

## METHODS

## Millennium generation financial literacy and fintech awareness

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The growth of rapid financial technology (fintech) is expected to contribute more than 12% of compound annual growth rate (CAGR) to the economy. India is gradually becoming the hub for many prominent fintech startups such as Paytm, Pine Labs, PayU, Razorpay, and others. However, as per the survey by *Financial Express*, only 27% of Indians are financially literate. This article investigates the factors that influence the millennial generation and their financial literacy and the relationship between their knowledge, their objectives, their outlook, and their behavior toward the use of fintech applications. The questionnaire is used to gather the main data. Chi squared analysis was used to test the hypotheses, and correspondence analysis was used to determine the characteristics of the millennial generation and visually demonstrate the discrepancy.

**Keywords:** fintech, financial literacy, millennial, cluster analysis, ANOVA

### Introduction

*“Literacy a bridge from misery to hope.”*

–Kofi Annan

Financial technology, or fintech, is a digital framework that includes big data, cloud computing, artificial intelligence (AI), biometric technology, and augmented reality. In this paper, we examine financial applications including payment, budgeting, borrowing and financing, trading and investing money, health insurance, and data security, as well as their knowledge among working women. This paper investigates fintech applications and their impact on people’s daily lives in order to make independent financial decisions.

A person is said to be “financially literate” (FinLit) when he or she can effectively manage financial decisions such as personal finance management, budgeting, and investment. India’s FinLit rate has been steadily growing due to various factors, including the development of rural areas, ease in borrowing funds, ease in doing business transactions, and the growth of micro, small, and medium enterprises (MSMEs). The number of

digital payment transactions in India grew 5X, from 10.04 billion in 2016–2017 to 55.54 billion in 2020–2021. Furthermore, a 20% compound annual growth rate (CAGR) is expected from \$66 billion in 2019 to \$138 billion in 2023.

### Background of the research

In the recent few years, India has become the world’s largest millennial market. The millennial generation accounts for more than 30% of the country’s population. This research was written to investigate the financial habits of millennials. Millennials are people who were born between 1980 and 1996 and are between the ages of 25 and 40. People begin earning at the age of 23 and settle down in their careers and families by the age of 25–26. This group of people is being studied to determine their level of understanding of fintech awareness and the adequacy of their literacy level. The papers look into the relationship between millennials’ financial goals, their attitudes and behaviors, and their understanding of fintech’s impact on their financial wellbeing.

## Review of literature

Huston (1) discovered that measuring financial literacy was necessary in order to understand the educational influence and obstacles to financial decision-making. According to Capuano and Ramsay (2), financial literacy assessments conducted by the World Bank and a number of countries show that respondents have a poor understanding of monetary terms.

Despite the fact that the survey's target population ranges from students in high school to professionals and the technique used varies from objective to subjective assessments, this research shows that a sizable segment of the population lacks financial literacy. Vera et al. (3) discovered that social and financial attitudes and financial management conduct have significant correlations, as do financial skills and financial management behavior. However, there was no substantial association between financial knowledge and financial behavior.

Fallan (4) propose in their paper that fiscal awareness is substantially connected with attitudes toward taxation. They indicate that a greater understanding of tax legislation could enhance tax-payment behavior. Croy et al. (5) revealed this in their study by surveying 2,300 retirement savings fund members and applying.

The planned behavior theory was used to evaluate the relationship between financial education and desires for increased retirement payments. According to the study, "people's insights into preparing, developing, thinking, and self-assessed planning have significant unintended effects on behavior." Widiastuti (6) examine the influence of today's technology on many services provided by banks and other institutions that have an effect on students' behavior at various colleges.

According to Marzieh et al. (7), financial knowledge and financial wellbeing are positively related to age and educational level. Men and married people are more financially prudent. Financial literacy boosts financial wellbeing and reduces financial worries. Lastly, monetary security results in reduced financial anxiety.

Setyorini et al.'s (8) study discovers a connection between financial knowledge and the utilization of bank credits for the younger generation. The study shows that monetary and commercial knowledge have a considerable influence on loan transactions. The correlation shows that the overall contribution of personal finance to mortgages transacted is a positive linear relationship, meaning that any gain in financial knowledge can boost the number of credits processed.

## Research methodology

The aim of the paper is to understand the relationship between the level of financial literacy and fintech awareness.

**TABLE 1** | The research design.

Types of research	Descriptions
Sample size	175 (Millennials of 25–40 years of age)
Sampling area	Selected localities in Chennai
Sampling method	Probability sampling—random sampling
Data collected	Primary (survey method) and secondary data (books, journals, and internet)
Research instrument	Structured questionnaire
Validity and reliability of questionnaire	Overall Cronbach's alpha value = 0.674
Software used for analysis	SPSS (version 25)

\* Authors' preparation.

Descriptive research is conducted to understand millennials' perceptions of financial literacy and their awareness and usage of fintech applications. Financial literacy is measured using components such as planning and managing finances, setting financial goals, and financial attitude and behavior.

## Data analysis

The responses gathered from 172 people focused on their financial planning and management, on attaining their financial goals, their behavior toward finance management, and their awareness of fintech usage. K-mean cluster analysis is used to understand the important dimensions of the paper. Cluster analysis the technique of grouping the variables based on their individuals, objects, or cases into relatively homogeneous (similar) groups. The variables grouped within the cluster are similar to each other, but there is dissimilarity between the clusters.

## Classification of the respondents based on the factor of financial habits

When the variable is used to create a distinct cluster, the cluster centers are selected by default. Three clusters are formed from the 29 variables, and each variable joins the nearest cluster center until the stopping criteria is reached. The factor scores from the cluster analysis are applied, and the respondents are classified on this basis.

The criteria for the randomness of the observations in the various groups are not satisfied in our situation since the groups are purposefully generated according to their distance from one another in the multidimensional space; therefore, the findings of the dispersion analysis are merely descriptive. However, the variations in the F-ratios (the F-column in the ANOVA table) allow for generalizations about the contribution of the various mean variables to the formation of the clusters.

**TABLE 2** | The final cluster center.

	1	2	3
Fintech awareness	1.14	1.52	1.61
Gender	1.51	1.55	1.57
Spending money is more rewarding to me than long-term investing.	1.56	1.34	2.48
I'm willing to take a small financial risk in order to save or invest.	1.59	1.38	2.35
Accountability for making daily financial decisions for your home	1.7	1.65	2.26
I'm content with how things are right now financially.	1.89	1.82	2.96
Action plan taken to attain the financial goal	2.11	2.38	4
Education	2.16	2.82	1.52
I keep a careful eye on my own finances.	2.21	2.15	2.91
Even if a bank collapses, I think the money there will be safe.	2.23	2.49	3.43
I make long-term financial plans and work to fulfill them.	2.33	1.49	2.78
Profession	2.63	2.68	2.96
I currently owe too much money.	2.66	2.3	3.26
I think banks should investigate a company's ethics before offering financial services to it.	3.3	2.49	2.17
Age	3.8	3.65	2.96
I promptly pay my household dues.	3.8	2.56	2.26
Income	4	2.65	2.83
I carefully assess if I can afford anything before making a purchase.	4.07	3.28	3.96
Medium used for managing household	4.37	1.46	1.3

\*Authors' preparation.

In **Table 1**, the results from the dispersion analysis are given. **Table 2's** final cluster center values show the means for each variable within each final cluster. The first cluster has high cluster values on timely payment of bills, their income, mindful buying, and the fintech apps used to manage their household. The second cluster has a relatively high cluster center value for age, education, and profession. The third high cluster center value on variables is goal-oriented actions to attain the goal, risk-averse, and with high debts.

The ANOVA between the Cluster **Table 3** displays the most critical factors in the cluster analysis. The Cluster column's mean square represents the variance in the variable that may be attributable to clusters. The variance in the variable that cannot be attributed to clusters is indicated by the mean square in the error column.

The F-ratio is the proportion of cluster variance to error variance. The large F-value variables, which show that they are essential for segregating the clusters, include household management, action plans to reach financial goals, and survival without a primary source of income. A small F-value (nearly 1) shows variables that are not very useful in determining cluster membership.

The F-statistic should not be understood traditionally, and hence the significance value associated with the F-value cannot be interpreted traditionally, in terms of acceptance or rejection of the null hypothesis.

From **Table 4**, it is found that the first group consists of 70 respondents (40%) with cluster 1, 82 respondents (47%) with cluster 2, and 23 respondents (13%) with cluster 3. The questions that load highly on factor 1 seem to relate to using

fintech tools to manage finances and plan ahead to attain financial goals. Therefore, this factor is labeled "the architect of money."

The questions that load highly on factor 2 seem to relate to the risk of losing the main source of income. Therefore, this factor is labeled "pessimistic of wealth." The questions that load highly on factor 3 seem to relate to attaining their financial goals.

Therefore, this factor is labeled "overlookers." Making informed choices about the factor structure requires careful consideration of the rotation criterion and factor loading assessment.

## Effects of financial literacy on fintech awareness

### Hypothesis testing for "architect of money"

H1: There is a significant difference between the "architect of money" and Factor 1 among the respondents (millennials) with respect to fintech awareness.

For the cluster group "architect of money," the mean and standard deviation (SD) of the cluster are 2.17 and 0.810, and it is skewed to  $-0.312/0.184$ ; the Z-score skewness is  $-3.49383$ . The probability value (*P*-value) is 0.000239, which is greater than 0.05. It is significant that the respondents in

**TABLE 3** | ANOVA between the clusters.

	Cluster		Sum of squares	F	Sig.
	Sum of squares	Df			
Accountability for making daily financial decisions for your home	72.937	174	0.383	9.214	0.000
Managing household	593.794	174	1.335	136.412	0.000
Keeping money in your wallet or at home	31.394	174	0.174	4.402	0.014
Saving money into a < savings/deposit > account	42.549	174	0.234	4.923	0.008
Buying bonds or time deposits	28	174	0.135	17.782	0.000
Investing in stocks and shares	30.309	174	0.159	9.541	0.000
Investing in mutual funds	42.194	174	0.232	5.109	0.007
Action plan taken to attain the financial goal	125.714	174	0.363	87.354	0.000
Survival without the main source of income	243.714	174	0.908	48.177	0.000
Att_Beh_1	258.949	174	1.08	33.839	0.000
Att_Beh_2	140.857	174	0.719	12.02	0.000
Att_Beh_3	153.737	174	0.747	16.904	0.000
Att_Beh_4	124.994	174	0.583	21.175	0.000
Att_Beh_5	184.857	174	0.875	19.638	0.000
Att_Beh_6	96.834	174	0.499	10.997	0.000
Att_Beh_7	155.714	174	0.757	16.894	0.000
Att_Beh_8	146.994	174	0.604	35.736	0.000
Att_Beh_9	84.709	174	0.357	32.551	0.000
Att_Beh_10	90.377	174	0.427	19.771	0.000
Fintech awareness	41.349	174	0.201	17.069	0.000

\*Authors' preparation.

**TABLE 4** | Percentage of cluster.

Clusters	No. of cases in each cluster		Percent
	1	2	
	70	40	
	82	47	
	23	13	
Valid	175	100	

\*Authors' preparation.

the cluster “architect of money” are highly aware of fintech applications and their usage.

### Hypothesis testing for “pessimistic of wealth”

H2: There is a significant difference between “Pessimistic of Wealth” Factor 2 and other factors among the respondents (millennials) with respect to fintech awareness.

For the cluster group “Pessimistic of Wealth,” the mean and SD of the cluster, respectively, are 2.89 and 1.557, and it is skewed to 0.165/0.184; the Z-score skewness is  $-1.35517$ . The probability value is 0.088508, which is less than 0.05. Respondents in Cluster 2 who are risk averse try to save money in more conservative ways, such as fixed deposits, and are concerned about losing their primary source of

income during an emergency. This cluster does not have a significant relationship with the awareness of fintech apps and their usage.

### Hypothesis testing for “overlookers”

H3: There is a significant difference between “overlookers,” or Factor 3 of the respondents (millennials), with respect to fintech awareness.

For the cluster group “overlookers,” the mean and SD of the cluster, respectively, are 1.73 and 0.680, and it is skewed to 0.392/0.184; the Z-score skewness is  $-4.80882$ . The probability value is 0.00001, which is more like 0.05. The respondents in Cluster 3 have significant relationships with fintech awareness.

### Findings and conclusion

The ability to manage finances, financial attitudes, and behaviors has a greater impact on awareness and usage of fintech applications. A great percentage of the respondents manage their funds by using fintech applications for planning, budgeting, tax planning, and investment. Very few respondents use neo-investments such as cryptos and non-fungible tokens (NFTs).

While a small percent of respondents are able to cover their living expenses during the loss of their main source of income, respondents are aware of the fintech application, but close to one-third of the respondents are reluctant to use it. This paves the way for identifying the reasons why they are not using the fintech app for financial planning.

## Author contributions

All the work in this research manuscript is original and contributed only by the RJ.

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