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EXPLORING THE LATENT STRUCTURE OF FINANCIAL LITERACY AMONG GOVERNMENT EMPLOYEES IN CHHATTISGARH: AN EXPLORATORY FACTOR ANALYSIS

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Abstract

Financial literacy is a key determinant of individual financial well-being in the context of increasingly complex financial systems and investment opportunities. Despite its growing importance, it is often treated as a unidimensional construct, limiting a comprehensive understanding of its underlying components. The present study aims to explore the latent structure of financial literacy among government employees in Chhattisgarh using Exploratory Factor Analysis (EFA).

Primary data were collected from 200 respondents through a structured questionnaire covering dimensions such as financial knowledge, behaviour, planning, and awareness. The suitability of the data for factor analysis was confirmed by the Kaiser–Meyer–Olkin (KMO) measure (0.846) and Bartlett’s Test of Sphericity ($p < 0.001$). The results of EFA revealed five distinct factors explaining 65.468% of the total variance, thereby confirming the multidimensional nature of financial literacy.

The study provides an empirically validated framework of financial literacy and offers practical implications for policymakers and financial institutions in designing targeted financial education programs to enhance financial decision-making and long-term economic resilience among government employees.

Keywords - Financial Literacy, Multidimensional Structure, Exploratory Factor Analysis. Financial Planning, Digital Financial Literacy

1.Introduction

Financial literacy has emerged as a crucial determinant of individual financial well-being in the contemporary economic environment. With increasing complexity in financial markets, diversified investment avenues, and rapidly evolving financial products, individuals are required to possess adequate financial knowledge and sound decision-making capabilities. Financial literacy facilitates effective financial management, promotes disciplined saving, responsible borrowing, and informed investment behavior. In the context of the public sector, government employees constitute a significant and structured segment of the workforce whose financial decisions have long-term implications for economic stability and post-retirement security. In a developing state such as Chhattisgarh, where financial awareness and access to financial services are gradually expanding, understanding the financial capability of government employees becomes particularly important. The existing body of literature suggests that financial literacy is inherently a multidimensional construct rather than a unidimensional concept. **Chetri and Mahapatra (2018)**, using Exploratory Factor Analysis (EFA), identified key dimensions such as financial skills, investment behaviour, and financial awareness, revealing significant gaps in financial competencies. Similarly, **Nik Mohamed et al. (2023)** developed and validated a financial literacy measurement instrument and identified core components including financial knowledge, behaviour, and attitude with strong reliability. **Satyavani et al.(2025)** further emphasized dimensions such as investment knowledge, financial awareness, attitude, and the time value of money, demonstrating the robustness of these constructs in explaining financial literacy among working individuals.

In addition, **Agrawal and Agarwal (2023)** found that financial knowledge significantly enhances financial decision-making, whereas financial attitude does not always translate into improved financial outcomes, indicating a complex relationship among literacy dimensions. **Vahi and Kumar (2025)**, through a systematic review, highlighted the role of socio-economic and cultural factors such as income, education, and gender in shaping financial literacy, thereby emphasizing the need for targeted financial education initiatives and policy support.



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Despite these contributions, the literature reveals notable gaps. Most prior studies have focused on specific population groups such as women, students, or informal sector workers, with limited attention given to government employees as a distinct and homogeneous workforce segment. Moreover, although financial literacy is widely acknowledged as multidimensional, there remains a lack of clarity regarding its latent structure and the interrelationships among its underlying dimensions, particularly in region-specific contexts like Chhattisgarh. The absence of a well-defined and empirically validated framework restricts the effectiveness of financial education programs and policy formulation.

In this context, the present study aims to explore the latent structure of financial literacy among government employees in Chhattisgarh using Exploratory Factor Analysis (EFA). By identifying the underlying dimensions, the study seeks to develop a structured and empirically grounded framework of financial literacy. The findings are expected to provide valuable insights for policymakers, financial institutions, and administrative bodies in designing targeted financial education programs, improving financial decision-making, strengthening investment and retirement planning behaviour, and ultimately enhancing the financial resilience and economic security of government employees.

2. Objective of the study

- 1.To assess the psychometric adequacy of the financial literacy instrument in terms of reliability and sampling suitability.
- 2.To uncover the latent structural components of financial literacy among government employees through Exploratory Factor Analysis.

3.Hypothesis of the study

- ◆ H₁: The financial literacy measurement scale demonstrates acceptable reliability and sampling adequacy for factor analysis.
- ◆ H₂: Financial literacy among government employees has a multidimensional latent structure.

4. Limitations of the Study

Despite providing meaningful insights into the latent structure of financial literacy among government employees in Chhattisgarh, the present study is subject to certain limitations. The study is based on a convenience sampling technique, which may limit the generalizability of the findings beyond the selected respondents. The sample is confined to government employees within a specific geographical region, and therefore, the results may not be applicable to private sector employees or individuals in other states or socio-economic contexts. The data were collected through a self-administered questionnaire using a Likert scale, which may be influenced by respondents' subjective perceptions and the possibility of response bias. Furthermore, although Exploratory Factor Analysis (EFA) is effective in identifying underlying dimensions, it does not confirm causal relationships among variables, and the factor structure identified is exploratory in nature. Additionally, the study focuses on selected dimensions of financial literacy and may not capture all possible aspects of the construct. These limitations should be considered while interpreting the findings and provide scope for further research using larger, more diverse samples and advanced analytical techniques.

5. Research methodology

The present study adopts a quantitative and exploratory research design to examine the latent structure of financial literacy among government employees in Chhattisgarh. The exploratory nature of the study is appropriate as it seeks to identify the underlying dimensions of financial literacy through the application of Exploratory Factor Analysis (EFA). The target population comprises government employees working in various public sector departments, representing a structured and significant segment of the workforce. A total of 200 respondents were selected using a convenience sampling technique, which is considered adequate for multivariate analysis, particularly factor analysis. Primary data were collected through a



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self-administered structured questionnaire consisting of two sections: demographic profile and financial literacy scale. The demographic section includes variables such as gender, age group, educational qualification, and years of service, while the financial literacy scale comprises 20 statements designed to measure various dimensions including budgeting behavior, saving behavior, investment awareness, risk and insurance knowledge, digital financial literacy, financial planning, and decision-making confidence. Responses were recorded using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The collected data were analysed using SPSS software, employing a range of statistical techniques. Descriptive statistics were used to summarize respondent characteristics, while reliability analysis using Cronbach’s Alpha was conducted to assess internal consistency, with a threshold value of 0.70 considered acceptable. The suitability of data for factor analysis was evaluated using the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett’s Test of Sphericity, where a KMO value greater than 0.60 and a significance level below 0.05 indicate appropriateness. Subsequently, Exploratory Factor Analysis was performed using the Principal Component Method with Varimax Rotation to extract the latent factors. The criteria for factor extraction included eigenvalues greater than one, factor loadings exceeding 0.50, examination of the scree plot, and total variance explained. The data analysis followed a systematic procedure involving data coding, reliability testing, assessment of sampling adequacy, factor extraction, rotation, and interpretation of the rotated component matrix for factor identification and naming. Ethical considerations were duly maintained by ensuring voluntary participation, confidentiality of respondents, and the use of data solely for academic purposes.

6. Data Analysis and Interpretation

This chapter presents the analysis and interpretation of data collected to examine the latent structure of financial literacy among government employees in Chhattisgarh. The analysis is carried out in accordance with the objectives and hypotheses of the study using SPSS software. Initially, descriptive statistics are employed to summarize the demographic characteristics of the respondents. Subsequently, the reliability of the measurement instrument is assessed using Cronbach’s Alpha to ensure internal consistency. The suitability of the data for factor analysis is then examined through the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett’s Test of Sphericity. Following this, Exploratory Factor Analysis (EFA) is conducted using the Principal Component Method with Varimax Rotation to identify the underlying dimensions of financial literacy. The results are interpreted through communalities, total variance explained, scree plot, and rotated component matrix. Finally, the hypotheses of the study are tested based on the empirical findings, providing a comprehensive understanding of the multidimensional nature of financial literacy.

6.1. Demographic profile

Particulars	Frequency	Percent
Gender		
Male	148	74
Female	52	26
Total	200	100
Age		
Below 30 years	26	13
30–40 years	68	34
40–50 years	78	39



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Above 50 years	28	14
Total	200	100
Education		
Graduate	34	17
Post Graduate	137	68.5
Professional Degree	29	14.5
Total	200	100
Year of Service		
Below 5 years	42	21
5–10 years	30	15
11–20 years	102	51
Above 20 years	26	13
Total	200	100
Annual income		
Less than 5 lakh	39	19.5
05 lakh – 10 lakh	53	26.5
10 lakh – 20 lakh	67	33.5
Above 20 lakh	41	20.5
Total	200	100

the demographic profile of the respondents included in the study. The majority of the respondents were male (74%), while female respondents constituted 26% of the total sample. In terms of age, most respondents belonged to the 40–50 years category (39%), followed by the 30–40 years age group (34%). Regarding educational qualification, a large proportion of respondents were postgraduates (68.5%), indicating a highly educated sample population. The data related to years of service show that most respondents had 11–20 years of work experience (51%), whereas only 13% had more than 20 years of service. The annual income distribution of respondents indicates that 39 respondents belong to the income group below ₹5.00 lakh, while 53 respondents fall within the ₹5 lakh–₹10 lakh category. Further, 67 respondents reported an annual income between ₹10 lakh–₹20 lakh, whereas 41 respondents belong to the income group above ₹20 lakh per annum. Overall, the demographic profile reflects that the respondents are experienced and well-qualified individuals, making the data suitable and reliable for the research study.



6.2 Reliability Analysis (Cronbach's alpha)

Reliability Statistics

Cronbach's Alpha	N of Items
.906	20

The reliability of the financial literacy measurement scale was assessed using Cronbach's Alpha to examine the internal consistency of the instrument. The analysis yielded a Cronbach's Alpha coefficient of 0.906 for the 20-item scale, indicating a very high level of internal consistency among the items. Since the obtained value exceeds the commonly accepted threshold of 0.70, the scale can be considered highly reliable for measuring the construct of financial literacy. This result suggests that the items included in the questionnaire are consistently capturing the underlying dimensions of financial literacy, thereby ensuring the dependability and robustness of the data for further statistical analysis.

6.3 Kaiser–Meyer–Olkin (KMO) measure

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.846
Bartlett's Test of Sphericity	Approx. Chi-Square
Df	1941.243
Sig.	190
	.000

The suitability of the data for factor analysis was examined using the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity. The KMO value was found to be 0.846, indicating a very good level of sampling adequacy, as it exceeds the recommended threshold of 0.60. This suggests that the sample is appropriate for conducting factor analysis. Furthermore, Bartlett's Test of Sphericity yielded a Chi-square value of 1941.243 with 190 degrees of freedom, which was statistically significant ($p < 0.001$). The significant result indicates that the correlation matrix is not an identity matrix and that sufficient correlations exist among the variables to justify the application of Exploratory Factor Analysis. Thus, both tests confirm that the data is suitable for factor extraction and further multivariate analysis.

6.4 Communalities Analysis.		
	Initial	Extraction
BUDGET PREPARATION	1	0.662
TRACK EXPENSES	1	0.736
PRIORITIZE EXP	1	0.563
MONTHLY SAVING	1	0.603



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EMERGENCY FUND	1	0.682
AVOID DEBT	1	0.514
INVESTMENT KNOWLEDGE	1	0.743
COMPARE RISK RETURN	1	0.713
REVIEW INVESTMENT	1	0.614
RISK CONCEPT	1	0.623
INSURANCE COVERAGE	1	0.639
DIVERSIFICATION	1	0.566
DIGITAL BANKLING USE	1	0.816
FRAUD AWARENESS	1	0.704
VERIFY INFORMATION	1	0.645
LONG TERM PLANNING	1	0.656
RETIREMENT PLANNING	1	0.718
SET FINANCIAL GOALS	1	0.727
DECISION CONFIDENCE	1	0.697
SEEK FINANCIAL	1	0.471
Extraction Method: Principal Component Analysis.		

The communalities were examined to determine the extent to which each variable is explained by the extracted factors in the Exploratory Factor Analysis. The results indicate that the majority of the variables have communalities exceeding the acceptable threshold of 0.50, suggesting that they are well represented in the factor solution. Several variables, such as digital banking use (0.816), investment knowledge (0.743), track expenses (0.736), and set financial goals (0.727), exhibited relatively high communalities, indicating a strong contribution to the underlying factor structure. Most of the remaining variables also demonstrated moderate to high communalities, reflecting their adequacy in explaining the construct of financial literacy. However, one variable showed a slightly lower communality value of 0.471, which is marginally below the recommended threshold; nevertheless, it was retained due to its conceptual relevance to the study. Overall, the communalities confirm that the extracted factors sufficiently explain the variance in the observed variables, thereby supporting the adequacy and robustness of the factor model.



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6.5 Total variance analysis

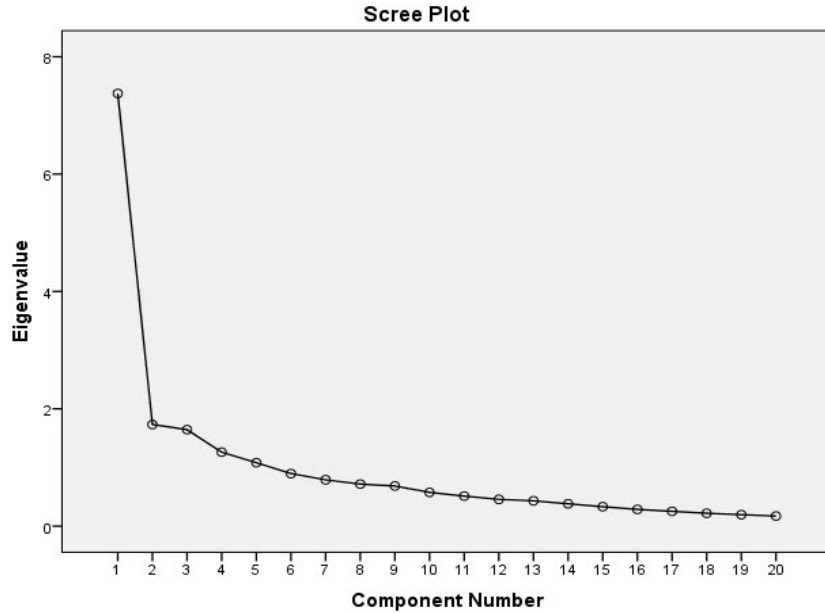
The results of the Exploratory Factor Analysis, based on the Principal Component Method, revealed that five factors with eigenvalues greater than one were extracted from the dataset. The first factor accounted for 36.871% of the total variance, followed by the second factor explaining 8.663%, the third factor 8.224%, the fourth factor 6.307%, and the fifth factor 5.403% of the variance. Collectively, these five factors explained 65.468% of the total variance, indicating a satisfactory level of explanatory power. After rotation using the Varimax method, the variance was more evenly distributed across the five factors, enhancing the interpretability of the factor structure. The cumulative variance exceeding 60% suggests that the extracted factors adequately represent the underlying dimensions of financial literacy, thereby supporting the suitability of the factor solution.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.374	36.871	36.871	7.374	36.871	36.871	3.849	19.247	19.247
2	1.733	8.663	45.534	1.733	8.663	45.534	3.018	15.091	34.338
3	1.645	8.224	53.758	1.645	8.224	53.758	2.603	13.017	47.355
4	1.261	6.307	60.065	1.261	6.307	60.065	1.978	9.891	57.247
5	1.081	5.403	65.468	1.081	5.403	65.468	1.644	8.222	65.468
6	.896	4.482	69.950						
7	.790	3.951	73.901						
8	.717	3.587	77.488						
9	.684	3.421	80.909						
10	.576	2.880	83.789						
11	.513	2.564	86.353						
12	.457	2.285	88.638						
13	.432	2.160	90.798						
14	.381	1.906	92.703						
15	.332	1.658	94.361						
16	.285	1.427	95.788						
17	.253	1.266	97.054						
18	.220	1.100	98.154						
19	.196	.981	99.135						
20	.173	.865	100.000						

Extraction Method: Principal Component Analysis.



6.6 Scree Plot



The scree plot was examined to determine the appropriate number of factors to be retained in the Exploratory Factor Analysis. The graphical representation revealed a clear break, or “elbow,” after the fifth component, indicating a significant drop in eigenvalues from the first to the fifth factor, followed by a relatively stable and gradual decline in subsequent components. This pattern suggests that the first five factors account for the substantial variance in the data, while the remaining factors contribute minimally. The point at which the curve begins to flatten confirms that retaining five factors is appropriate for representing the underlying structure of financial literacy. This finding is consistent with the eigenvalue criterion, which also identified five factors with eigenvalues greater than one. Thus, the scree plot provides visual confirmation of the five-factor solution, supporting the multidimensional nature of financial literacy.

6.7 Rotated Component Matrix

	Component				
	1	2	3	4	5
BUDGET PREPARATION	.244	-.057	.759	.151	.023
TRACK EXPENSES	.002	.208	.811	.152	.112
PRIORITIZE EXP	.154	.514	.382	.330	.143
MONTHLY SAVING	.228	.027	.311	.672	.040
EMERGENCY FUND	.241	.039	.473	.611	.163
AVOID DEBT	.210	.343	.543	.200	-.129



INVESTMENT KNOWLEDGE	.321	.794	-.025	.085	.043
COMPARE RISK RETURN	.104	.613	-.069	.562	-.075
REVIEW INVESTMENT	.476	.279	.150	.410	.346
RISK CONCEPT	.312	.654	.251	-.102	.157
INSURANCE COVERAGE	.670	.287	.051	.087	.312
DIVERSIFICATION	.500	.117	.137	.006	.533
DIGITAL BANKLING USE	.118	.190	.012	.091	.870
FRAUD AWARENESS	-.003	.745	.233	.024	.307
VERIFY INFORMATION	.387	.439	.521	-.105	.144
LONG TERM PLANNING	.707	.075	.158	.300	.190
RETIREMENT PLANNING	.697	.076	.084	.386	.266
SET FINANCIAL GOALS	.801	.107	.182	.202	-.005
DECISION CONFIDENCE	.600	.309	.274	-.385	.136
SEEK FINANCIAL	.570	.278	.173	.041	-.190

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 11 iterations.

The rotated component matrix obtained through Varimax rotation provided a clearer and more interpretable factor structure by maximizing the factor loadings of variables on specific components. The results revealed that the variables were grouped into five distinct factors, with most factor loadings exceeding the acceptable threshold of 0.50, indicating strong associations between variables and their respective factors. The first factor included variables related to financial planning and decision-making confidence, such as long-term planning, retirement planning, setting financial goals, insurance coverage, and decision confidence, reflecting a focus on future financial preparedness. The second factor comprised variables associated with investment and risk awareness, including investment knowledge, understanding of risk concepts, risk-return



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comparison, and fraud awareness, indicating respondents' ability to make informed investment decisions. The third factor primarily represented budgeting and financial control, with variables such as budget preparation and tracking expenses showing high loadings, highlighting day-to-day financial management practices. The fourth factor captured saving behavior, including monthly saving and maintenance of an emergency fund, reflecting the saving habits of individuals. The fifth factor represented digital financial literacy, with digital banking use showing a strong loading, indicating familiarity with digital financial services. Although a few variables exhibited moderate cross-loadings, the overall factor structure remained clear and interpretable. The rotated solution thus enhances the clarity of the underlying dimensions and supports the multidimensional nature of financial literacy.

7. Hypothesis Testing

The hypotheses formulated for the study were tested based on the results obtained from reliability analysis, KMO and Bartlett's Test, and Exploratory Factor Analysis.

Testing of H₁:

H₁ states that the financial literacy measurement scale demonstrates acceptable reliability and sampling adequacy for factor analysis. The reliability of the scale was assessed using Cronbach's Alpha, which yielded a value of 0.906, indicating a very high level of internal consistency. Furthermore, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was found to be 0.846, exceeding the recommended threshold of 0.60. Bartlett's Test of Sphericity was also statistically significant ($p < 0.001$), indicating that sufficient correlations exist among the variables. These results confirm that the data is suitable for factor analysis and that the measurement instrument is reliable. Hence, H₁ is accepted.

Testing of H₂:

H₂ proposes that financial literacy among government employees has a multidimensional latent structure. The results of Exploratory Factor Analysis revealed the extraction of five factors with eigenvalues greater than one, collectively explaining 65.468% of the total variance. The scree plot further supported the retention of five factors, and the rotated component matrix provided a clear and interpretable factor structure. The identified factors represent distinct dimensions, namely financial planning and decision-making confidence, investment and risk awareness, budgeting behavior, saving behavior, and digital financial literacy. These findings confirm that financial literacy is not a unidimensional construct but consists of multiple underlying dimensions. Therefore, H₂ is accepted.

8. Conclusion

The present study aimed to explore the latent structure of financial literacy among government employees in Chhattisgarh using Exploratory Factor Analysis. The findings of the study clearly establish that financial literacy is a multidimensional construct comprising five distinct yet interrelated dimensions, namely financial planning and decision-making confidence, investment and risk awareness, budgeting and financial control, saving behavior, and digital financial literacy. The reliability analysis confirmed a high level of internal consistency of the measurement scale, while the KMO and Bartlett's Test validated the adequacy and suitability of the data for factor analysis. The extracted factors collectively explained a substantial proportion of the total variance, indicating a strong explanatory power of the model. The results suggest that government employees possess varying levels of financial capability across different dimensions, highlighting the need for a comprehensive and targeted approach to financial education. The study contributes to the existing literature by providing an empirically validated framework of financial literacy specific to a structured workforce segment. Overall, the findings underscore the importance of strengthening financial awareness, planning, and decision-making skills to enhance long-term financial well-being and economic security among government employees.



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9. Suggestions and Recommendations

Based on the findings of the study, several recommendations can be proposed to enhance the level of financial literacy among government employees. It is suggested that government agencies and administrative bodies should design and implement structured financial education programs focusing on key areas such as financial planning, investment awareness, risk management, and digital financial literacy. Regular workshops, training sessions, and awareness campaigns may be organized to improve employees' understanding of budgeting, saving habits, and informed investment decision-making. Financial institutions can collaborate with government departments to provide customized advisory services and promote the use of secure digital financial platforms. Additionally, incorporating financial literacy modules into employee induction and professional development programs can ensure continuous learning. Special emphasis should be given to strengthening awareness about financial fraud and risk diversification to safeguard employees' financial interests. Policymakers should also consider developing targeted interventions based on demographic differences such as age, education, and experience. Furthermore, future research may extend the study to a larger and more diverse sample, including private sector employees and different geographical regions, and may employ advanced analytical techniques to validate and refine the factor structure. These measures can collectively contribute to improving financial capability, promoting sound financial behavior, and enhancing long-term economic security among government employees.

REFERENCES

1. Chettri, P., & Mahapatra, S. S. (2018). Financial Literacy among the Tea Garden Laborers in Darjeeling District: An Exploratory Factor Analysis. *Sciences*, 2(3), 251-256.
2. Nikmohamed, N., Sahid, S., Mahmud, M. I., & Azman, N. (2023). Exploratory Factor Analysis (EFA) and Reliability Analysis of Financial Literacy Instrument Among Trainee Teachers. *International Journal of Academic Research in Business and Social Sciences*, 13, 12.
3. Satyavani, P. L., Kamaraju, T., & Seshagiri, M. S. R. Exploring the Components of Financial Literacy among Organised Sector Working Women in Visakhapatnam: An Empirical Evidence using EFA.
4. Agrawal, V., & Agarwal, M. (2023, March). Evaluating financial literacy among working women in Pune: A gender-sensitive approach. In *Sustainability, Economics, Innovation, Globalisation and Organizational Psychology Conference* (pp. 419-430). Singapore: Springer Nature Singapore.
5. Vahi, N., & Kumar, A. (2025). Financial Literacy of Women: A Systematic Review of Predictors, Behaviors, and Financial Outcomes. *Indian Journal of Economics and Finance (IJEF)*
6. Ghosh, Saibal & Günther, Manuela. (2018). Deciphering financial literacy in India: Evidence from states. *Economic and political weekly*. 53.
7. Srivastava, Usha. (2018). Financial Literacy in Chhattisgarh-An Overview of Growing Efforts. *International Journal of Latest Engineering and Management Research (IJLEMR)*. 03. 11-17.
8. Dr. Budheshwar Prasad Singhraul, 2. Yashasvi Batwe, Professional Women and Their Investment Behavior: A Study Based On Bilaspur City Of Chhattisgarh
9. Bhatt, Priyanka & Prajapati, Dr. (2021). A Study On Women's Behaviour Towards The Investment Decision And Financial Planning With Special Reference To Ahmedabad. *Historical Research*. 34. 74-79.
10. Koti, Kanya. (2019). Financial Literacy And Its Impact On The Investment Decisions Of Working Women. *Humanities & Social Sciences Reviews*. 7. 554-561. 10.18510/hssr. 2019.7686.
11. Kumari, Roopam & Agrawal, S. (2022). A Review on Financial Literacy Among Women in India. 4. 48. 10.35629/5252-04014851.