy.

It is expected that financial literacy increase with increase in age, as people become more knowledgeable, and their attitudes and behaviours change accordingly. Surprisingly, the variable age has a negative coefficient (-.141) and found statistically significant that young respondents are highest financial literacy than older. As the age of respondent increases then there is less likelihood that becoming more financially literate.

The variable gender has a positive coefficient (0.298), which is statistically significant at 1% on the estimated model, pointing out that men have higher propensity to join the group with higher levels of financial literacy. The women usually have lower financial literacy levels than men and it is consistent with the hypothesis. In addition, women are pointed out as having greater difficulty than men in performing financial calculations, and they also do not master the primary financial concepts and have lower knowledge level, something which hinders making responsible financial decisions.

Table 12: *Regression analysis*

Coefficients[a]	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	33.242	1.610		20.649	.000
Age	-.114	.013	-.462	-8.970	.000
Religion	-2.226	.147	-.465	-15.115	.510
Caste	1.070	.127	.332	8.408	.000
Gender	.298	.291	.038	1.025	.006
Education	.564	.163	.226	3.454	.001
Marital Status	1.655	.143	.350	11.579	.000
Card	-1.057	.488	-.138	-2.165	.031
Occupation	-.127	.143	-.017	-.890	.374
Family size	-.253	.058	-.108	-4.325	.000
landholding	-.577	.199	-.082	-2.903	.004
Income	.882	.152	.278	5.823	.000

a. Dependent Variable: Financial Literacy Score

As expected and corroborating the results of number of previous studies, the variable education had a positive coefficient (0.564) and statistically significant. It is identified positive and low coefficients for lower educational levels and positive and high coefficients for higher educational level, suggesting that financial literacy rises sharply along with the educational level.

The variables occupation and religion showed no statistically significant coefficients, indicating that they do not play a significant role in the financial literacy.

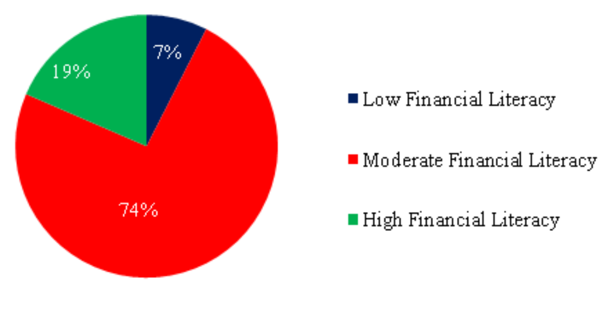
As against expectation surprisingly it is found that there is negative relation between land holding and financial literacy which is highly significant. The result shows that higher possession of land will have less chance to have financially literate.

In short, the socioeconomic and demographic variables with greater impact on the individuals financial literacy, respectively, gender, having dependent family members, individual income, family income, and education.

11. OVERALL FINANCIAL LITERACY

The overall financial literacy score is measured through a sum of the three components of financial literacy namely financial knowledge, attitudes and behaviors of rural households. This study found that 7.5 percent respondents are financially low literate and highest proportion having 74 percent are moderately literate and only 18.5 percent respondents are highest financially literacy.

Figure:1
Overall Financial Literacy



12. CONCLUSION

Thus, this study aiming to analyze the influence of socioeconomic and demographic variables on the individuals' financial literacy level, which innovates by estimating a model that seeks to explain financial literacy level from the these variables. Through bivariate association measures, it becomes possible to see there is a dependency relationship between financial literacy and the variables gender, having dependent family members, educational level, marital status, individual income, social groups, religion and family income. In this analysis, the most respondents were classified as having moderate financial literacy level was highlighted.

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