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Vibhuti Shivam Dube, Pradeep Kumar Asthana

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Financial knowledge, attitude and behaviour components of financial literacy: a study of Indian higher education students

Vibhuti Shivam Dube*

School of Management,
Babu Banarasi Das University,
Lucknow Uttar Pradesh, India
Email: dr.vibhutishivam@gmail.com

*Corresponding author

Pradeep Kumar Asthana

Amity Business School,
Amity University,
Raipur-Baloda Bazar Road, Raipur,
Chhattisgarh – 493225, India
Email: pradeep83.sthn@gmail.com

Abstract: The present study seeks to determine the financial literacy level of Indian higher education students on the components of financial knowledge, attitude and behaviour. The paper also makes an attempt to study the interdependencies in financial literacy component: financial knowledge, attitude and behaviour and to assess the impact of financial awareness on financial literacy. This study considers primary source of data. A total sample of 600 Indian higher education students from different governmental and private institutions of Kanpur, Prayagraj and Aligarh was chosen to determine the financial literacy level. The findings of the study showed that more than half of the students were found to be low financial literate. There is a strong interrelationship found between the financial literacy components: financial knowledge, attitude and behaviour. In the linear regression analysis significant relationship found between the independent variable financial awareness and dependent variable financial literacy. The empirical findings of the study helps to explain how the financial literacy components: financial knowledge, attitude and behaviour influence the financial literacy level among the Indian higher education students. The result clearly showed that there is a need of serious policy measures to be taken in the field of financial literacy/education.

Keywords: financial literacy; financial knowledge; attitude; behaviour; financial awareness; Indian higher education students.

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Biographical notes: Vibhuti Shivam Dube is an Assistant Professor in the School of Management at the Babu Banarasi Das University, Lucknow, Uttar Pradesh, India. His areas of interest include behaviour finance. He received his Doctoral in the area of Financial Literacy from the SRMU, Uttar Pradesh, India

and Masters of Commerce (Pure) from the University of Lucknow, Uttar Pradesh, India. He possesses seven years of teaching experience. He participates regularly in several national and international conferences and seminars, and contributes research articles and papers to journals of repute. Besides being an ardent reader, he is also an active life member of Indian Commerce Association, Indian Accounting Association, Uttar Pradesh Uttarakhand Economic Association and Indian Social Science Academy.

Pradeep Kumar Asthana is an Assistant Professor at the Amity Business School, Amity University, Raipur, CG, India. His areas of interest include behaviour finance, financial derivatives and corporate finance. He received his Doctoral in the area of Finance from the Banaras Hindu University, Varanasi, Uttar Pradesh, India. He has also served as an Assistant Professor in the Institute of Management, Commerce and Economics at the SRMU, Uttar Pradesh, India and possesses more than nine years of research and teaching experience. He participates regularly in several national and international conferences and seminars, and has published a number of research articles and papers in journals of repute.

1 Introduction

The financial well-being and prosperity of a nation can be determined by measuring the level of financial literacy of its population which is a major component to estimate the affluence of nation. Both developed and developing countries are struggling with problem of financial literacy. Financial literacy can serve as a parameter, but in the present scenario, financial literacy has much more significance in comparison with literacy's "academic point of view which focuses upon recognising its effect on other's behaviour" (Potrich and Vieira, 2018). In the unprecedented modern era literacy financial will gain more significance and apprehension and to know what the main source of financial literacy among youth is a vital step towards enhancing literacy and well-being (Hanson and Olson, 2018). In Indian context, the education is still a matter of concern as literacy rates are not very high. So, making it a financially literate country is a far-fetched dream. India needs serious initiatives and has to travel a long journey to enhance financial literacy among its citizens (Jayaraman and Jambunathan, 2018). The Organization for Economic Co-operation and Development (OECD) has defined financial literacy as "a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual well being." In India, a large section of the population is excluded from the financial setup due to lack of education and awareness about the financial sector which directly stems from lack of financial literacy. According to Bapat (2020) it is the responsibility of the stakeholders to enhance the financial literacy as it bears direct relationship with the financial services. The better the financial knowledge more positive the financial attitude and resultant transformed financial management behaviour. Rising number of financially literate people will be helpful in improving the efficiency of the sector and will lead to better risk management; risk pooling and increasing financial stability of the economy (Wahyono and Hutaheyhan, 2020) and also suggested that financial literacy plays a transformational role in enhancing the innovation and knowledge ability. As the literacy rates in the country are quite low thus financial literacy rates are even more disappointing

especially in the rural areas. In the present crisis situation of COVID-19, the role of financial literacy has increased manifold. One of the ways to combat this situation, can be through financial inclusion especially for the rural and poor people, inculcating the habit of savings and thrift in people, protecting rural population from exploitation at the hands of moneylenders, broadening the resource base and increasing the accountability of the government. Financial literacy acts as demand side making people aware of when, how and where to invest their money. Furthermore, financial literacy and education are also the most important constituents which play a vital role in lessening the gender gap to invest in risky assets (Cupák, 2020). Thus, the potential of the enormous population of India can be harnessed to the fullest with better financial planning and through inclusive education and development programs.

2 Literature review

Various researches suggest that financial literacy has become increasingly important for the sustenance of individuals' in the unpredicted present day situations as well as to lower the cost of debts and make much more better saving and investment decisions (Bird and Vaillancourt, 2008; Huston, 2012; Lusardi and Mitchell, 2011). Whereas the role of financial literacy become more and more important for the youth population due to changing financial landscape, life expectancy increase, reduction in prosperity, problems related with employment and to cope up with day to day financial emergent situations (Atkinson and Messy, 2012). Ergun (2018) has access the financial literacy of 400 university students among more than eight European countries and revealed that the financial literacy level relating to personal finance knowledge questions found among students was of medium level. The result from the study also revealed that the male students, the students who opted for business specialisation, higher family income students, students taken financial education course before and the students who belong to Poland among eight European countries were found knowledgeable. Chen and Volpe (1998) had done study on a sample of 924 students with the objective to assess the "financial literacy level among business major and non-business major students" and to analyse how the student knowledge impacts their views on financial issues and showed that only half of the respondents answered questions correctly. The female students with non- business major, under the age of 30 years with a very short work experience possess low knowledge. And the low finance knowledge among students restricts them in taking right financial decision. Financial knowledge is must to have a good planned future. The use of money is based on the information available and judgment (Holden et al., 2009; Gale and Levine, 2010). Understanding of the behaviour of money management is of utmost importance for offering more personalised advices to investors and building trust (Dutta and Sahi, 2013). The result from the study conducted by Saurabh and Nandan (2019) revealed that higher level of financial knowledge leads towards higher financial satisfaction and socialisation among individuals as well as helps to build a risk tolerant behaviour and also suggested that both financial knowledge and attitude determines satisfaction financial among individuals. Finance related education leads the nation towards the path of greater growth and development in economic perspective and resultantly offers enhanced financial confidence, better financial planning, strengthened consumer protection drive and proper implementation of financial inclusion schemes (Sahi, 2009). Financial literacy plays a very important role to enhance the individuals'

financial well being. The result from the study also revealed that the financial literacy increases not only by imparting education but providing quality finance related education (Karakurum-Ozdemir et al., 2019).

Bhushan and Medury (2013) had done study to “assess the financial literacy level among the salaried class respondents in Himachal Pradesh” and to determine the relationship between the financial literacy and their demographic factors. The result of the study showed that the “salaried class respondents in Himachal Pradesh possess low level of financial literacy.” The financial literacy differs significantly by demographic factors gender, education, income, employment and work place whereas it does not differs by age and area. Kaur et al. (2015) examined the financial literacy level among university students in Amritsar, Punjab and the effect of demographic factors on financial literacy level on a sample of 108 students. ‘t’ test and Analysis of Variance statistical tool were used for data analysis. The findings of the study revealed that students from “commerce and management discipline possess fair amount of literacy level whereas the non-commerce and management background lacks in financial literacy.” The study recommended regarding introduction of financial and economic concept courses in non-commerce and management discipline so that students from these streams also become aware of financial services and products available in the market. Kiliyanni and Sivaraman (2016) had done study on a sample of 736 respondents in the age group of 18–34 years in Kerala with the objective to assess the financial literacy level and to analyse the impact of demographic factors on financial literacy and their inclination towards financial education. Analysis of variance and chi-square statistical tool were used for data analysis. The findings revealed that there is low financial literacy level in Kerala. The financial literacy is affected by demographic factors gender, age, marital status, religion, study discipline, experience, family income, parents’ education level and occupation. Majority of respondents more than 85% showed inclination towards financial education. Jayaraman and Jambunathan (2018) examined literacy financial on 608 ‘high school students’ on the dimension of basic and advance level. The result from the study revealed that more than half of the students possessed low level of literacy both on basic and advance level. The literacy financial level was found low in comparison with developed countries of the world. The findings from the study suggested for greater involvement of parents in enhancing literacy financial of students as the parents guidance and role was found effective in strengthening the literacy financial among students.

Kuntze et al. (2019) had revealed that the ‘online video teaching experiment’ was found successful in enhancing the financial literacy. The students from non-quantitative business specialisation were found at par financial literate with the quantitative business specialisation students. In a similar kind of study conducted by Douissa (2019) on 2,500 students in University of Sharjah, UAE assessed financial literacy on the dimensions of knowledge, attitude and behaviour. The result from the study revealed the undergraduates, female students, non-business specialisation, low family income, students not opting ‘personal finance course’ were found low financially literate. Asli and Elif (2019) had conducted a study in 14 university campuses in Turkey taking more than 1,400 students as sample. The study examined the relationship between financial knowledge, attitude and behaviour, time preference and money ethics. The results showed that the students who possessed high financial knowledge showed positive attitude and desired behaviour. The result also suggested that positive attitude leads to desired behaviour financially among students. Bhatia et al. (2021) conducted study to

ascertain the level of literacy financial and influence of parents among young adult population in India opting management courses. The result from the study revealed that young adult possessed low level of financial literacy which restricts them in taking right financial decisions. The result from the study also revealed that parents’ influence play a vital role in determining financial literacy.

Singla and Mallik (2021) had examined general, specific and overall financial literacy of 309 micro and small enterprises entrepreneurs from three districts of Punjab State in India. The results revealed that the entrepreneurs from MSEs possess higher level of financial literacy in comparison with other manufacturing concerns. The findings also revealed that financial literacy among entrepreneurs showed direct relationship with the level of education they possessed. The result showed higher the level of education, higher the financial literacy among the entrepreneurs.

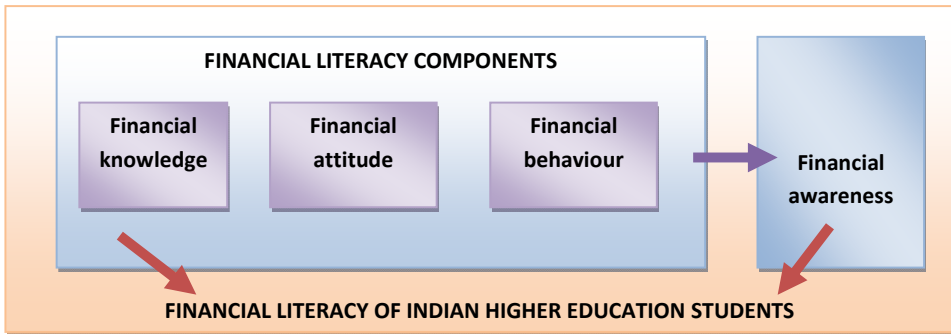
Hence, the present research study highlights the financial literacy level of Indian higher education students of three selected cities on the parameters of financial knowledge, attitude and behaviour.

3 Conceptual framework and objectives

3.1 Conceptual framework and research objectives

The conceptual framework for the present study gains its originality from the framework given by OECD (2013), Atkinson and Messy (2012) and Caroline and Potrich (2016) to study financial literacy by dividing it into three components, viz., financial knowledge, attitude and behaviour. A similar approach was taken in Indian context by ‘NCFE (2014) and Reserve Bank of India’ from time to time to study the Pan India Financial Literacy. This model is also used by other scholars to study financial literacy as Agarwalla et al. (2013) and Rai et al. (2019). The conceptual framework is shown in the given Figure 1.

Figure 1 Conceptual framework of the study (see online version for colours)



The main objective in this present study is to ascertain the financial literacy level of Indian higher education students on the components of financial knowledge, attitude and behaviour. It also emphasises on the study of the interdependencies in financial literacy components: knowledge, attitude and behaviour. At last an effort has also been made to assess the impact of financial awareness on financial literacy.

3.2 *Hypothesis*

- HO₁ Financial knowledge competence does not positively influence financial attitude of Indian higher education students.
- HO₂ Financial knowledge competence does not affect financial behaviour of Indian higher education students.
- HO₃ Financial attitude does not positively affect financial behaviour of Indian higher education students.
- HO₄ Financial awareness does not positively affect financial literacy of Indian higher education students.

4 **Research methodology**

4.1 *Research design and the sample*

A descriptive research design has been used for the present study. For the present study, purposive sampling method has been used. The present study considers primary source of data. As per, 'Uttar Pradesh District Statistics Report 2019, Directorate of Economics and Statistics, Government of Uttar Pradesh, India (2019) the enrolment in higher education' in Kanpur for the academic year 2019 was 122,445, in Prayagraj 231,471 and in Aligarh 43,292 which in total comprised of 397,208 students from undergraduate and post graduate programs. A total sample of 600 Indian higher education students aged 18–25 years from different governmental and private higher education institutions of Kanpur, Prayagraj and Aligarh were chosen to determine the financial literacy level. A structured online questionnaire was used for data collection purpose. As the response rates in online surveys are usually found low in comparison with traditional survey methods such as mall-intercept surveys (Ilieva et al., 2002) and in an online survey, the researcher cannot monitor whether the respondents have answered all the questions (Khare and Sarkar, 2020). So, more than 1,150 questionnaires were sent to respondents and only 600 questionnaires were found useful for this study. The data for the present study was collected from November 2020 to January 2021. The financial literacy components were measured on a five-point Likert scale ranging from 'strongly disagree' (= 1) to 'strongly agree' (= 5) to assess the literacy level among the students. Mean, median, percentage, weighted average, Pearson correlation, linear regression analysis were applied to deduce a meaningful and logical explanation.

4.2 *Reliability of data*

In Table 1, the consistency of scale has been assessed through Cronbach's alpha. According to Hair et al. (2009) the generally accepted value for Cronbach's alpha is 0.70. Here, as in all the components Cronbach's alpha is more than 0.70 which shows internal consistency of the questionnaire.

Table 1 Data reliability

<i>Component</i>	<i>Cronbach's alpha</i>	<i>Mean</i>	<i>Std. deviation</i>	<i>Number of questions</i>	<i>Source</i>
Financial knowledge	0.857	4.070	0.704	8	Khan (2016) researchers own compilation
Financial attitude	0.806	4.078	0.675	7	Khan (2016) (modified), NCFE (2014) (modified), Potrich et al. (2015) and OECD (2011) researchers own compilation
Financial behaviour	0.834	3.940	0.722	8	Potrich et al. (2015) and Khan (2016)
<i>Financial literacy</i>	<i>0.832</i>	<i>4.03</i>	<i>0.645</i>	<i>23</i>	
Financial awareness	0.880	4.020	0.695	10	Researchers own compilation

5 Data analysis and findings

The data analysis and interpretation has mainly been divided into four major parts. In the first part, demographic profile of Indian higher education students has been shown. In the second part, the overall financial literacy and financial literacy level on the basis of demographic profile of the students has been discussed. In the third part, financial literacy level on the basis of demographic profile of the students has been discussed. In the third part, the interdependencies between the financial knowledge, attitude and behaviour has been discussed and in the fourth part, the Indian higher education students personal finance awareness mean score and impact of financial awareness on financial literacy has been discussed.

5.1 *Demographic profile of Indian higher education students*

From Table 2, it can be inferred that 89.83% of students were in the age group of 18–21 years and 10.17% of the students were in the age group of 22–25 years. In the gender wise classification, 38.34% students were male and 61.66% of students were female. In the city wise classification, 33.33% of students are equally distributed in Kanpur, Prayagraj, Aligarh districts. In field of study wise classification, 25% students are from commerce and management background and 75% students belongs to non-commerce stream. In the academic standing wise classification, 52.67% students are from graduation first year, 27% from graduation second year, 11.16% from graduation third year, 06.83% students are from masters first year and 02.34% of the respondents are from masters second year.

Table 2 Demographic profile

<i>Demographic profile</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Age</i>		
18–21	539	89.83%
22–25	61	10.17%
<i>Total</i>	<i>600</i>	<i>100.00%</i>
<i>Gender</i>		
Male	230	38.34%
Female	370	61.66%
<i>Total</i>	<i>600</i>	<i>100.00%</i>
<i>City</i>		
Kanpur	200	33.33%
Prayagraj	200	33.33%
Aligarh	200	33.34%
<i>Total</i>	<i>600</i>	<i>100.00%</i>
<i>Field of study</i>		
Commerce/management	150	25.00%
Science	150	25.00%
Social sciences	150	25.00%
Technical courses	150	25.00%
<i>Total</i>	<i>600</i>	<i>100.00%</i>
<i>Academic standing</i>		
Graduation first year	316	52.67%
Graduation second year	162	27.00%
Graduation third year	67	11.16%
Masters first year	41	06.83%
Masters second year	14	02.34%
<i>Total</i>	<i>600</i>	<i>100.00%</i>
<i>Family annual income</i>		
Below INR199,999 (below \$2,688.92)	286	47.67%
INR200,000–399,999 (\$2,688.93–\$5,377.85)	169	28.16%
INR400,000–599,999 (\$5,377.86–\$8,066.78)	82	13.67%
Above INR600,000 (above \$8,066.80)	63	10.50%
<i>Total</i>	<i>600</i>	<i>100.00%</i>

Note: \$1 = INR74.39.

Source: Primary data

5.2 Overall financial literacy level

Financial literacy level was ascertained by using the criteria proposed by Lyons et al. (2007). To determine the financial literacy level of the Indian higher education students a

total of 23 questions on five-point likert scale were asked from the 600 Indian higher education students in Kanpur, Prayagraj, Aligarh districts of Uttar Pradesh. The questions asked on financial literacy were divided into the three components: eight questions on financial knowledge, seven questions on attitude and eight questions on behaviour. At an average each student has answered 75.06% questions correctly. And on the basis of which financial literacy level was determined “the median percentage value has been taken which means those students who have answered above or equal to the median value are considered high financial literate and those below the median are considered low financial literate” (Jariwala and Kumar, 2013). Here, the median value comes to 74.67% which means those students answered above or equal to 74.67% are considered high financial literate and which answered below will be considered low financially literate.

5.2.1 Financial literacy component: financial knowledge

Financial knowledge has been defined as the combination of money management and banking, financial concept and numeracy knowledge (Lusardi and Mitchell, 2008; D’Silva et al., 2012; Hasler and Lusardi, 2017; Rai et al., 2019). Table 3 shows that the knowledge regarding investment schemes and saving schemes ranked above the median value whereas in the questions asked on risk return trade off, inflation, inheritance, compound interest calculation, time value of money and risk diversification were ranked below the median value.

Table 3 Financial knowledge questions summary

<i>Financial knowledge questions</i>	<i>Correct ans. freq.</i>	<i>% of correct answer</i>	<i>Do not know freq.</i>	<i>% do not know answer</i>	<i>Wrong answer freq.</i>	<i>% of wrong answer</i>
Investment schemes	512	85.34	42	07.00	46	07.66
Saving schemes	509	84.84	42	07.00	49	08.16
Risk return trade off	434	72.34	106	17.66	60	10.00
Inflation	427	71.17	118	19.67	55	09.16
Inheritance	419	69.84	125	20.83	56	09.33
Risk diversification	365	60.84	103	17.17	132	22.00
Compound interest calculation	359	59.84	98	16.33	143	23.83
Time value of money	352	58.67	128	21.33	120	20.00

Source: Primary data

5.2.2 Financial literacy component: financial attitude

Financial attitude has been defined as outlook, frame of mind, disposition, point of view and judgment made by an individual regarding finance (Priyadarshini, 2017; Cucinelli et al., 2019; Dewi et al., 2020). Table 4 shows that in the questions not taking decisions by taking luck into consideration, taking responsibility of financial decisions, setting goals for future, buying goods which make them feel good and living in present as well as preparing themselves for future and money made for save and spent ranked above and equal to the median value whereas in the questions asked on feel satisfied in saving money for the longer duration ranked below the median value.

Table 4 Financial attitude questions summary

<i>Financial attitude questions</i>	<i>Correct answer freq.</i>	<i>% of correct answer</i>	<i>Do not know freq.</i>	<i>% do not know answers</i>	<i>Wrong answer freq.</i>	<i>% of wrong answer</i>
Do not take decision on luck	537	89.50	23	03.84	40	06.67
Responsibility of financial decisions	527	87.83	42	07.00	31	05.17
Financial goals for future	511	85.16	40	06.67	49	08.17
Buy goods feel them happy	499	83.16	62	10.34	39	06.50
Live today and take care of tomorrow	472	78.66	88	14.67	40	06.67
Money to be spent and save	448	74.67	85	14.16	67	11.17
Satisfaction in saving money for long-term	368	61.33	84	14.00	148	24.67

Source: Primary data

5.2.3 Financial literacy component: financial behaviour

Financial behaviour has been defined as the behaviour related to the management of money which generally includes the saving and spending habit, cash and credit management, etc. (Xiao, 2008; Woodyard, 2013; Dewi et al., 2020). Table 5 shows that the questions paying bills timely, compare price before buying goods, expressing financial view point, saving money for future needs ranked above the median value whereas questions asked on keeping close watch on financial affairs, maintain record for future reference, gaining more insights about financial planning and preparing monthly budget ranked below the median value.

Table 5 Financial behaviour questions summary

<i>Financial behaviour questions</i>	<i>Correct answer freq.</i>	<i>% of correct answer</i>	<i>Do not know freq.</i>	<i>% do not know answers</i>	<i>Wrong answer freq.</i>	<i>% of wrong answer</i>
Pay bills timely	503	83.84	51	08.50	46	07.67
Compare price before purchase	500	83.33	53	08.84	47	07.83
Express financial view	478	79.67	83	13.84	39	06.50
Save money for future needs	466	77.66	87	14.50	47	07.84
Close watch on financial affairs	446	74.33	111	18.50	43	07.17
Records for future reference	442	73.66	107	17.84	51	08.50
Gaining more insights about financial planning	434	72.33	108	18.00	58	09.67
Prepare monthly budget of expenditures	426	71.00	116	19.33	58	09.67

Source: Primary data

Table 6 clearly reveals that out of total 600 Indian higher education students 43.17% (259) of the students are high financially literate and 56.83% (341) of the students are low financially literate.

Table 6 Financial literacy level

<i>Financial literacy level</i>	<i>Students</i>	<i>Percentage</i>
High financially literate	259	43.17%
Low financially literate	341	56.83%
<i>Total</i>	<i>600</i>	<i>100%</i>

Source: Primary data

5.2.4 *Financial literacy level on the basis of demographic factors*

Table 7 shows the financial literacy level of 600 Indian higher education students based on the demographic factors of age, gender, city, field of study, academic standing and family income (annual). The result clearly revealed that overall the financial literacy level remains the same in all the demographic factor wise classification.

Table 7 Financial literacy level on the basis of demographic factors

<i>Age wise</i>	<i>Financial literacy level</i>		<i>Total</i>
	<i>High financially literate</i>	<i>Low financially literate</i>	
18–21	234 (43.41%)	305 (56.59%)	539 (89.83%)
22–25	25 (41.00%)	36 (59.00%)	61 (10.17%)
<i>Total</i>	<i>259 (43.17%)</i>	<i>341 (56.83%)</i>	<i>600 (100.00%)</i>
<i>Gender wise</i>	<i>Financial literacy level</i>		<i>Total</i>
	<i>High financially literate</i>	<i>Low financially literate</i>	
Male	95 (41.30%)	135 (58.70%)	230 (38.34%)
Female	164 (44.32%)	206 (55.68%)	370 (61.66%)
<i>Total</i>	<i>259 (43.17%)</i>	<i>341 (56.83%)</i>	<i>600 (100.00%)</i>
<i>City wise</i>	<i>Financial literacy level</i>		<i>Total</i>
	<i>High financially literate</i>	<i>Low financially literate</i>	
Kanpur	83 (41.50%)	117 (58.50%)	200 (33.33%)
Prayagraj	87 (43.50%)	113 (56.50%)	200 (33.33%)
Aligarh	89 (44.50%)	111 (55.50%)	200 (33.34%)
<i>Total</i>	<i>259 (43.17%)</i>	<i>341 (56.83%)</i>	<i>600 (100.00%)</i>
<i>Field of study</i>	<i>Financial literacy level</i>		<i>Total</i>
	<i>High financially literate</i>	<i>Low financially literate</i>	
Commerce/management	68 (45.33%)	82 (54.67%)	150 (25.00%)
Science	66 (44.00%)	84 (56.00%)	150 (25.00%)
Social science	66 (44.00%)	84 (56.00%)	150 (25.00%)
Technical courses	59 (39.33%)	91 (60.67%)	150 (25.00%)
<i>Total</i>	<i>259 (43.17%)</i>	<i>341 (56.83%)</i>	<i>600 (100.00%)</i>

Note: \$1 = INR74.39.

Source: Primary data

Table 7 Financial literacy level on the basis of demographic factors (continued)

Family income (annual)	Financial literacy level		
	High financially literate	Low financially literate	Total
Below INR199,999 (below \$2,688.92)	119 (41.60%)	167 (58.40%)	286 (47.67%)
INR200,000–399,999 (\$2,688.93–\$5,377.85)	74 (43.80%)	95 (56.20%)	169 (28.16%)
INR400,000–599,999 (\$5,377.86–\$8,066.78)	39 (47.60%)	43 (52.40%)	82 (13.67%)
Above INR600,000 (above \$8,066.80)	27 (42.90%)	36 (57.10%)	63 (10.50%)
Total	259 (43.17%)	341 (56.83%)	600 (100.00%)

Note: \$1 = INR74.39.

Source: Primary data

5.3 Interdependencies between the financial literacy components: financial knowledge, attitude and behaviour

First of all, separate relationship has been performed for the given components in three cities and then a combined relationship has been calculated to analyse the interdependencies between the financial literacy components and to gain a deeper insight of financial literacy among the three cities, i.e., Kanpur, Prayagraj and Aligarh.

Table 8 Relationship between financial knowledge, financial attitude and financial behaviour among higher education students in Kanpur City

	Mean	Std. dev.	Financial knowledge	Financial attitude
Financial knowledge	3.9775	0.79698		
Financial attitude	3.8114	0.82592	0.907**	
Financial behaviour	4.1138	0.71365	0.647**	0.743**

Note: **correlation is significant at the 0.01 level (two-tailed).

Source: Primary data

The coefficients of correlation among the variables are shown in Table 8. Financial knowledge is positively related to financial attitude ($r = 0.907$, $p < 0.01$) and financial behaviour ($r = 0.647$, $p < 0.01$). The bivariate correlation between financial attitude and financial behaviour ($r = 0.743$, $p < 0.01$) is also found to be significant.

Table 9 Relationship between financial knowledge, financial attitude and financial behaviour among higher education students in Prayagraj City

	Mean	Std. dev.	Financial knowledge	Financial attitude
Financial knowledge	4.1369	0.64163		
Financial attitude	3.9243	0.64477	0.944**	
Financial behaviour	3.9812	0.61272	0.658**	0.689**

Note: **correlation is significant at the 0.01 level (two-tailed).

Source: Primary data

The coefficients of correlation among the variables are shown in Table 9. Financial knowledge is positively related to financial attitude ($r = 0.944, p < 0.01$) and financial behaviour ($r = 0.658, p < 0.01$). The bivariate correlation between financial attitude and financial behaviour ($r = 0.689, p < 0.01$) is also found to be significant.

Table 10 Relationship between financial knowledge, financial attitude and financial behaviour among higher education students in Aligarh City

	Mean	Std. dev.	Financial knowledge	Financial attitude
Financial knowledge	4.0975	0.65920		
Financial attitude	3.8657	0.66463	0.887**	
Financial behaviour	4.1394	0.68959	0.733**	0.575**

Note: **correlation is significant at the 0.01 level (two-tailed).

Source: Primary data

The coefficients of correlation among the variables are shown in Table 10. Financial knowledge is positively related to financial attitude ($r = 0.887, p < 0.01$) and financial behaviour ($r = 0.733, p < 0.01$). The bivariate correlation between financial attitude and financial behaviour ($r = 0.575, p < 0.01$) is also found to be significant.

Table 11 Relationship between financial knowledge, financial attitude and financial behaviour Indian higher education students

	Mean	Std. dev.	Financial knowledge	Financial attitude
Financial knowledge	4.0706	0.70481		
Financial attitude	3.9400	0.72205	0.935**	
Financial behaviour	4.0781	0.67581	0.664**	0.710**

Note: **Correlation is significant at the 0.01 level (two-tailed).

Source: Primary data

HO₁ Financial knowledge competence does not positively influence financial attitude of Indian higher education students.

Table 11 clearly reveals strong positive relationship between financial knowledge and financial attitude ($r = 0.935, p < 0.01$). Hence the hypothesis is not accepted and it can be said that financial knowledge competence positively influences the financial attitude of Indian higher education students.

HO₂ Financial knowledge competence does not affect financial behaviour of Indian higher education students.

Table 11 clearly reveals positive relationship between financial knowledge and financial behaviour ($r = 0.664, p < 0.01$). Hence the hypothesis is not accepted and it can be said that financial behaviour clearly predicts that financial knowledge competence affect the financial behaviour of Indian higher education students.

HO₃ Financial attitude does not positively affect financial behaviour of Indian higher education students.

Table 11 clearly reveals positive relationship between financial attitude and financial behaviour ($r = 0.710, p < 0.01$). Hence the hypothesis is not accepted and it can be said

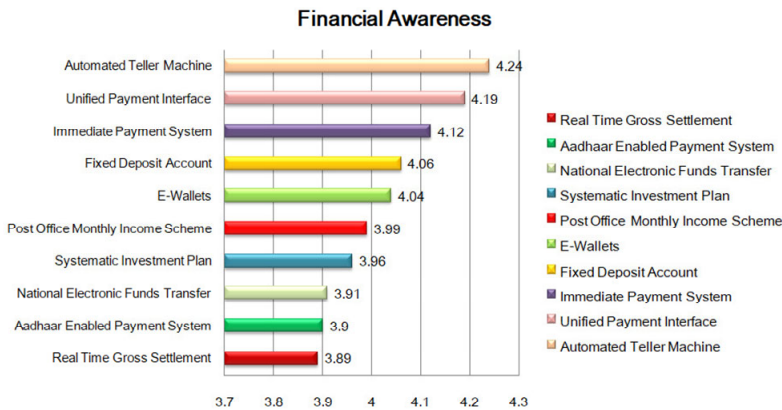
inferred that financial attitude positively affect the financial behaviour of Indian higher education students.

The above discussed results clearly show that there is interdependency among financial literacy components: financial knowledge, attitude and behaviour. The sound financial knowledge regarding finance concept and numeracy knowledge ultimately leads to more responsible financial attitude. Likewise sound financial knowledge leads to efficacious financial behaviour towards saving and spending habits. The responsible financial attitude with efficacious financial behaviour will lead to more self regulation among Indian higher education students.

5.4 Effect of financial awareness on financial literacy

In this section, financial awareness among students has been assessed. The students were asked ten questions related to financial awareness on five-point likert scale: 1 – completely unaware, 2 – unaware, 3 – neutral, 4 – aware and 5 – completely aware on the financial awareness of internet banking, digital payment methods and different mode of saving and investment. On the basis of the mean value of questions asked on financial awareness, the ranking has been done and shown in Figure 2.

Figure 2 Financial awareness among Indian higher education students (see online version for colours)



Source: Primary data

Table 12 Correlations

		Financial awareness	Financial literacy
Financial literacy	Pearson correlation	1	0.876**
	Sig. (two-tailed)		0.000
	N	600	600
Financial awareness	Pearson correlation	0.876**	1
	Sig. (two-tailed)	0.000	
	N	600	600

Note: **correlation is significant at the 0.01 level (two-tailed).

Source: Primary data

To examine the effect of financial awareness on financial literacy, financial awareness is taken as independent variable and financial literacy as dependent variable. Table 12 shows the result of correlation.

HO₄ Financial awareness does not positively affect financial literacy of Indian higher education students.

Table 12 clearly reveals positive relationship between financial literacy and financial awareness ($r = 0.876$, $p < 0.01$). Hence the null hypothesis is not accepted and showed that financial awareness positively affects financial literacy of Indian higher education students. Hence for the further analysis linear regression analysis has been done.

Table 13 Model summary^b

<i>Model</i>	<i>R</i>	<i>R square</i>	<i>Adjusted R square</i>	<i>Std. error of the estimate</i>	<i>Durbin-Watson</i>
1	0.876 ^a	0.768	0.767	0.31109	1.144

Notes: ^apredictors: (constant) and financial awareness.

^bdependent variable: financial literacy.

Source: Primary data

Table 14 ANOVA^b

<i>Model</i>		<i>Sum of squares</i>	<i>Df</i>	<i>Mean square</i>	<i>F</i>	<i>Sig.</i>
1	Regression	191.066	1	191.066	1.974E3	0.000 ^a
	Residual	57.873	598	0.097		
	Total	248.939	599			

Notes: ^apredictors: (constant) and financial awareness.

^bdependent variable: financial literacy.

Source: Primary data

Table 15 Coefficients^a

<i>Model</i>		<i>Unstandardised coefficients</i>		<i>Standardised coefficients</i>	<i>t</i>	<i>Sig.</i>
		<i>B</i>	<i>Std. error</i>	<i>Beta</i>		
1	(Constant)	0.759	0.075		10.051	0.000
	Financial awareness	0.812	0.018	0.876	44.433	0.000

Note: ^adependent variable: financial literacy.

Source: Primary data

Table 13 shows that the value of R^2 is 0.768. The value of R^2 indicates that 76.8% of the variance in financial literacy can be predicted from financial awareness and remaining 23.20% is unexplained. The result of F test given in Table 14, $F(1,598) = 1.974$, p -value less than 0.05 indicates the model is significantly fit at 95% confidence interval.

Table 15 shows that financial awareness has an unstandardised coefficient beta value of 0.812. From which it can be inferred that one unit increase in financial awareness would increase financial literacy by 0.812 units. The result clearly revealed that more the financial awareness among the Indian higher education students higher will be the financial literacy.

6 Conclusions, managerial implications, limitations and future research direction

6.1 Conclusions

The present study makes an effort to assess the financial literacy level among the Indian higher education students and interdependencies between the financial literacy components: financial knowledge, attitude and behaviour and the impact of financial awareness on financial literacy. The result from the study showed that the majority of Indian higher education students in the city of Kanpur, Prayagraj, Aligarh possess low level of financial literacy. Only 43% of the students possess high financial literacy level and nearly 57% students are low financially literate (Lusardi and Mitchell, 2007; Al-Tamimi and Bin Kalli, 2009; Jariwala and Kumar, 2013; Khan, 2016; Patel, 2017). Financial behaviour, financial knowledge and financial attitude of Indian higher education students was found to be positively related and significant. The relationship between the financial awareness and financial literacy was found to be highly positive and significant. And while assessing the impact of financial awareness on financial literacy the result showed that financial awareness significantly impact financial literacy. The regression result shows that more the financial awareness among Indian higher education students better will be the financial literacy.

6.2 Implications

The overall financial literacy level prevalent among Indian higher education students in the triad city of Kanpur, Prayagraj, Aligarh was found low. As the term ‘money’ have different connotations to different people and the cultural values have a remarkable impact on individual’s “behaviour and attitude towards money and consumption” (Banerjee, 2008; Singh, 2010; Dutta and Sahi, 2013), there is a need to come up with need-based educational and awareness programs for enhancing the financial literacy and imparting financial education to the students who are ready to take the real world challenges and make the better use of it. If they lack in sound financial literacy, it will create serious hurdles for them in saving and investment as well as in their future financial planning. Financial literacy has a deep rooted impact on individuals money management practices and how to cope up with financial problems, but also has implications on individual’s ability to make “personal financial decisions related to investments, financial risk tolerance, saving, borrowing and lifestyle choices” (Widdowson and Hailwood, 2007; Sarigül, 2014; Dewi et al., 2020). The result from the study clearly suggested that financial literacy is imperative for the financial happiness, comfort and security (Alessie et al., 2011; Fornero and Monticone, 2011; Klapper and Panos, 2011; Sekita, 2011; Agnew et al., 2011). The individuals who possess low financial literacy level will descend in financial fragile conditions and not able to cope up with financial emergent situations.

6.3 Limitations

The study has been done on the Indian higher education students covering only three cities: Kanpur, Prayagraj and Aligarh. The age group targeted in the study is from 18–25

years. However a study covering more cities from different states or within the state or country level, extending the age group bracket, including doctoral students and the students from medical background may bring varied significant results.

6.4 Scope for future research

In future, a comparative study between financial literacy among student in different states can also be done. The role of financial literacy in the digitised era can also be done. A study can also be performed to find out linkages between the “impact of financial literacy on recent financial inclusion schemes launched by Government of India.”

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