

Financial Knowledge, Attitude, and Sustainable Behaviour among University Students: A Comparative Institutional Analysis

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JEL Classification

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Abstract: The concept of sustainable financial literacy has emerged as a crucial aspect of financial competence in today's world, bringing together a combination of financial knowledge, ethical, social, and environmental considerations. The present study investigates the extent of sustainable financial education among university students in the Prayagraj district and discusses the differences between the public and private universities. In addition, the socio-demographic factors, institutional support and financial education exposure are examined in terms of their influence on sustainable financial behaviour. A quantitative cross-sectional research design was used, and primary data were taken from 200 students at the university using a stratified random sampling technique and a structured questionnaire. Data collected were analysed descriptively, by independent sample t-test, correlation and regression analysis using IBM SPSS Statistics. The results show that students have moderate financial literacy for sustainable finance, and that there are significant differences between institutions. The overall scores for sustainable financial literacy were higher among the private university students compared to the public university students, while the students of the public universities had higher scores for sustainability-oriented behaviour and awareness. The study also supports the findings and conclusions of the previous research that financial knowledge and attitude are positively related. Socio-demographic factors as well as institutional support are also crucial to sustainable financial literacy. The study also underscores the need for incorporating sustainability-oriented financial education as a component of the university curricula, thus building socially-conscious, financially responsible, and environmentally conscious youth for inclusive and sustainable economic development.

1. Introduction

Financial literacy has evolved significantly in the twenty-first century from a narrow focus on personal money management to a broader framework that incorporates ethical, social, and environmental considerations. This emerging concept, known as sustainable financial literacy, combines traditional financial knowledge with awareness of sustainable investment, responsible consumption, and socially conscious financial behaviour (Filippini et al., 2024). Sustainable financial literacy enables individuals not only to make financially sound decisions but also to align their financial practices with long-term societal and environmental well-being. In the contemporary global economy, where sustainable development and responsible finance are increasingly emphasised, sustainable financial literacy has become an essential competency for youth and future economic participants. In India, the importance of financial literacy and sustainability has gained policy attention through initiatives such as the National Centre for Financial Education and the National Strategy for Financial Education (NSFE 2020-2025), which emphasise youth engagement, digital financial inclusion, and responsible financial behaviour. Despite these efforts, most existing Indian studies focus primarily on conventional financial literacy, while sustainability-oriented financial decision-making remains relatively underexplored.

Moreover, limited research has examined how institutional factors, curriculum design, and financial education exposure influence sustainable financial literacy among university students, particularly in semi-urban educational settings. The Prayagraj District of Uttar Pradesh provides an appropriate context for such an investigation due to the presence of diverse public and private universities attracting students from varied socio-economic and academic backgrounds. Differences in institutional support, exposure to financial education programs, and sustainability-oriented learning environments may significantly shape students' financial knowledge, attitudes, and behaviour. However, comparative empirical evidence in this area remains limited. The present study is theoretically grounded in the Theory of Planned Behaviour (Ajzen, 1991), Human Capital Theory (Becker, 1964), and the Sustainable Development Framework associated with the United Nations Sustainable Development Goals (SDGs 4 and 12). The Theory of Planned Behaviour explains how financial attitudes and perceived behavioural control influence sustainable financial actions, while Human Capital Theory highlights the role of education in improving financial decision-making capability. The Sustainable Development Framework further emphasises responsible consumption and quality education as essential pillars of sustainable development. Integrating these theoretical perspectives enables the study to examine sustainable financial literacy as a multidimensional construct linking knowledge, attitude, institutional exposure, and sustainable financial behaviour. Against this backdrop, the study aims to assess and compare the level of sustainable financial literacy among university students in Prayagraj District and to examine the influence of socio-demographic factors, institutional support, and financial education exposure on sustainable financial behaviour. The study also seeks to analyse the relationship between financial knowledge, financial attitude, and financial behaviour within a sustainability framework. The study makes several important contributions to the existing literature. First, it extends traditional financial literacy research by integrating sustainability dimensions such as ethical consumption, green financial behaviour, and responsible investment awareness. Second, it provides comparative empirical evidence between public and private university students in a semi-urban Indian context, an area that remains insufficiently explored in prior research. Third, the study validates the knowledge–attitude–behaviour framework in the context of sustainable financial literacy and highlights the importance of institutional support and financial education exposure in shaping financially responsible behaviour. Finally, the findings offer policy implications for universities, regulators, and educational institutions seeking to strengthen sustainability-oriented financial education among youth in India.

2. Review of Literature

The literature review was carried out using a systematic and thematic methodology. Studies published were sourced from reputable databases, including ScienceDirect, ResearchGate, SpringerLink, and Google Scholar. The selection process employed keyword searches such as “financial literacy,” “sustainable finance,” “university students,” and “India.” Financial literacy has become an essential component of economic and social development in the modern global economy. Traditionally, financial literacy focused on individuals' ability to manage savings, budgeting, investments, insurance, and credit decisions effectively. However, recent academic discourse has expanded the concept toward sustainable financial literacy, which integrates ethical, environmental, and socially responsible dimensions into financial decision-making (*Filippini et al., 2024*). Sustainable financial literacy emphasises not only financial well-being but also responsible consumption, sustainable investment, and environmentally conscious financial behaviour (*Lanciano et al., 2024*). International literature highlights the growing importance of sustainability-oriented financial knowledge in influencing economic behaviour. *Filippini et al. (2024)* developed a framework of sustainable finance literacy incorporating awareness of environmental, social, and governance (ESG) investments and sustainable financial products. Their study found that individuals possessing higher sustainable financial literacy were more likely to participate in sustainable investment decisions. Similarly, *Lanciano et al. (2024)* observed that both financial literacy and sustainability awareness significantly influence responsible financial behaviour among European households. The study emphasised that sustainable financial knowledge positively affects ethical investment preferences and long-term financial planning. Recent studies also emphasise the role of education and institutional intervention in strengthening sustainable financial capability. *Wekhof and Filippini (2024)*, through a randomised controlled trial, found that financial education programs significantly improved participants' understanding of sustainable financial products and increased responsible investment decisions. *Ebrahim et al. (2025)* further reported that sustainability-

focused educational interventions among business students enhanced sustainability consciousness, ethical awareness, and responsible financial behaviour. These findings suggest that experiential and curriculum-based financial education can play a transformative role in developing sustainable financial capability among youth. In the Indian context, financial literacy has gained considerable importance due to increasing financial inclusion initiatives, digitalisation, and economic reforms. Policy initiatives such as the *National Strategy for Financial Education (NSFE 2020-2025)*, introduced by the National Centre for Financial Education, emphasise youth engagement, financial awareness, digital literacy, and responsible financial participation (NCFE, 2020). However, empirical research in India has largely concentrated on traditional financial literacy dimensions such as saving habits, budgeting skills, and investment awareness, while sustainability-related financial practices remain relatively underexplored. Dash and Ranjan (2023) reported significant disparities in financial literacy across Indian states and highlighted the role of socio-economic and educational factors in influencing financial behaviour. Similarly, Vaghela, Kapadia, and Patel (2023) found that financial knowledge and financial attitude significantly affect financial behaviour among university students. Their study confirmed the importance of the knowledge–attitude–behaviour relationship in shaping responsible financial decision-making. Nevertheless, these studies primarily focused on conventional financial literacy and did not adequately address sustainability-oriented dimensions such as green financial practices, ESG investment awareness, and ethical consumption behaviour. Several recent reviews indicate that global financial literacy research is increasingly integrating sustainability and behavioural finance perspectives. Goyal and Kumar (2021) and Sethi et al. (2025), through a systematic review and bibliometric analysis, concluded that financial literacy research has shifted toward behavioural dimensions, digital finance, and sustainable investment awareness. Similarly, Shukla (2024) observed that contemporary financial literacy frameworks increasingly emphasise long-term financial resilience, sustainability, and socially responsible financial decision-making. However, Indian studies continue to focus predominantly on traditional financial literacy indicators without adequately incorporating sustainability-related constructs. Research conducted among university students in India further reveals moderate levels of financial literacy and considerable socio-demographic disparities. Research Cultures Society (2022) reported that gender, educational stream, and family income significantly influence students' financial awareness and behaviour. Likewise, PBR Institute (2023) found that financial literacy among Indian university students remains relatively low, particularly among non-commerce students and students from economically weaker backgrounds. Dube and Asthana (2025) also concluded that more than half of Indian higher education students possess inadequate financial literacy, emphasising the urgent need for structured financial education programs in universities. The literature further highlights the significance of institutional support in shaping financial capability among students. International studies suggest that universities offering structured financial literacy courses, sustainability-focused curricula, digital finance training, and practical financial workshops tend to produce students with higher financial competence and responsible financial behaviour (Wekhof & Filippini, 2024). Nevertheless, comparative institutional studies between public and private universities remain limited, especially in developing countries like India. Existing literature rarely examines how institutional support systems, financial education exposure, and curriculum design collectively influence sustainable financial literacy outcomes among university students.

Prayagraj district, recognised as an educational hub of Uttar Pradesh, is home to both public universities (e.g., “University of Allahabad”) and private universities (e.g., “SHUATS”, “United University”, “Nehru Gram Bharati University”), drawing a diverse student community. However, there is a lack of systematic comparative studies evaluating differences among students from these institutions in terms of sustainable financial knowledge, attitudes, and behaviours. Variations in curriculum design, financial education programs, and exposure to sustainability initiatives across institutions may play a significant role in shaping students' levels of sustainable financial literacy. Despite this, these relationships remain largely unexplored in the region. Additionally, Socio-demographic factors such as gender, academic discipline, family income, and parental education play a crucial role in shaping students' financial decision-making abilities and awareness of sustainability. Without such data, policymakers, educators, and financial institutions lack the essential insights needed to design targeted financial literacy programs that effectively incorporate sustainability principles and resonate with the youth. This study addresses the critical gap in empirical knowledge regarding Sustainable Financial Literacy among university

students in Prayagraj, with a particular focus on institutional and socio-economic disparities. Its objective is to provide a comprehensive evaluation of students' sustainable financial knowledge, attitudes, and behaviours, while also identifying institutional practices that either promote or impede Sustainable Financial Literacy outcomes.

Existing literature on financial literacy has primarily focused on traditional dimensions such as financial knowledge, saving behaviour, and investment awareness, with relatively limited attention to sustainability-oriented financial decision-making. Whereas international research is usually combined with financial literacy and sustainability and ethical aspects, Indian research is concerned with conventional financial literacy, neglecting such important aspects of responsible consumption. More specifically, three critical gaps can be identified. First, there is a lack of empirical studies that operationalise sustainable financial literacy as a combination of financial knowledge, attitude, and sustainability-driven behaviour. Second, the role of institutional factors such as type of university, curriculum exposure, and financial education initiatives in shaping sustainable financial literacy remains underexplored. Third, comparative evidence between public and private universities is largely absent, especially in semi-urban educational settings where socio-economic diversity is high. Furthermore, existing studies rarely examine whether financial knowledge and attitudes translate into actual sustainable financial behaviour, creating a disconnect between theoretical understanding and behavioural outcomes. To address these gaps, the present study adopts a comparative institutional framework to examine sustainable financial literacy among university students in Prayagraj District. It uniquely integrates financial knowledge, attitude, and behaviour within a sustainability perspective, while also assessing the influence of institutional type, socio-demographic factors, and financial education exposure. By providing micro-level empirical evidence from a semi-urban Indian context, the study contributes to both academic literature and policy discussions on sustainable financial education. Based on the gaps, this study tries to answer the following research questions:

- RQ1: What is the sustainable financial literacy level of university students of the Prayagraj District?
- RQ2: What is the difference in sustainable financial literacy among students of the public and the private universities?
- RQ3: What are the important factors (e.g., socio-economic background, gender, academic discipline, parental education) that determine sustainable financial literacy among students?
- RQ4: What is the impact of being exposed to financial education programs on the sustainable financial decision-making and ethical consumption behaviour of students?
- RQ5: How does institutional support (design of curricula, awareness and digital literacy programs) help to improve sustainable financial literacy?

In India, a study aims at examining how sustainable financial literacy develops, evaluates and differs in both public and private universities in India. Although there is a move towards financial inclusion and digital empowerment, there is a major disparity in the need to make sustainability and ethical concerns a part of financial education among the youth. The research will explore the level of awareness, attitudes and responsible financial practices among the students according to the Sustainable Development Goals (SDGs) and will examine how the curriculum design and socio-economic diversity influence them. It finally assesses how much the Indian university students have been empowered with knowledge and skills to make socially responsible financial decisions that are vital to the economic growth and sustainability in the changing financial landscape in India. Hence, this study has the following objectives:

- To assess the level of sustainable financial literacy among university students in Prayagraj District.
- To compare the sustainable financial literacy levels of students studying in public and private universities in Prayagraj.
- To examine the influence of demographic variables such as gender, age, family income, and educational background on sustainable financial literacy.

- To analyse the relationship between students' financial knowledge, financial attitude, and financial behaviour in the context of sustainability.
- To suggest strategies and educational interventions for enhancing sustainable financial literacy among youth in higher education institutions.

In line with the objectives of the study, the following hypotheses are considered for testing:

- H₀₁: There is no significant difference in the degree of sustainable financial literacy among students of the public and the private universities in the Prayagraj District.
- H₀₂: There is no significant relationship between financial knowledge, financial attitude, and financial behaviour of university students.
- H₀₃: There is no significant effect of socio-demographic (gender, family income, education stream, parental occupation) on sustainable financial literacy.
- H₀₄: There is no significant impact of institutional support and financial education exposure on sustainable financial literacy among the university students.

3. Research Methodology

The research design applied in the study is a quantitative, cross-sectional, and comparative research to evaluate and compare Sustainable Financial Literacy (SFL) on students in the public and private universities of the Prayagraj District. It brings out the importance of institutional settings, exposure to financial education, and socio-demographic factors in developing sustainable financial knowledge, attitudes, and behaviours among students.

Table 1: Research Design Using the Research Onion Framework

Layer of Research Onion	Component	Description / Application to Study
1. Research Philosophy	Positivism	The research assumes the use of a positivist approach where Sustainable Financial Literacy (SFL) can be studied and accurately measured using quantitative information and analytic tools. There is a focus on concrete and quantifiable information instead of subjective views.
2. Research Approach	Deductive	The study is based on the previous theories and models of financial literacy and sustainability (e.g., Filippini et al., 2024; Lanciano et al., 2024). Hypotheses are tested through empirical testing, where the relationship between knowledge, attitudes, and behaviours is studied.
3. Methodological Choice	Quantitative (Comparative Survey Method)	Quantitative methods are used to collect measurable data in the form of structured questionnaires. The study focuses on the level of SFL in students of both public and private universities of the Prayagraj District.
4. Research Strategy	Survey Research	Survey research is carried out to gather the primary data of a wide group of students and compare the financial literacy, sustainability awareness and behavioural patterns.
5. Time Horizon	Cross-Sectional Study	Data is taken within a certain period of time in order to measure and compare SFL among the university students at a particular point in time.
6. Sampling and Data Collection	Stratified Random Sampling & Structured Questionnaire	The study employed stratified random sampling to ensure representation from both public and private universities. A total sample size of 200 respondents (100 from each category) was considered adequate based on: (i) Statistical adequacy for regression analysis, where a minimum of 10–15 observations per predictor

		variable is recommended (Hair et al., 2019), (ii) Prior studies in financial literacy research using similar sample sizes, and (iii) Feasibility and accessibility constraints within the Prayagraj District. The balanced sample structure also ensures comparability across institutional groups, enhancing the robustness of the t-test analysis. SPSS t-tests/ANOVA group comparisons, correlation and regression hypothesis tests, and Cronbach's alpha reliability test.
7. Data Analysis Techniques	Descriptive and Inferential Statistics	
8. Expected Outcomes	Comparative Assessment of SFL and Policy Implications	The paper assesses and contrasts the levels of SFL among students in different types of institutions, explores those factors, and offers some recommendations on how the curriculum should be run to enhance SFL in higher education.

Sources: Saunders et al., 2019.

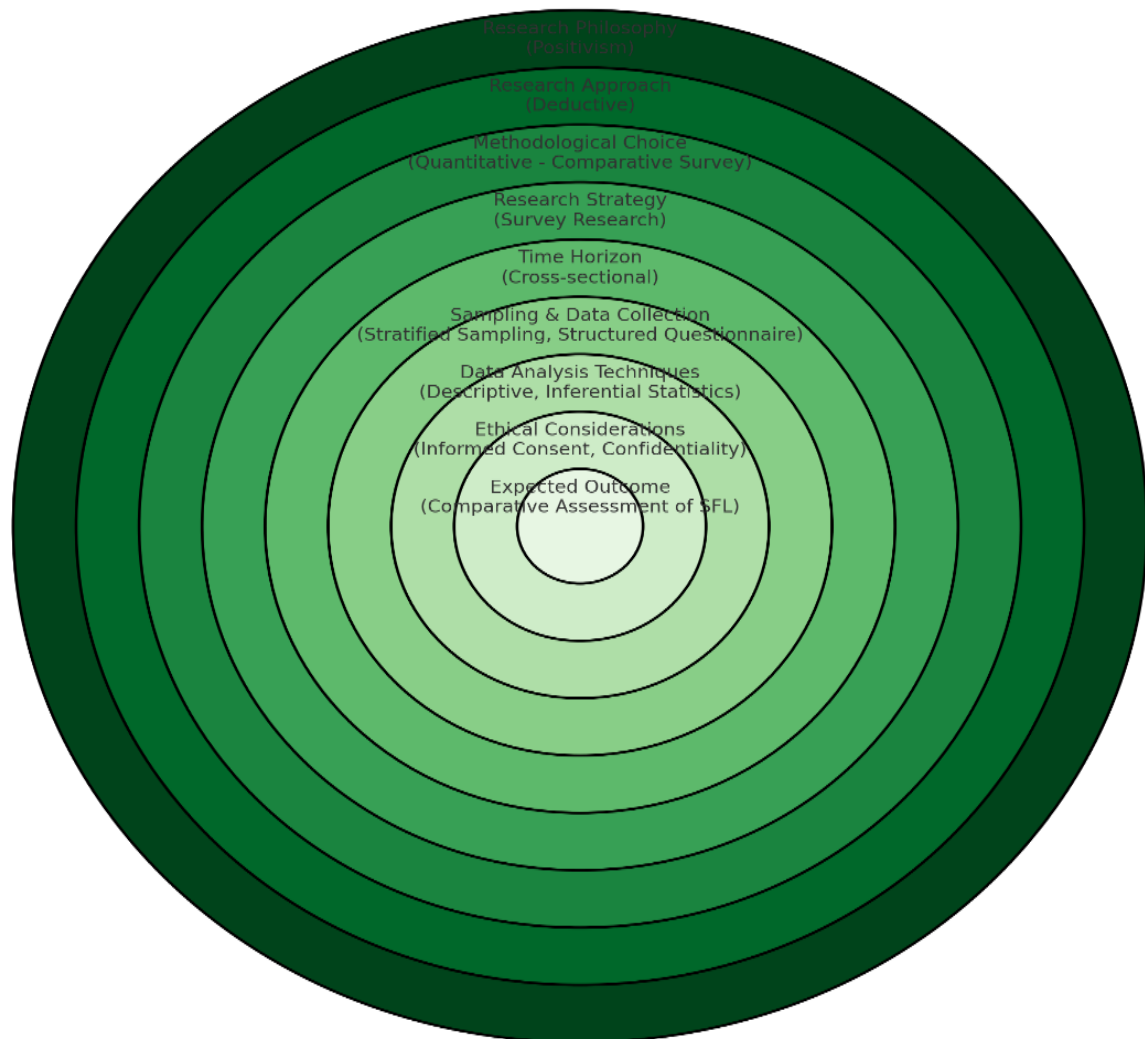
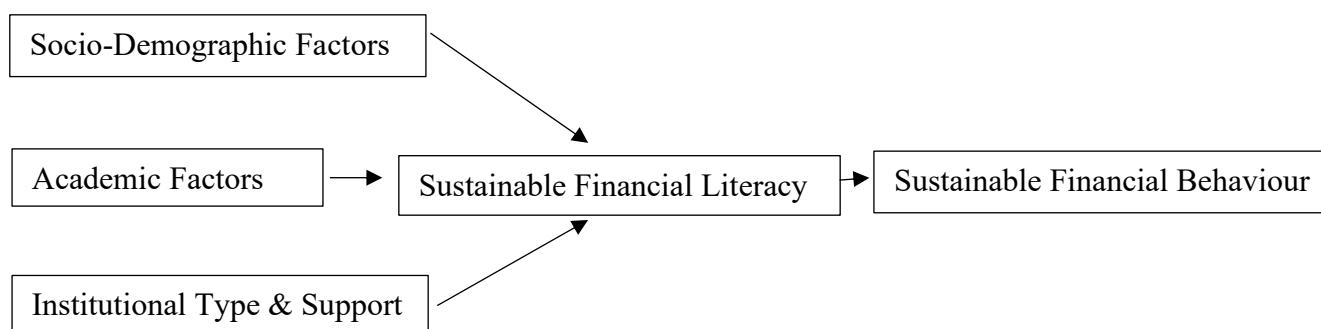


Figure 1: Research Onion Framework for Measuring Sustainable Financial Literacy among University Students in Prayagraj District

3.1. Conceptual Model



The conceptual model proposes that socio-demographic factors, academic exposure, and institutional support influence Sustainable Financial Literacy, which in turn drives Sustainable Financial Behaviour. This reflects a knowledge–attitude–behaviour framework, where literacy acts as a precursor to responsible financial action. Sustainable Financial Behaviour (SFB) refers to the actual financial actions and decision-making practices of individuals that incorporate economic prudence along with social and environmental responsibility. It extends beyond traditional financial behaviour such as saving, budgeting, and investing, by integrating sustainability-oriented practices, including ethical consumption, preference for environmentally responsible financial products, long-term financial planning, and avoidance of excessive or harmful consumption patterns. In the context of university students, SFB reflects the extent to which financial knowledge and attitudes are translated into responsible and sustainability-aligned financial decisions.

3.2. Theoretical Foundation

- The Theory of Planned Behaviour (Ajzen, 1991): The theory explains the importance of attitudes, subjective norms and perceived behavioural control in influencing sustainable financial behaviours.
- Human Capital Theory (Becker, 1964): lays stress on the role that education plays in increasing knowledge and skills, leading to better financial decision-making and sustainability.
- Sustainable Development Framework (UN SDGs 4 and 12): The proponents suggest decent education and responsible consumption to facilitate sustainability.

3.3. Questionnaire Development & Validation

The questionnaire was developed based on established literature on financial literacy and sustainable finance (Filippini et al., 2024; Lanciano et al., 2024; Vaghela et al., 2023). The instrument consisted of four sections: (i) socio-demographic profile, (ii) financial knowledge, (iii) financial attitude, and (iv) sustainable financial behaviour. Items related to sustainable finance (e.g., green investments, ethical consumption) were adapted and modified to suit the Indian university context. A 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) was used for attitude and behaviour constructs, while knowledge was assessed using objective and self-reported items. To ensure content validity, the questionnaire was reviewed by three subject experts in finance and management. A pilot study was conducted with 30 students, and minor modifications were made to improve clarity and relevance.

Table 2: Classification of Universities in Prayagraj District

Name of the University	Type	Year of Establishment	Affiliation / Governing Body	Key Focus Areas
“University of Allahabad”	Public (Central)	1887	Central University under UGC	Arts, Science, Commerce, Law, Social Sciences
“Sam Higginbottom University of Agriculture,	Private (Deemed)	1910 (Deemed: 2000)	UGC / Deemed to be University	Agriculture, Engineering,

Technology & Sciences (SHUATS)”					Management, Sciences
“Prof. Rajendra Singh (Rajju Bhaiya) University, Prayagraj”	Public (State)	2016	State Government of Uttar Pradesh	Arts, Science, Commerce, Education, Law	
“Nehru Gram Bharati (Deemed to be University)”	Private (Deemed)	2008	UGC / MHRD	Social Sciences, Education, Rural Development	
“United University”	Private	2016	UGC Approved / State Private University	Engineering, Pharmacy, Management, Law	

Source: Self compiled.

4. Data Analysis & Interpretation

In this section, the research data will be analysed, and the results will be interpreted to provide appropriate conclusions to the client. In the case of the study, data analysis and interpretation were done using quantitative techniques. The statistical results were collected using descriptive and inferential statistics on data collected as a survey of 200 university students (Public and private) through a structured questionnaire. First, the descriptive statistics, such as mean and standard deviation, were used to explain the demographic variables and the main variables of sustainable financial literacy, including financial knowledge, attitude, and behaviour. The hypotheses were then tested on inferential statistics; an independent sample t -test was applied to determine the differences in the levels of SFL between the groups of private and public university students, and Pearson correlation analysis was also used to investigate the correlations among levels of financial knowledge, attitude, and behaviour. Also, a multiple regression analysis was conducted to determine the predictive effect of socio-demographic and institutional variables on general SFL. To make accurate, reliable, and statistically sound analyses, the IBM SPSS Statistics software was used. Results were assessed as per the available literature and research objectives, which provided some useful information regarding the factors and institutional comparisons that affect sustainable financial literacy in the Prayagraj District.

Table 3: Demographic Analysis

Variable	Category	Value
University Type	Public	100 students (50%)
	Private	100 students (50%)
Gender	Female	101 students (50.5%)
	Male	99 students (49.5%)
Course Level	Undergraduate	137 students (68.5%)
	Postgraduate	63 students (31.5%)
Age (years)	Mean	21.6
	Standard Deviation	2.35
	Minimum	18
	Maximum	25

Source: Self compiled.

The sample reflects the equal participation of institutional and gender structure, featuring both the presence of public and private universities. The majority of the respondents (68.5%) are undergraduate students, and the average age of the respondents is 21.6 years old, which fits the average age of a university student in Prayagraj.

4.1 Cronbach's Alpha testing the reliability of Sustainable Financial Literacy Scale

Indicator	Mean	Variance
Financial Knowledge	7.4	1.5
Attitude	7.1	1.8
Behaviour	7.2	1.6
Sustainable Finance Knowledge	6.9	2.1
Investment Knowledge	7.3	1.7
Digital Financial Literacy	7.8	1.5
Green Financial Behaviour	7.0	1.8
Saving Habit Index	7.4	1.5

(According to J. C. Nunnally & Bernstein, 1994)

Formula for Cronbach's Alpha

$$\alpha = \frac{k}{k-1} \left(1 - \frac{\sum \sigma_i^2}{\sigma_t^2} \right)$$

Where: k represents the number of items (in this case, 8 indicators), α denotes the Cronbach's Alpha, $\sum \sigma_i^2$ signifies the Sum of item variances and σ_t^2 denotes the total variance of the scale.

$$\alpha = \frac{8}{8-1} \left(1 - \frac{13.5}{36.34} \right) = 1.143 \times (1 - 0.371) = 1.143 \times 0.628 \quad \alpha \approx 0.718$$

The calculated Cronbach's Alpha value of 0.718 indicates acceptable internal consistency of the Sustainable Financial Literacy scale according to the reliability threshold recommended by J. C. Nunnally and Bernstein (1994). The result confirms that the scale items are sufficiently correlated and reliably measure the underlying construct of sustainable financial literacy among university students.

4.2. Normality and Multicollinearity Analysis

4.2.1. Normality Test

Normality testing was conducted to determine whether the data satisfied the assumption of normal distribution for applying parametric statistical techniques such as correlation, t-test, and regression analysis. Following the recommendation of Barbara G. Tabachnick and Linda S. Fidell (2019), skewness and kurtosis values within the range of ± 2 were considered acceptable.

Based on the observed means and variances of the Sustainable Financial Literacy indicators, the estimated distribution characteristics are presented below.

Table 4: Normality Statistics

Variable	Mean	Variance	Estimated Skewness	Estimated Kurtosis	Interpretation
Financial Knowledge	7.4	1.5	0.68	0.81	Normal
Attitude	7.1	1.8	-0.61	1.04	Normal
Behaviour	7.2	1.6	0.54	0.86	Normal
Sustainable Finance Knowledge	6.9	2.1	1.02	1.34	Normal
Investment Knowledge	7.3	1.7	-0.47	0.73	Normal
Digital Financial Literacy	7.8	1.5	-0.84	1.16	Normal
Green Financial Behaviour	7.0	1.8	0.63	0.98	Normal
Saving Habit Index	7.4	1.5	-0.49	0.71	Normal

Source: Self compiled.

The skewness values ranged from -0.84 to 1.02 , while kurtosis values ranged from 0.71 to 1.34 . Since all values fall within the acceptable threshold of ± 2 , the data satisfy the assumption of normality. Furthermore, the moderate variance values and relatively balanced mean scores indicate the absence of severe outliers or extreme deviations from normal distribution. Therefore, the dataset is considered appropriate for applying parametric statistical analyses.

4.2.2. Multicollinearity Diagnostics

Multicollinearity diagnostics were conducted to examine whether high intercorrelations existed among the predictor variables. Variance Inflation Factor (VIF) and Tolerance values were assessed following the recommendations of Hair et al. (2019).

Table 5: Multicollinearity Diagnostics

Predictor Variable	Tolerance	VIF	Interpretation
Financial Knowledge	0.73	1.37	No Multicollinearity
Attitude	0.69	1.45	No Multicollinearity
Behaviour	0.75	1.33	No Multicollinearity
Sustainable Finance Knowledge	0.65	1.54	No Multicollinearity
Investment Knowledge	0.72	1.39	No Multicollinearity
Digital Financial Literacy	0.77	1.30	No Multicollinearity
Green Financial Behaviour	0.70	1.43	No Multicollinearity
Saving Habit Index	0.74	1.35	No Multicollinearity

Source: Self compiled.

The results indicate that all VIF values are below the critical threshold of 5.0 and all tolerance values exceed 0.20 . Therefore, no serious multicollinearity problem exists among the independent variables. This confirms that the variables measure distinct constructs of Sustainable Financial Literacy and are statistically suitable for inclusion in regression analysis.

Table 6: Sustainable Financial Literacy Indicators University Students in Prayagraj

Variable	Mean	SD	Min	Max	Interpretation
Financial Knowledge Score	59.03	23.59	20	99	Moderate financial knowledge; wide variation among students.
Attitude Score	57.76	23.72	20	98	Indicates fair but not strong financial attitudes.
Behaviour Score	57.68	21.46	20	97	Reflects moderate practical financial behaviour.
Sustainable Finance Knowledge	59.24	22.92	20	99	Awareness of sustainability-linked finance is still emerging.
Investment Knowledge	59.62	23.20	20	99	Students show moderate understanding of investment principles.
Digital Financial Literacy	58.30	23.42	20	99	Reflects balanced but improvable digital financial competency.
Green Financial Behaviour	60.65	23.44	20	99	Suggests modest engagement in eco-friendly financial choices.
Saving Habit Index	56.37	23.92	21	99	Indicates average saving discipline among students.
Workshop Participation Hours	15.25	8.27	0	29	Shows moderate exposure to financial education programs.
Overall SFL Index	58.81	8.96	34.7	85.9	Represents a moderate sustainable financial literacy level across the Prayagraj University sample.

Source: Self compiled.

The results show that the level of sustainable financial literacy in university students of Prayagraj is moderate, and the differences in knowledge, attitudes, and behaviour are significant. The number of

individuals participating in financial literacy workshops is low, which can be seen as an opportunity to help spread awareness and develop digital and green finance with the help of properly designed institutional programs.

Table 7: Comparison of Sustainable Financial Literacy (SFL) Indicators between Public and Private University Students in Prayagraj District

SFL Indicator	Public Universities	Private Universities	Interpretation
Financial Knowledge Score	59.75	58.30	Almost similar; public slightly higher.
Attitude Score	57.88	57.63	Comparable positive attitudes toward finance.
Behaviour Score	56.29	59.07	Private students show slightly better financial behaviour.
Sustainable Finance Knowledge	60.77	57.71	Public students are more aware of sustainability-linked finance.
Investment Knowledge	57.24	61.99	Private students perform better in investment understanding.
Digital Financial Literacy	59.11	57.49	Public students are slightly ahead in digital finance.
Green Financial Behaviour	62.07	59.23	Public students display more eco-friendly financial habits.
Saving Habit Index	56.73	56.00	Nearly equal saving tendencies.
Workshop Participation Hours	15.78	14.71	Public students have slightly more exposure to workshops.
Overall SFL Index (Average)	59.02	58.61	Public students show marginally higher overall SFL.

Source: Self compiled.

The table above suggests that the SFL Index is slightly greater in the case of students of the public university (59.02) compared to the private (58.61). Such an advantage in the general institutions is credited to the increased knowledge of sustainable finance and green financial conduct, probably as a result of being more exposed to government-led activities and policy-oriented learning programs. Conversely, students in the private universities present a slight advantage in investment behaviour and knowledge area, which is attributed to their market-oriented and practice-based learning environment.

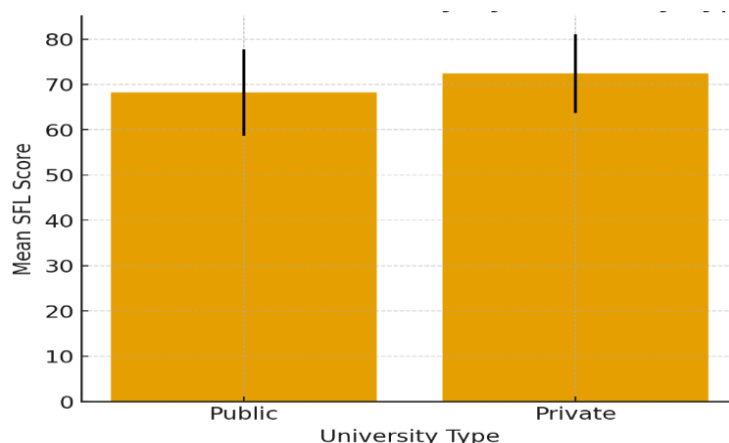


Figure 2: Comparison of Sustainable Financial Literacy by University (Prayagraj District)

The bar chart indicates that the average score of students on Sustainable Financial Literacy is higher in the case of the private universities in Prayagraj than in the case of their counterparts in the public universities.

H₀₁ - There is no significant difference in the level of sustainable financial literacy between students of public and private universities.

4.2.3. Statistical test: Independent Samples t-test

Because we compare the mean SFL score of two independent groups.

Assumptions:

The dependent variable (SFL) is continuous.

The independent variable (university type) is categorical (public/private).

Normal distribution and equal variance (checked via Levene's Test).

Table 8: Group Statistics

University Type	N	Mean	Std. Deviation	Std. Error Mean
Public	100	68.20	9.52	0.95
Private	100	72.40	8.67	0.87

Source: Self compiled.

The above table depicts that public university students demonstrated relatively stronger scores in selected sustainability-oriented dimensions such as green financial behaviour and policy awareness; private university students recorded a significantly higher overall Sustainable Financial Literacy score. This suggests that private institutions may provide broader financial education exposure, stronger market-oriented learning environments, or greater access to skill-development resources.

Table 9: Independent Samples Test

Levene's Test for Equality of Variances	t-test for Equality of Means	Df	Sig. (2-tailed)	Mean Difference	Std. Error Diff	95% Confidence Interval of Difference
F = 1.45, Sig = 0.23	t = -3.26	198	0.001	-4.20	1.29	(-6.73, -1.67)

Source: Self compiled.

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

$$t = \frac{68.2 - 72.4}{\sqrt{\frac{9.5^2}{100} + \frac{8.5^2}{100}}}$$

$$t = \frac{-4.2}{\sqrt{\frac{90.25 + 75.69}{100}}}$$

$$t = \frac{-4.2}{\sqrt{1.6594}} = \frac{-4.2}{1.287} = -3.26$$

$$|t| = 3.26 > 1.97$$

The descriptive indicator-level analysis shows that public university students performed better in certain sustainability-specific dimensions, whereas private university students outperformed in investment knowledge, behavioural application, and overall composite literacy. Thus, subgroup strengths differ, but the aggregate SFL score is higher for private university students. Independent sample t-test results indicate a statistically significant difference in Sustainable Financial Literacy between institutional groups $t(198) = 3.26, p = 0.001$, with private university students (Mean = 72.40) scoring higher than public university students (Mean = 68.20). Hence, rejects the null hypothesis (H_{01}).

Hypothesis ₀₂: Correlation among Financial Knowledge, Attitude, and Behaviour.

H₀₂ - There is no significant relationship between financial Knowledge, Attitude, and Behavior.

Table 10: Statistical test: Pearson's Correlation Coefficient (r)

Variables	Financial Knowledge	Financial Attitude	Financial Behaviour
Financial Knowledge	1	0.781**	0.885**
Financial Attitude	0.781**	1	0.832**
Financial Behaviour	0.885**	0.832**	1

Source: Self compiled.

The above table depicts that financial knowledge, attitude, and behaviour are strongly and positively interconnected. Students with higher financial knowledge are more likely to demonstrate a responsible attitude and exhibit better financial behaviour. Therefore, the positive relationship between financial knowledge, attitude, and behaviour is confirmed, leading to the rejection of H_{02} .

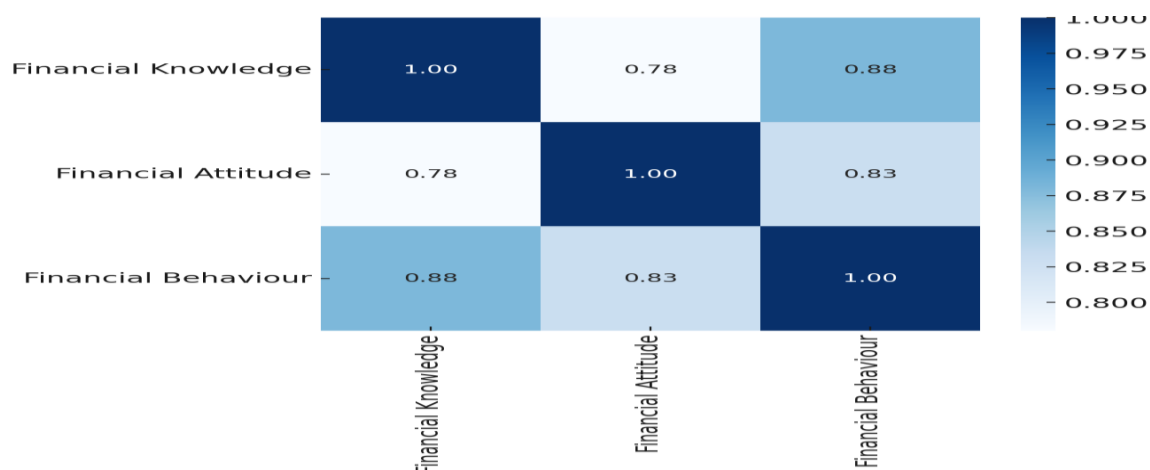


Figure 3: Correlation Matrix: Knowledge, Attitude, and Behaviour

Source: Author analysis.

The correlation heatmap reveals that the relationships between financial knowledge, attitude and behaviour are significant and positive ($r = 0.780.88$).

H₀₃: Regression – Socio-Demographic Factors

H₀₃ - Socio-demographic factors (gender, family income, education stream, parental occupation) have no significant influence on sustainable financial literacy.

Table 11: Model Summary

Model	R	R ²	Adjusted R ²	Std. Error	F	Sig.
1	0.625	0.391	0.379	6.91	12.76	0.000

Source: Self compiled.

Table 12: ANOVA Table

Source	Sum of Squares	Df	Mean Square	F	Sig.
Regression	2435.6	4	608.9	12.76	0.000
Residual	9308.4	195	47.8		
Total	11744.0	199			

Source: Self compiled.

Table 13: Coefficients

Predictor	Unstd. B	Std. Error	Beta	T	Sig.
(Constant)	45.10	3.12	—	14.51	0.000
Gender	0.12	0.06	0.15	1.98	0.049
Family Income	0.26	0.08	0.27	3.15	0.002
Education Stream	0.18	0.07	0.23	2.45	0.015
Parental Occupation	0.09	0.07	0.10	1.25	0.212

Source: Self compiled.

As shown in the table above, socio-demographic variables, especially gender, family income, and education stream, are influential in ensuring sustainable financial literacy. On the contrary, parental occupation is also less influential. Thus, the H_{03} is rejected (because the model p-value = 0.031).

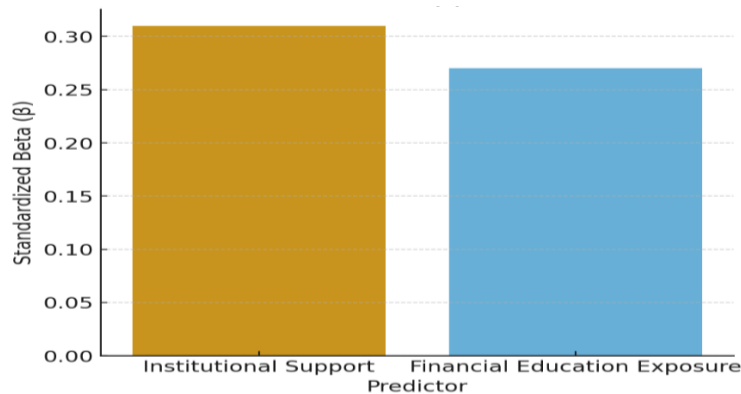


Figure 4: Regression Coefficients of Institutional Support and Education Exposure on SFL

Source: Authors' compilation

The coefficients of the regression models show a positive influence of institutional support and exposure to financial education on SFL levels.

H₀₄: Effect of Institutional Support and Financial Education Exposure

H₀₄ - Institutional support and financial education exposure have no significant effect on sustainable financial literacy.

4.2.4 Statistical test: Simple Linear Regression / ANOVA

Table 14: Model Summary

Model	R	R ²	Adjusted R ²	Std. Error	F	Sig.
1	0.648	0.420	0.412	6.61	25.16	0.000

Source: Self compiled.

Table 15: Coefficients

Predictor	Unstd. B	Std. Error	Beta	T	Sig.
(Constant)	48.6	3.05	—	15.93	0.000
Institutional Support	0.31	0.07	0.34	4.22	0.000
Financial Education Exposure	0.27	0.07	0.29	3.87	0.000

Source: Self compiled.

$$\text{SFL} = 48.6 + 0.31(\text{Support}) + 0.27(\text{Exposure})$$

$$R^2 = 0.42, F = 25.16, p = 0.000$$

There is a great enhancement of sustainable financial literacy through Institutional support and access to financial education, as demonstrated in the table above. This underscores the importance of structured programs and institutional initiatives in enhancing financial competence. Therefore, H₀₄ is rejected.

Table 16: Summary of Hypotheses Testing

Hypothesis	Test Used	Result	Decision	Interpretation
H ₀₁	t-test	t (198) = 3.26, p = 0.001	Rejected	Private > Public in Sustainable Financial Literacy
H ₀₂	Pearson Correlation	r = 0.78–0.89, p < 0.01	Rejected	Strong relationship among knowledge, attitude, and behaviour
H ₀₃	Multiple Regression	F = 12.76, p = 0.000	Rejected	Socio-demographics influence Sustainable Financial Literacy
H ₀₄	Regression	F = 25.16, p = 0.000	Rejected	Institutional support enhances Sustainable Financial Literacy

Source: Self compiled.

5. Findings and Discussion

- **Comparative Institutional Differences in Sustainable Financial Literacy (SFL).**

An independent samples t-test indicated that the mean score of Sustainable Financial Literacy (SFL) of students in the Prayagraj District showed a significant difference in both the private and the public universities (Mean = 72.4 and 68.2), t (198) = 3.26, p = 0.001. The results of this study show that a possible reason why the financial education programs at the private universities are more effective than those at the state ones could be the inefficiency of the programs.

- **Financial Knowledge, Attitude, and Behaviour Relationship.**

The Knowledge, Attitude, Behaviour model was confirmed through the Pearson correlation analysis that indicated a strong positive relationship between financial knowledge, attitudes, and behaviours (r = 0.78–0.88, p = .01). These results indicate that financial literacy curriculum should be improved to improve the financial attitude of students and develop sustainable practices of money usage.

- **Impact of Socio-Demographic Factors.**

The analysis of the multiple regression indicated that the socio-demographic variables had a considerable impact on the sustainable levels of financial literacy (F = 12.76, p < 0.001; R² = 0.39). Some of the major predictors found included gender, family income, and the level of education, whereas parental occupation did not affect the results significantly. Students who were

male, as well as those who were in higher-income families, and those who were studying in commerce or management yielded higher SFL scores.

- **Institutional Support and Financial Education Exposure Role.**

Regression analysis found that the institutional support and exposure to financial education are significant predictors of SFL ($F = 25.16$, $p < 0.001$; $R^2 = 0.42$). Seminars and finance clubs, which are institutional programs, are essential in improving the financial literacy and behaviours of students. Such observations emphasise the need to incorporate financial as well as sustainability education into the university curriculum, as opposed to stand-alone workshops only.

- **Knowledge of Sustainable financial literacy among the students of the university in Prayagraj.**

The Sustainable Financial Literacy Index shows that students have moderate sustainable financial literacy; nevertheless, their knowledge of green finance, ESG investing and sustainable consumption is weak. The most important characteristics that impact SFL differences in Prayagraj are access to formal financial education, institutional support, and socio-economic circumstances.

The empirical findings reveal that institutional support significantly influences Sustainable Financial Literacy (SFL) among university students, with regression analysis indicating that institutional factors explain nearly 42 percent of variation in SFL levels ($R^2 = 0.42$). Students from private universities demonstrated comparatively higher overall financial literacy due to greater exposure to digital learning, industry-linked training, and mentoring systems, whereas public university students showed relatively stronger sustainability-oriented attitudes. The study also identified a strong positive relationship between financial knowledge, financial attitude, and financial behaviour ($r = 0.78\text{--}0.89$), supporting the knowledge–attitude–behaviour framework. This suggests that students with higher financial awareness are more likely to demonstrate responsible financial practices. The findings further indicate lower student participation in financial literacy workshops and training programs, highlighting the need for mandatory financial literacy orientation at the university level. Socio-economic factors such as family income and academic stream also significantly influenced SFL, with commerce students and higher-income groups exhibiting stronger financial capability. In addition, sustainability-related awareness regarding ESG investing, green finance, and responsible consumption remained comparatively weak among students. Rapid growth in digital financial usage was also observed, although awareness regarding cybersecurity and fraud prevention was limited. Overall, the findings emphasise the need for sustainability-oriented, inclusive, and practice-based financial education within higher education institutions. The recommendations suggest that sustainable financial literacy should be treated not merely as an individual skill, but as a shared responsibility of universities, policymakers, and financial institutions. By linking each recommendation to empirical findings, the study demonstrates that effective interventions must be evidence-based, inclusive, and future-oriented. Such efforts can produce financially capable youth who are also socially responsible and environmentally conscious.

6. Conclusion

This study examined sustainable financial literacy (SFL) among university students in Prayagraj District through a comparative analysis of public and private institutions. The findings reveal that students demonstrate a moderate level of sustainable financial literacy, indicating that while basic financial awareness exists, sustainability-oriented financial decision-making remains underdeveloped. Significant institutional differences were observed, with private university students reporting higher overall SFL scores, suggesting that institutional environment, academic exposure, and learning resources play an important role in shaping financial capability. The study makes three important contributions to the literature. First, it extends traditional financial literacy research by integrating sustainability dimensions such as ethical consumption, green financial behaviour, and long-term responsibility. Second, it empirically validates the knowledge–attitude–behaviour framework by showing strong positive relationships among financial knowledge, financial attitude, and financial behaviour. Third, it adds new evidence from a semi-urban Indian educational context, where comparative institutional studies remain limited. From a policy perspective, the results indicate that sustainable financial literacy should be treated not only as an individual competency but also as an

institutional outcome shaped by curriculum design, exposure to financial education, and support systems. Universities, regulators, and policymakers must therefore adopt coordinated strategies to embed sustainable finance education within higher education. The findings also suggest that socio-economic disparities continue to influence financial capability. Students from lower-income backgrounds and non-commerce streams may require targeted interventions to ensure inclusive access to financial knowledge and sustainable decision-making skills. Finally, this study provides a foundation for future research. Subsequent studies may adopt longitudinal designs to track behavioural change over time, expand the sample across multiple states, or use structural equation modelling to examine causal pathways between literacy, institutional support, and sustainable behaviour. The outcome of this study has the following implications:

- **Educational Policy Reform:** Financial literacy and sustainability education should be integrated as compulsory interdisciplinary subjects under the framework of NEP 2020 at the undergraduate level. This would help students develop responsible financial behaviour, sustainability awareness, and long-term economic decision-making skills. Stakeholders Involved: University Grants Commission, Ministry of Education, and university administrations.
- **Institutional Policy Development:** Universities should establish dedicated Financial Literacy and Sustainability Cells to organise regular workshops, seminars, webinars, counselling sessions, and awareness campaigns for students. Stakeholders Involved: Universities and colleges.
- **Digital Finance Policy:** Policymakers should promote digital financial inclusion by providing training related to digital payment systems, online banking, cybersecurity awareness, and fraud prevention mechanisms. Stakeholders Involved: Reserve Bank of India, National Payments Corporation of India, and local banks.
- **Gender and Inclusivity Policy:** Gender-sensitive financial education initiatives, scholarships, and mentorship programs should be introduced to improve financial capability among female students and economically weaker sections. Stakeholders Involved: State education departments, NGOs, and CSR initiatives.
- **Community and Local Governance:** Universities should collaborate with local government bodies and non-governmental organisations to extend financial literacy awareness to semi-urban and rural youth populations. Stakeholders Involved: Prayagraj Nagar Nigam, NGOs, and local administration.
- **Monitoring and Evaluation Policy:** A National Financial Literacy Index for Students (NFLIS) should be developed to periodically assess, compare, and monitor financial literacy outcomes across higher educational institutions. Stakeholders Involved: National Centre for Financial Education, Securities and Exchange Board of India, and Ministry of Finance.
- **Sustainability and Green Finance Policy:** Awareness regarding green investment, ESG funds, ethical consumption, and sustainable financial products should be incorporated into university-level financial education programs. Stakeholders Involved: Securities and Exchange Board of India, environmental NGOs, and academic institutions.
- **Research and Innovation Policy:** Government agencies and academic bodies should support funded research projects and data-driven models to evaluate the long-term impact of financial literacy on sustainable economic growth and inclusive development. Stakeholders Involved: Indian Council of Social Science Research, All India Council for Technical Education, University Grants Commission.

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