International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 4, 2025
https://theaspd.com/index.php

Unveiling The Extent Of Financial Literacy Among Academicians: An Investigation In The Higher Educational Institutes Of Uttarakhand, India.

Shivani Solanki[1] **,Prof.(Dr.)Arvind Mohan**[2]
Research Scholar, Graphic Era (Deemed to be University), Dehradun, India. shivanisolanki124@gmail.com
Professor, Graphic Era(Deemed to be University), Dehradun, India. arvindmj99@gmail.com

Abstract: *This study evaluates the extent of financial literacy among the Academicians employed in higher educational institutions in the hilly region of Uttarakhand, India. A survey of 345 academicians was conducted using primary data for which convenient sampling was utilized. The research further aims to establish financial literacy as a reflective-formative higher-order construct where financial attitude, financial behavior, and financial knowledge serve as reflective lower-order constructs, and financial literacy functions as a formative second-order- construct. The PLS-SEM method was employed. The outcomes imply that financial literacy should be viewed as a higher-order construct. Additionally, most academicians demonstrated a moderate financial literacy level (60-79%). This research emphasizes much greater efforts towards the academicians as they are the building blocks of society and have the potential to influence the lives of many in different aspects. This study can have major implications for financial sectors and other policymakers working to promote and improve people's financial literacy.*

Keywords: *Financial Literacy, Academicians, Financial attitude, Higher order construct, Financial Behavior, Reflective-Formative, Financial knowledge, PLS-SEM*

INTRODUCTION

The Prominence of financial literacy has escalated recently, drawing the interest of various organizations, government agencies, and public managers, among others. (OECD, 2022, OECD, 2016). According to Messy & Monticone (2016), one of the main obstacles preventing a nation's economy from growing is financial illiteracy. Numerous studies worldwide emphasize financial literacy as a key factor motivating individuals to plan for savings and retirement (Clark et al., 2017; Klapper, L., & Panos, G. A., 2011; Lusardi et al., 2008,2011; Park, H., & Martin, W, 2022). Furthermore, making decisions about investments and participating in the stock market are significantly influenced by financial literacy. (Mouna, A., & Anis, J. (2017); Jariwala, H.V. (2015); Gupta, Sangeeta, 2017; Van Rooij et al., 2011a; Hassan Al-Tamimi et al., 2009). Grohmann, A., Klühs, T., & Menkhoff, L. (2018) carried out a cross-national study across 143 countries of the world in 2014, thus making it possible to research the various ways that financial literacy affects financial institutions across countries. The study outcomes showed that financial literacy has a robust and favorable connection with financial inclusion. According to Research by Candiya Bongomin et al. (2017), the fundamental aspect of financial literacy that is instrumental in advancing financial inclusion of poor households in Uganda's rural region is "Financial Attitude". As per NCFE, an essential element that empower customers to execute a well-informed decisions related to finance and thereby supports the achievement of financial inclusion is "Financial Literacy"(RBI, 2021).Governments of several countries are developing strategies to enhance resident's financial literacy.In the past decade, multiple strategies have been implemented by the Reserve Bank of India (RBI) across the nation to promote financial literacy. In this context, RBI developed and released a nationwide financial education strategy in July 2013. Numerous studies have been undertaken in India to evaluate the financial literacy levels of individuals. For example, VISA (2012), and Pan India Financial Inclusion and Financial Literacy Survey 2016-2017 (RBI report 2017). The RBI Report 2021 points out the assessment of financial literacy and inclusion all over India carried out (on the lines of the OECD-INFE toolkit) on 75000 household individuals aged 18-79 by the "National Centre of Financial Education" in the Year 2019. The survey results demonstrated that a mere 27.18% of participants achieved the minimum threshold scores set by the OECD in the categories of "Financial: knowledge, behavior, and attitude". To overcome the challenge of financial illiteracy, the NCFE along with the other four financial sectors -RBI, SEBI, IRDAI, and PFRDA-introduced an updated "National strategy for financial education" for the duration 2020-2025.

Realizing the significance of enhancing financial literacy, several studies have put forward different perspectives concerning financial literacy which are confusing at times (Dogra et al.,2023). The ANZ survey (2015) asserts that Financial literacy is the capacity to take wise judgments about how to use and manage money and is an intricate combination of individual skills, attitude, knowledge, and eventually their conduct or behavior concerning money. Financial literacy as outlined by Aren, S., & Aydemir, S. D. (2014), is the extent to which a person understands the fundamentals and operations of the financial markets. The research of Mouna, A., & Anis, J (2017) considered financial literacy as a major component in encouraging people to make investments in the stock market. The OECD (2022) identified financial literacy as "a comprehensive set of financial understanding, knowledge, abilities, and behavior" essential to making prudent financial decisions to achieve the pursuit of personal financial wellness. Financial literacy was described as financial knowledge by Hilgert et al. (2003). Financial Literacy as described by Remund, D. L. (2010) "is having insight of concepts of finance, being able to discuss about them, having competency to handle one's money, having the confidence to successfully plan for future financial needs, and having proficiency to make prudent financial choices.Financial literacy is analyzed from different lines of thought: The importance of Financial literacy in building wealth (Sekita et al.,2022), its relationship with self-employment (Struckell, et al., 2022), how it affects financial inclusion (Grohmann et al.,2018), individuals' willingness to take risks associated with investment. (Krische, S.D., 2014), among others. Few researchers have highlighted the dearth of financial literacy as the main driver of inadequate diversification of portfolios (Mouna, A. and Anis, J., 2017; Abreu, M., & Mendes, V., 2010). Because of its direct impact Ye, J., & Kulathunga, K. M. M. C. B. (2019) showed the criticality of financial literacy in promoting sustainability of Small-scale businesses. In addition, financial risk attitude indirectly affects sustainability while financial literacy directly influences access to finance.Assessing and defining financial literacy concept is complex. Many studies have explored how financial literacy is defined and measured using different items and methods across different studies (Ouachani et al., 2021). However, Allgood, S., & Walstad, W.A (2016) focused attention on measuring financial literacy with two important metrics, the objective measure and the subjective measure. An increasing number of studies highlight low financial literacy worldwide (RBI report, 2021). Based on empirical studies documented in previous literature, it was found that most studies that investigate financial literacy have used participants that include students of college (Chen, H., Volpe, R.P.,1998; Kennedy, B. P., 2013.; Lusardi et al.,2010; Nazah et.al, 2022), Young adults (Lusardi et al.,2010), households members (Allgood, S., & Walstad, W. B., 2016), workers (Clark et al., 2017), and working women (Bhabha et al., 2014). However, there isn't much research on financial literacy from the teacher's perspective (Zulaihati, S., Susanti, S., & Widyastuti, U., 2020). A nation's advancement heavily relies on the standards of education imparted to its youth. Higher education plays a significant role in any region's social, economic, and cultural advancement, offering opportunities for the holistic development of human resources, especially the youth. Higher Education is pivotal in imparting knowledge, developing analytical reasoning, and preparing individuals for a better future. Since the state of Uttarakhand was founded on November 9, 2000, there has been remarkable progress across various sectors, specifically, the field of Higher education. In this context, as educators, teachers have the potential to influence the lives of many in different aspects. A nation's economic and social development depends largely on how rationally individuals make financial decisions, with this consideration, teachers must possess financial literacy and the capability to educate young adults on financial objectives & strategies. Despite the abundance of viewpoints, a lack of research exists that examines the literacy level of the nation's academic staff. Furthermore, Metropolitan regions like Delhi, NCR (Noida & Ghaziabad), Gandhinagar district of Gujrat, Haryana, Uttar Pradesh, Andhra Pradesh, and Kerala have been the focus of the majority of Indian studies. Unfortunately, there isn't enough research examining the construct outlining a proposed theoretical framework in the hilly region of India, particularly in Uttarakhand. This research stive to bridge this gap by investigating the financial literacy of educators in the region of Uttarakhand, India. Given the absence of a consistent measure of financial literacy, this study utilizes an extensive definition given by the OECD (highlighting three important components determining financial literacy). The relevant literature in this regard has been covered in Section 2 of this research. The focus is on verifying Financial Literacy as a Higher order construct functionalized with three lower-order dimensions such as financial attitude, financial behavior, and financial knowledge. Since these dimensions collectively define financial literacy, it is suitable to measure it as a formative construct. While the lower-order dimensions are reflective, this results in a reflective-formative measurement model. Additionally, the model will be validated utilizing the PLS-SEM method, as it can validate both reflective and formative constructs at the same time. The Statistical analysis from this viewpoint has been examined in Section 5 of this study

LITERATURE REVIEW

2.1 FINANCIAL LITERACY

The decision to invest in financial products has become a complicated task due to the complex information and availability of a diverse range of financial tools and offerings. This demonstrates the significance of possessing financial literacy as a crucial ability (Potrich et al., 2018). Even though financial literacy is highly pertinent, there are still some crucial conceptual gaps. In many studies, financial literacy, financial knowledge, and financial education are frequently used as synonyms.Clark et al. (2017), evaluated financial literacy by utilizing a series of five question sets designed to measure an individual's comprehension of concepts like inflation, interest risk, risk, tax rebates, and match. The questions aimed to measure respondents understanding and expertise in these specific areas of financial knowledge. Some authors evaluated financial knowledge on basic financial concepts while others focussed on advanced financial concepts as well. Few authors assessed individuals' financial literacy by posing three questions regarding basic financial calculations, showcasing their understanding of concepts like interest rate risk diversification, and inflation (Bucher-Koenen et al., 2017; Lusardi, A., & Mitchell, O. S. 2011).Stolper, O., & Walter, A. (2017) outlined financial literacy as the understanding individuals possess regarding the concepts of finance together with how effectively they implement them. Financial literacy involves understanding and being aware of several concepts of finance, empowering individuals to make sound judgment relating to financial decisions and manage their finances responsibly (Remund, D. L., 2010; Stolper, O., & Walter, A., 2017; Yakoboski et al., 2022). Additionally, it is recognized as interchangeable with financial education and financial knowledge (Hassan Al-Tamimi, H. A., & Anood Bin Kalli, A.,2009). Huston, S. J. (2010) focused attention on financial knowledge as an indispensable aspect of financial literacy but not as equivalent to it. Further, highlights the significance of additional aspects such as confidence and the capability to apply financial knowledge in making well-informed choices regarding finances. Hence, financial literacy pertains to a person's thorough understanding & practical ability to handle personal finances effectively. Another emphasis of the study was to distinguish financial literacy from financial education. Even though, regarded as integral facets of financial literacy, this concept has a broader perspective including more than just these two elements (Financial education and knowledge).The OECD/INFE Intending to assess financial literacy, particularly in adults, evolved a multi-faceted definition that was later advocated by the leaders of G20 and recognized equally around the world. It suggests financial literacy as an amalgamation of awareness, abilities, knowledge, mindset, and actions essential to making informed choices and achieving overall financial wellness. (Atkinson, A. and F. Messy, 2012). A comprehensive approach to measuring financial literacy is followed by the OECD-INFE, concentrating on three main dimensions: financial attitude, financial behavior, and financial knowledge. These indicators help determine financial literacy extent of individual's, as witnessed in surveys of OECD-INFE around the world in recent years. (OECD, 2022; OECD, 2020; OECD,2018; OECD 2017, OECD 2016). Financial Attitude, behavior, and knowledge have been recognized as key components of financial literacy. Potrich et al. (2016) highlighted that gaining a thorough understanding of these elements empowers individuals to make informed decisions, leading to enhanced financial well-being. Aligned with the OECD framework, Agarwalla et al. (2015) viewed Financial Attitude, behavior, and knowledge as distinct elements representing three facets of financial literacy.Janor et al. (2017) executed a research comparing United Kingdom and Malaysia's financial literacy through a structured questionnaire, based on the definition given by the OECD. NCFE Survey in the year 2019, assessed financial literacy in various regions of India. This assessment involved evaluating individuals' financial attitudes, Financial behavior, and knowledge by using their combined score to assess their extent of financial literacy. Numerous other investigations have examined Financial attitude, behavior, and knowledge as three important dimensions of financial literacy (Bajaj, I., & Kaur, M., 2022; Potrich et al., 2018; Rai et al., 2019)

2.2 FINANCIAL KNOWLEDGE:

The OECD (2020) emphasized that attaining financial literacy requires an extensive understanding of financial knowledge.It empowers individuals to evaluate different financial products and services, make a suitable choice and ultimately arrive at sound financial decisions. Moreover, it specifies that having a fundamental grasp of the concepts of finance and the ability to utilize numerical skills will make sure that individuals will handle financial matters with greater conviction and act upon news and events that significantly influence their financial well-being. As defined by Lusardi, A., & Mitchell, O. S. (2011) Financial literacy "is the potential to carry out basic calculations and knowledge of fundamental concepts of finance." Commonly known as the 'Big Three' these questions are widely recognized for encompassing essential concepts of rate of interest, inflation, and understanding of diversification of risk. The

National Financial Capability Study (NFCS) of 2009, later incorporated two additional questions, thus transforming it into what is now known as the "Big Five".The statistics indicate that both young people and adults have a limited grasp of financial concepts, reflecting a low financial literacy level within these groups. Moreover, numerous people approach retirement without having appropriate knowledge of a few very important concepts that are critical to financial decision-making. Since Financial literacy has been displayed as a protective measure against financial mistakes in a later stage of life, it is crucial to investigate the alternatives that can foster valuable knowledge. Mitchell, O. S., & Lusardi, A. (2022). Santini et al., 2019 affirmed the consistent connection between financial knowledge and financial literacy, displaying it as a positive and significant connection. This was established by previous studies of Huston, 2010, where it was highlighted that financial knowledge contributes to building self-confidence in making financial decisions which in turn improves financial literacy (Lusardi et al., 2011). Additionally, it is acknowledged as the most significant factor influencing the financial literacy score, as per OECD/INFE methodology.

FINANCIAL BEHAVIOUR

OECD (2020) recognized that a person's behavior and actions play a crucial role in determining their financial circumstances and overall well-being. Moreover, it is acknowledged as the most impactful factor influencing the score of financial literacy ,as per the OECD/INFE methodology. .Behaviors, like delaying bill payments, not actively saving money, not planning for future expenditure, and choosing products without comparison, can adversely affect an individual's financial condition and overall well-being. The study by Mitchell, O. S., & Lusardi, A. (2022), examined the link between financial literacy and enhanced financial behavior in later stages of life. Numerous research studies, including Lusardi et al., 2014, and Kaiser et al., 2020, have consistently established a significant and favorable association between financial literacy and economic decision-making. As per the findings of Atkinson, A.and F. Messy (2012), it was observed that financial well-being tends to improve with an increase in financial literacy. As a consequence, this increases a person's understanding of personal finance which in turn increases financial literacy. Santini et al., 2019 also identified a strong and statistically significant association between financial behavior and financial knowledge.Financial behavior is exhibited when individuals are driven by a purpose or motivation to save (Henager, R. and Mauldin, T., 2015). Actions like budgeting and establishing financial security has a have major implications on the positive outcome of financial literacy Atkinson, A. and F. Messy (2012). The research executed by Yuesti, et.al (2020) on 396 household individuals in Sidakarya village revealed that individuals who exhibited better financial behavior experienced greater advantages from their application of financial literacy. This emphasizes a strong connection between sound financial behavior and financial literacy.

2.4 Financial Attitude

The phrase financial attitude describes a person's ability capacity to evaluate novel and intricate financial products and arrive at pragmatic conclusions for each of the options of instruments including the amount of utilization that may best suit their long-term interest. Mandell, L. (2008). OECD (2020) featured financial attitude as a critical component of financial literacy determining its importance from the fact that even when individuals have adequate financial knowledge and the capacity to make wise financial decisions, their attitude inevitably plays a role in determining whether they choose to act upon that knowledge or not. Eniola, A. A., & Entebang, H. (2017) highlighted the significance of financial attitude along with financial awareness and knowledge, in leveraging financial literacy to enhance the performance of small-scale enterprises in Nigeria, as demonstrated through their examination of business owners' financial literacy levels. A greater influence of financial attitudes on financial literacy was witnessed as the outcome of research conducted by Santini et al., 2019.The OECD (2013), highlighted that the relevance of financial attitude lies in its capacity to directly influence personal decision-making, which is a direct outcome of enhancing financial literacy. After examining the financial literacy of small business owners in Nigeria, Eniola, A. A., & Entebang, H. (2017) & Tuffour, J. K., Amoako, A. A., & Amartey, E. O. (2022) demonstrated how critical financial attitude is in transforming financial literacy to improve the functioning of SMEs, along with financial awareness and financial knowledge. Ye, J., & Kulathunga, K. M. M. C. B. (2019) highlighted the critical role of financial literacy in ensuring long-term sustainability of Small-scale enterprises. The study emphasized that financial literacy directly influences access to finance resources and the attitude towards financial risk, which subsequently has an indirect influence on the sustainability of these enterprises. Highlighting that a person possessing a better financial attitude will have more knowledge and abilities in applying financial literacy, Yuesti, et.al (2020) demonstrated a favorable and significant influence of a person's financial attitude on their financial literacy levels

METHODOLOGY

3.1 Measures

The present study focuses on validating financial literacy as a second-order construct (reflective-formative model) utilizing the PLS-SEM methodology. The dimensions of financial literacy: Financial Attitude, Behaviour, and Knowledge were derived from the OECD framework.After extensive literature study, it was found there are primarily two methods of measuring financial literacy. One being the Self-assessment test and the other being the performance test. In the Performance test, the respondents are required to respond to objective-type questions that assess their understanding of basic financial terms along with their understanding of various other financial concepts. However, in the self-assessment test, respondents gave their perceptions concerning their Financial Knowledge, Attitude, and behavior toward their finances. Many studies such as Chen, H., Volpe, R.P. (1998), Hilgert, M. A., Hogarth, J. M., & Beverly, S. G. (2003), Bhushan, P., & Medury, Y. (2013), Gupta, K., & Negi, V. (2014), OECD/INFE (2022), Singh, Chetna (2019) have conducted a self-assessment test to evaluate Financial Literacy.The present study relies on the self-assessment test whereby the respondents gave their opinions regarding their Financial Attitude, behavior, and, knowledge which formed the basis for analyzing their literacy level (OECD/INFE, 2022) (Singh, Chetna 2019). Eight statements each were used to measure Financial knowledge and financial behavior, with responses recorded on a 5-point Likert scale from 1(Strongly Disagree) to 5 (Strongly Agree). Financial attitude had 3 statements (1=Never to 5=Always), with all statements utilizing a 5-Likert scale. Respondent's Financial Literacy Score or total score was based on the individual's response to these 19 statements. Each statement is scored on a scale from 1 to 5, with 1 being the minimum and 5 the maximum. For Financial knowledge, the total score is calculated by summing the scores of all eight statements together and then dividing the total by the number of statements which is 8. To consider an individual as Literate by 'Financial knowledge' the total score must be greater than or equal to 3. A Similar methodology has been used for obtaining the scores of Financial attitudes, and behavior. The combined total of all individual scores will provide the overall financial literacy score thus reflecting the person's financial literacy level. The strategy for assessing financial literacy levels was constructed from the study of Chen and Volpe (1998), which divided the total score into three percentages: more than 80% indicating a high level, 60 to 79 % represented a moderate level, and below 60% were indicative of low-level of financial literacy. In this study, the maximum possible score, obtained from combining all three indicators - Financial Knowledge, Financial Attitude, and Financial Behavior- 19. An individual scoring a total score of ≥ 12 is regarded as highly financially literate, while an individual scoring below 9 is considered to have low financial literacy level.

Sample and Instruments

The study concentrates on examining the most impactful individuals in our society which is the academic staff. Altogether being academically strong they possess the capability of positively influencing people's lives in many aspects. Financial literacy enables them to serve as a role model to their students, fostering the development of a good financial sense, ultimately helping them manage their finances more effectively. This way academicians can help in development of the society by guiding students to be financially responsible (Surendar, G., & Sarma, S., 2018). Realizing the vital role of financial literacy in societal development, this study highlights the need to accurately validate the dimensions of financial literacy among the academicians of higher educational institutes in the Dehradun, and Haridwar districts of Uttarakhand. The institutes covered were government, private, and autonomous colleges. According to the Department of Higher Education, Uttarakhand there are 33 universities which include state, central, deemed, and private universities along with 3 institutes of national importance, 119 government colleges, and 21 government-aided colleges, alongside numerous private institutions actively operating of which the highest number of higher educational institutes lie in the district of Dehradun followed by Haridwar. The data of 345 respondents were collected for which convenient sampling was utilized. In addition to validating the financial literacy dimensions, this study measures academician's literacy level using the same dimensions. This technique of sampling was chosen as it is one of the cost-effective methods of collecting data while obtaining valuable information from willing participants who are easily accessible in terms of proximity. To evaluate the respondent's demographic profile, the survey questionnaire makes use of multiple-choice questions accompanied by 5-point Likert scale questions to assess respondent's level of Financial. Table 1 displays the respondents sample profile.

Demographics		Frequency	Percentage
Age	Less than 25	200	58
	25-34	91	26.4

	35-44	32	9.3
	45-54	12	3.5
	More than 55	10	2.9
Gender	Male	277	65.8
	Female	118	34.2
Marital Status	Married	84	24.3
	Unmarried	261	75.7
Level of Education	Undergraduate	146	42.3
	Postgraduate	128	37.1
	Ph. D or higher	24	8.4
	Others	42	12.2
Annual Income (in lakhs)	< 2.5	149	43.2
	2.5 - 5	75	21.7
	5 -7.5	50	14.5
	7.5 -10	28	8.1
	Above 10 lakhs	43	12.5
Work-experience (in Years)	< 5years	226	65.5
	5 -10	55	15.9
	10 to15	28	8.1
	> 15years	36	10.4

Table 1: Demographic Details of Respondents

With the intent to measure financial literacy level, we used a multifaceted measure that incorporates three constructs as recommended by OECD (2018); NCFE (2019); Atkinson, and F. Messy (2012); Potrich et al. (2018): Financial Attitude, Financial Behaviour, Financial Knowledge. To measure financial attitude, a scale of 8 questions was formed into a 5-point Likert type (1=Completely Disagree to 5=Completely Agree). The questions were based on the respondent's attitude towards spending money, savings, record keeping, etc. To measure Financial behavior the scale consisting of 10 questions was organized in a 5-point Likert type (1=Never to 5=Always). The questions analyzed the financial performance of individuals on parameters of Financial Goals, Budget, Affordability, planning & and saving habits, and debt & and cash management were asked from the respondents. The scale for Financial attitude and financial behavior was adapted from OECD (2018); NCFE (2019); Potrich et al. (2018); Shockey, S. S. (2002); and Potrich et al. (2015). Ten questions based on numeracy, inflation, interest rate, risk diversification, and time value of money were created on a five-point Likert scale from 1(Completely Disagree) to 5(Completely Agree) to assess the degree of financial literacy. Rooij et al. (2011); Potrich et al. (2017); Potrich et al. (2015); OECD (2018); and NCFE (2019) were the sources from which the questions were adapted. The questions related to Financial knowledge were originally based on multiple choice questions which were further modified and converted into a 5-point Likert scale.

Data Analysis

The PLS-SEM is used for validating the model as it can evaluate both reflective and formative constructs at the same time (Ali et al., 2018). A Reflective-Formative model is one where a Lower-order construct is reflective and a higher-order construct is formative. In our study, Financial Attitude, Financial Behaviour, and Financial Knowledge are the Lower- order constructs that are reflective at the item level while Financial Literacy is-higher-order construct that has no indicators of its own and is formed by three lower-order constructs (Financial Attitude, Financial Behaviour, Financial Knowledge). According to Sarstedt et al. (2019), the measurement specification for a Reflective formative model is performed in two stages, where the reliability and validity of the lower order construct are reported first and thereafter the reliability and validity of the higher-order construct. Where the lower order construct forms the higher order construct the measurement specifications involve; Convergent validity, Collinearity between indicators, Significance, and relevance of outer weights. Wong, K. K. K. (2013) also focussed on these three specifications while analyzing a formative measurement model.

International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 4, 2025
https://theaspd.com/index.php

5.1 Assessing HOC

By using the approach of repeated indicators, the second-order construct can be detailed using all the items of the dimensions that were considered as the lower-order constructs. Several authors such as Lohmoller, J. B. (1989); Becker et al. (2012); Tehseen et al. (2019) suggested the use of a repeated indicator approach when the HOC does not have indicators of its own. Sarstedt et al. (2019) highlighted the measurement specification for LOC (Lower-order construct) & HOC while using the repeated indicator approach. It stated that LOC must be assessed in the following steps: internal consistency (Cronbach's alpha, composite reliability, ρA), Convergent Validity (reliability of the indicators, Average variance extracted), and Discriminant validity. The measurement specifications for HOC (where LOCs represent the indicators of HOC) encompass checking for the convergent validity, collinearity between indicators, Significance, and relevance of outer weights.Thus, financial literacy is a second-order construct structured with three dimensions namely, Financial attitude, financial behavior, and financial knowledge as the underlying lower-order construct, each with its specific manifest variable. Therefore, Financial literacy as HOC is comprehended with all the observed variables (19) that were regarded as LOC.

When the repeated indicators approach is used for the reflective-formative model the R2 will be equal to 1.0 as the lower-order constructs explain all the variance of the higher-order construct due to which it will not allow other path coefficients to explain any variance in the higher-order construct. The path coefficient of any other antecedent construct will be non-significant and equal to zero. (Ringle et al., 2012; Wetzels et al., 2009). This problem can be resolved using the two-stage approach (for the formative model) as suggested by Ringle et al., 2012. To validate the second-order construct, Partial Least Square (PLS-SEM) requires the latent variable score for each construct in the path model (Becker, J. M., Klein, K., & Wetzels, M., 2012). PLS-SEM determines the latent variable scores for lower-order latent variables. (Chin, W. W., 1998; Lohmöller, J. B., 1989; Tenenhaus et al., 2005) in the first stage and subsequently use these scores in the second stage as indicators for the higher-order model. (e.g., Agarwal, R., Karahanna, E., 2000; Wetzels et al., 2009; Wilson, B., Henseler, J., 2007).

As the second-order construct does not have indicators of its own, the repeated indicators approach (Lohmöller, J. B., 1989; Wold, H., 1982) and the two-stage approach (Ringle et al., 2012; Wetzels et al., 2009) have been utilized for the study. However, Ringle et al., 2012; Wilson, B., 2010. proposed that in the two-stage model, a repeated indicator approach can be used in the first stage and the score of the first-order construct can be utilized in the second stage.

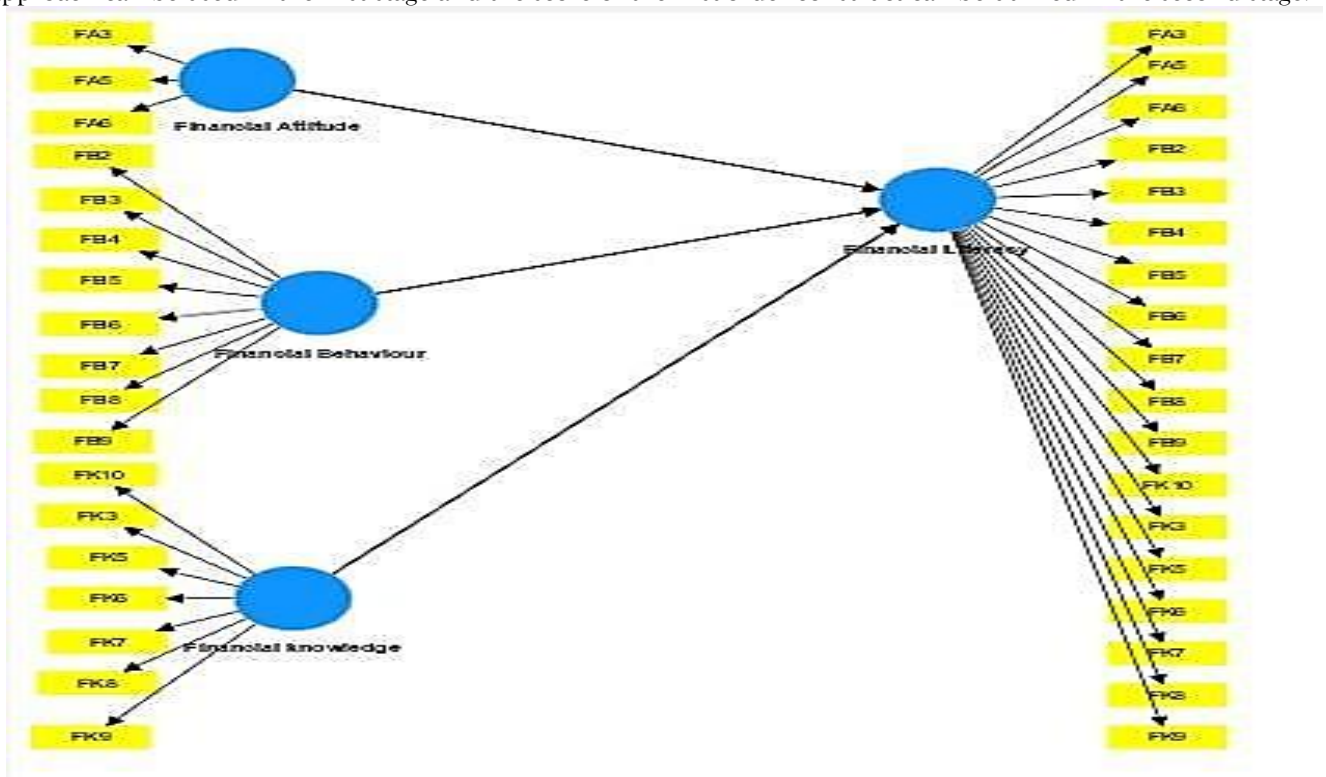

Figure 1: Repeated Indicator Approach

International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 4, 2025
https://theaspd.com/index.php

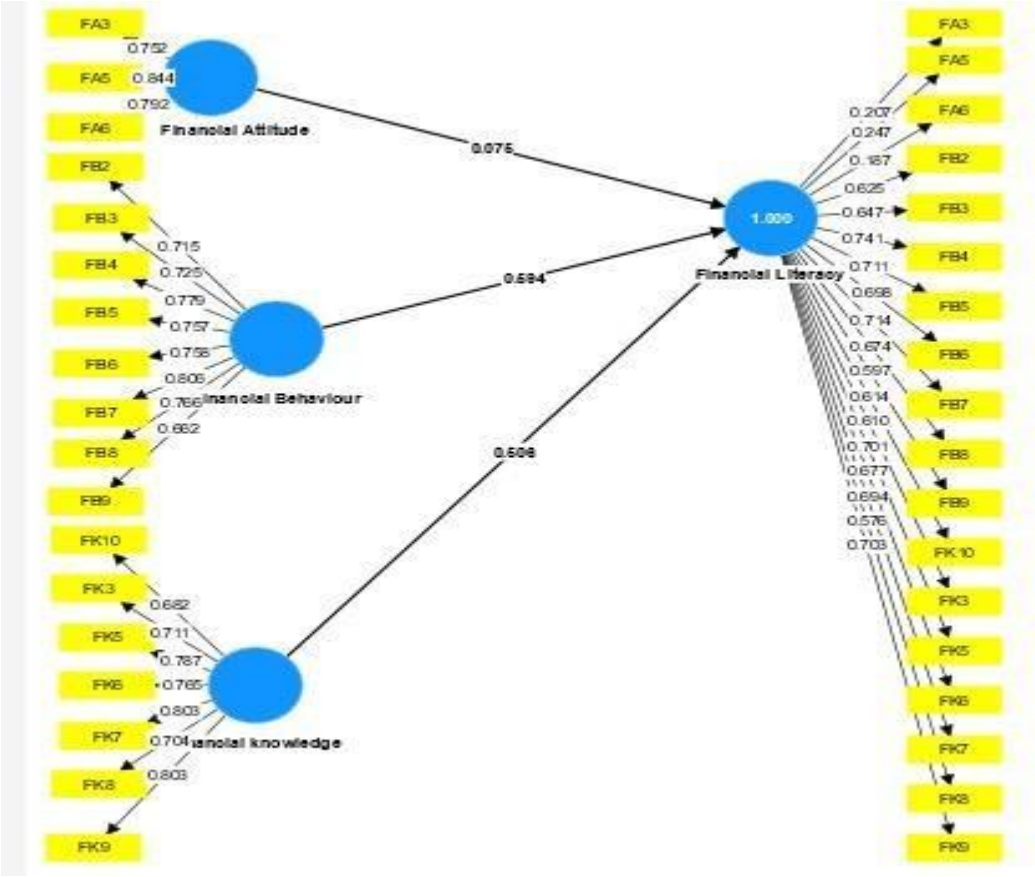

Figure 1.2: Path coefficient, Outer Loadings, R square

5.2 Measurement Model: An Evaluation

5.2.1 Internal Consistency

The measurement model is that segment of the model that explores the relationship between the latent variable and their measures. For this purpose, the Internal consistency, convergent, and discriminant validity are determined. The internal consistency shows how closely all items measuring the same construct are connected. (Hair et al., 2021). Internal consistency was assessed through Cronbach's alpha and composite reliability (Sarstedt et al., 2019). With this intent, Cronbach's Alpha coefficient was calculated. The Cronbach's coefficient value as recommended by Cronbach (1950) and Bagozzi, R.P. and Yi, Y. (1988) should be greater than
0.70. Likewise, composite reliability is assessed in the measurement model to determine the reliability of the construct. The threshold value as recommended by Bagozzi, R.P. and Yi, Y. (1988) should be higher than 0.70. The composite reliability for the variable Financial attitude is 0.839, Financial Behavior is 0.91, and Financial Knowledge is 0.901. Reliability Statistics reveals that the Cronbach's Alpha coefficient for 3 items of the variable Financial Attitude is 0.713, for 8 items of the variable Financial Behaviour is 0.886, and for 7 items of the variable Financial Knowledge is 0. 871. The results of internal consistency are shown in Table 2. The outcome of composite reliability and reliability statistics revealed that all the variables had values higher than the threshold value of 0.70, thereby establishing the internal consistency

5.2.2 Convergent Validity

Convergent validity as per Hair et al., 2021is defined as "the extent to which the construct converges to explain the variance of all its indicators.". It was tested utilizing the results of AVE, and indicator loading (Sarstedt et al., 2019; Wong, K. K. K., 2013; Hair et al., 2017.). AVE is the sum of the squared loadings divided by the number of indicators. Indicator loading as explained by Hair et al. (2021) is "the extent of variance a construct explains in each of the indicators." The threshold value for AVE must be Greater than 0.50 (Fornell and Larcker 1981; and Hair et al.,2010). The acceptable value of factor loading should lie 0.6-0.7 or greater as recommended by Hair et al. (2017) for social science research. Items with a factor loading less than 0.6 were discarded. The results for the factor loadings revealed in Table 2 show that all the values were within the acceptable range.

Table 2: Factor loadings and reliability Statistics

Variables	Items	AVE	Cronbach's Alpha	rho_A	Composite reliability	Item Loading
Financial Attitude	FA3	0.635	0.713	0.726	0.839	0.752
	FA5					0.844
	FA6					0.792
Financial Behaviour		0.558				
	FB2		0.886	0.889	0.91	0.715
	FB3					0.725
	FB4					0.779
	FB5					0.757
	FB6					0.758
	FB7					0.806
	FB8					0.766
	FB9					0.662
Financial Knowledge		0.566				
	FK3		0.871	0.875	0.901	0.711
	FK5					0.787
	FK6					0.765
	FK7					0.803
	FK8					0.704
	FK9					0.803
	FK10					0.682

5.3 Validity Assessment: Discriminant Validity

Hair et al. (2021) define discriminant validity as "the degree of empirical difference between each construct from the other in the structural model".Hair et al (2017) specified three criteria to evaluate the discriminant validity, such as the Fornell-Larcker criterion, HTMT, and cross-loadings. The values of the Diagonal correlation through Fornell, C. and Larcker, D.F. (1981) criterion test manifest that all the variables had a value above the threshold value of 0.70 in which FA =0.797; FB:0.747, FK=0. 752. The data displayed in Table 2.1 supports constructs discriminant validity (as stated by Henseler et al.,2009). The HTMT ratio of correlation was also utilized to measure the similarity between two reflective constructs. Henseler, et al. (2015) states the achievement of discriminant validity with an HTMT value below 0.9. The results for HTMT as shown in Table 2.2 reveal that all the values are below 0.9. When examining the cross-loadings, the item's loading must be higher on their specific construct. The outcome shown in Table 2.3 showcases that all the items have been loaded higher on their respective construct.

Table 2.1: Fornell-Larcker criterion

	FA	FB	FK
FA	0.797		
FB	0.177	0.747	

FK	0.18	0.593	0.752

Table 2.2 HTMT Criterion

	FA	FB	FK
FA			
FB	0.22		
FK	0.223	0.67	

Table 2.3 Cross Loadings

FA		FB	FK
FA3	0.752	0.131	0.143
FA5	0.844	0.158	0.177
FA6	0.792	0.13	0.099
FB2	0.189	0.715	0.369
FB3	0.045	0.725	0.42
FB4	0.141	0.779	0.529
FB5	0.14	0.757	0.497
FB6	0.231	0.758	0.456
FB7	0.124	0.806	0.448
FB8	0.058	0.766	0.425
FB9	0.127	0.662	0.383
FK10	0.15	0.435	0.682
FK3	0.059	0.414	0.711
FK5	0.084	0.499	0.787
FK6	0.16	0.469	0.765
FK7	0.159	0.464	0.803
FK8	0.161	0.349	0.704
FK9	0.172	0.478	0.803

5.4 Validation of Formative -Measurement Model

5.4.1 Convergent Validity Assessment

Cheah et al. (2018) emphasized that a single global item is crucial in evaluating the formative measurement model's convergent validity. Authors like Hair et al. (2021); and Ramayah et al., 2018 recommended a minimum value of path coefficient between two latent variables as 0.708 and a minimum value of R2 at least 0.50 for an endogenous latent variable. As noted by Tahseen et al. (2019) the validation of a formative measurement model in PLS-SEM necessitates establishing its convergent validity. Cheah et al. (2018) explained convergent validity as the degree to which a construct correlates with its indicators, all of which represents the same concept. In this context, Cheah et al.(2018) underscored the application of a Single global item in assessing the convergent validity of the formative measurement model, highlighting its advantage over the multiple reflective measures for evaluating the convergent validity, as discussed by Wong, K. K. K., 2013. Researchers have mentioned that it requires less effort to construct a single global item in comparison to a multiple-item scale (Cheah et al., 2018; Gardner et al.,1998;). Utilizing a single item enhances the response rate as the cognitive demand of the respondents can be reduced. (Drolet et al., 2001). The analysis (Fig 3) observed a path coefficient of 0.816 between the exogenous variable and endogenous variable while the R2 value

(Coefficient of determination) of the dependent variable is 0.666 which states that exogenous variable (Financial Literacy) explains approx. 67% of the variation in the endogenous variable (Global financial literacy)

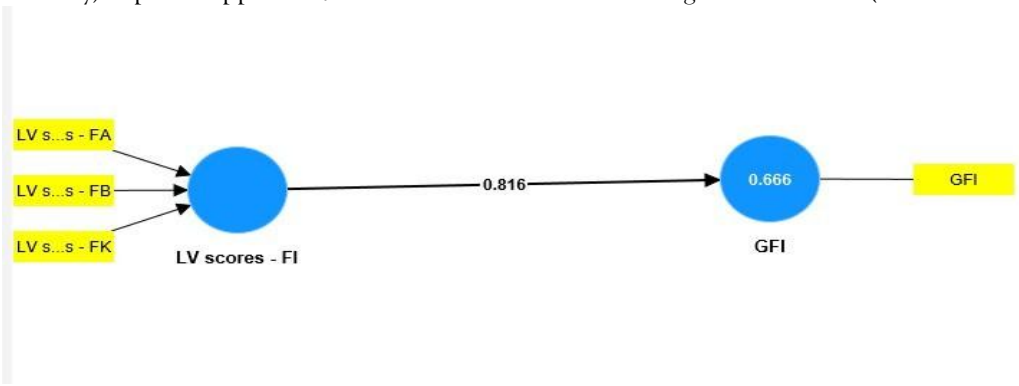

Figure 3: Convergent Validity of Higher-Order Construct

5.4.2 Assessment of Indicators Collinearity

Hair et al. (2021); Ramayah et al. (2018); and Wong, K. K. K. (2013) emphasized that in a formative measurement model, a strong correlation among formative items was less likely to be expected the presence of a high correlation is problematic. The degree of collinearity between formative indicators of latent variables is evaluated through the Variance Inflation Factor (VIF). Since the model is reflective-formative type II the inner values of VIF were considered to examine the collinearity issue. The threshold values of VIF as recommended by Hair et al., 2017 should be less than 5. Table 3 displays that all the values of VIF are within the limits specified.

Table 3: VIF Values

Items	VIF
FA3	1.282
FA5	1.607
FA6	1.503
FB2	1.837
FB3	1.912
FB4	2.276
FB5	2.168
FB6	2.014
FB7	2.464
FB8	2.033
FB9	1.822
FK10	1.492
FK3	1.753
FK5	2.138
FK6	1.991
FK7	2.055
FK8	1.729
FK9	2.179

5.4.3 Analyzing the Relevance and Significance of Outer Weights

The relative significance of each indicator in shaping the construct is reflected in the indicator's weight. . The bootstrapping method was used to evaluate the significance and Relevance of Indicator Weights. In Bootstrapping, a large number of samples are taken from the original sample. For this purpose, Smart PLS was utilized as recommended by Hair et al.(2021); Hair et al.(2011) ; Wong, K. K. K.(2013). Lohmöller, J. B., & Lohmöller, J. B. (1989) recommended than an indicator weight exceeding 0.1 indicates significance. The findings showed that all weights surpassed this threshold (see Table 3.1, Fig:3.1 Fig:3.2). The bootstrapping procedure of 5000 resamples (Sarstedt et

al., 2014; Wong, K. K. K., 2013) was utilized to evaluate indicator's weight significance. The T-values indicating statistical significance for each indicator give factual support to retain all indicators (Hair et al., 2021; Sarstedt et al., 2019)

Table 3.1 Testing the significance of weights

Relationship	Original sample	Sample mean	Standard deviation	T values	P values
FA -> FL	0.245	0.244	0.041	6.036	0.000
FB -> FL	0.477	0.478	0.045	10.645	0.000
FK -> FL	0.555	0.553	0.046	12.169	0.000

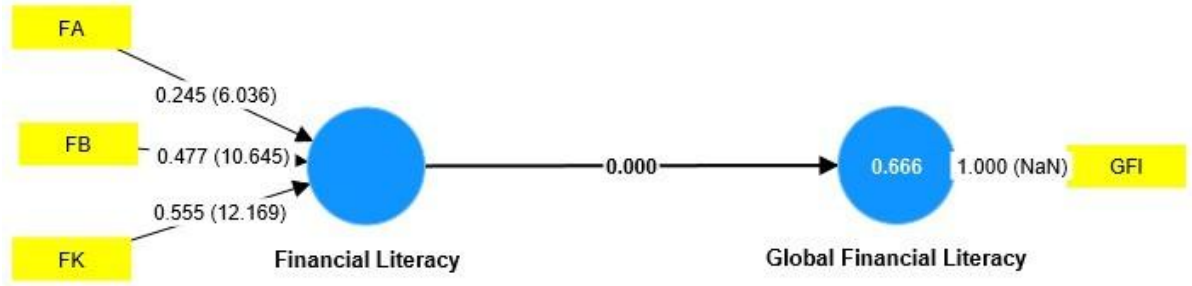

Figure 3.1: Assessment of the significance of indicators weight (Outer weights, T-values, R-square)

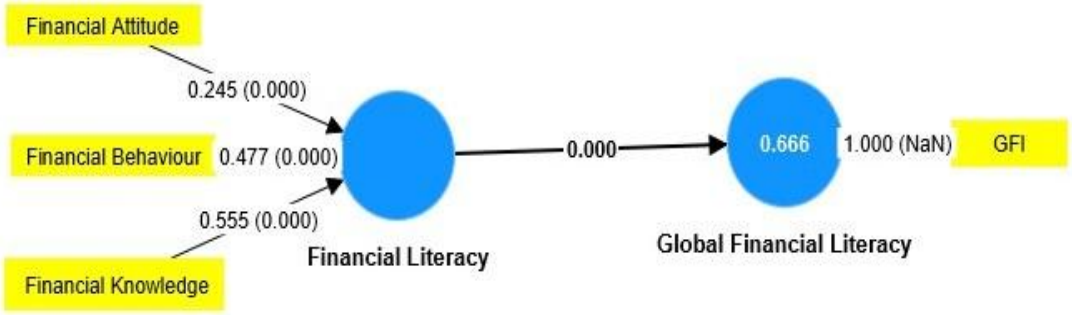

Figure 3.2: Assessment of the significance of indicators weight (P-value, outer weights, R-square)

Assessing the Extent of Financial Literacy

It is worth noting that the model proposed to measure an individual's financial literacy is supported by several authors, additionally highlighting that financial literacy cannot be ascertained using a single measure and it should encompass a more complex examination of distinct constructs together Atkinson, A. and F. Messy (2012); Potrich, A. C. G., Vieira, K. M., & Kirch, G. (2018). Based on the self-assessment test the respondents gave their opinion regarding the three dimensions of Financial Literacy namely Financial Attitude, Behaviour, and knowledge. The combined score of all three dimensions was further used to calculate the financial literacy level of the individuals. Further, the total score was divided into three percentages according to the strategy of Chen, H., Volpe, R.P. (1998) where the literacy level respondents were categorized into High, Low, and Moderate. The results of the self-assessment test revealed that out of 345 academicians teaching in varying higher educational institutes of Dehradun and Haridwar districts of Uttarakhand, most of them possessed a moderate level of financial literacy and very few were able to achieve the highest level of literacy. In terms of Percentage, 63.47% of the respondents had a moderate level of financial literacy, while

21.73% had a low level of literacy level and very few i.e. 14.78 % possessed a high literacy level. Table No.4 shows the Financial Literacy level according to the demographic profile.

Demographics		High Level	Low Level	Moderate Level	Total
Age	Less than 25	22	50	128	200
	25-34	16	15	60	91
	35-44	8	4	20	32
	45-54	4	1	7	12
	More than 55	1	5	4	10
	Total	51	75	219	345
Gender	Male Female	35	49	143	227
	Total	16	26	76	118
		51	75	219	345
Marital Status	Married Unmarried	19	11	54	84
	Total	32	64	165	261
		51	75	219	345
Education	Bachelor's Degree	18	38	90	146
	Master's Degree Ph. D or	22	23	83	128
	higher Others	7	5	17	29
	Total	4	9	29	42
		51	75	219	345
Annual Income	<2.5	15	43	91	149
(in Lakhs)	2.5 - 5	12	14	49	75
	5 -7.5	12	4	34	50
	7.5 -10	4	5	19	28
	>10	8	9	26	43
	Total	51	75	219	345
Work-experience	Less than 5 Years	26	57	143	226
	5-10 Years	13	7	35	55
	10-15 Years	7	1	20	28
	Above 15 Years	5	10	21	36
	Total	51	75	219	345

Table 4: Demographic profile according to Financial Literacy level

Discussion and Conclusion

In developing economies like India, the role of financial literacy is eminent since a sizeable proportion of the population is financially ruled out. The result of the survey conducted by NCFE in the year 2019 shows widespread financial illiteracy in India in which Uttarakhand stands at 42%. Thus, there is a need to educate the people financially for the success of financial inclusion. To suppress financial illiteracy strong policies and strategies need to be framed and implemented.

This investigation seeks to verify a model that evaluates the general extent of financial literacy within the academic staff of higher educational institutes in the state of Uttarakhand, India. Based on the current study, Financial Literacy is a formative measurement framework where it is a second-order construct and Financial attitude, Behaviour, and knowledge are the lower-order constructs. In the present study, financial literacy has been conceptualized as an integration of financial attitude, financial behavior, and financial knowledge aligning with the perspective of researchers like Agarwalla et al. (2015); Atkinson, A., and F. Messy. (2012); Bajaj, I., & Kaur, M. (2022).; Potrich et al. (2016) Potrich et al. (2018); The literature in our study elaborates on the distinct aspects of Financial Literacy, also a distinction between reflective and formative models was focused upon. Each indicator- financial knowledge, financial behavior, and financial attitude has a distinct bearing on financial literacy, according to the outcome of modeling financial literacy as a second-order construct also a change in the value of any indicator could bring about a change in

the meaning of the construct. However, after testing the significance of weights it was found that financial knowledge has the highest weightage in financial literacy followed by financial behavior and financial attitude. As an indicator Financial attitude has the least bearing on financial literacy but its significant weight implies keeping the indicator (Hair et al., 2021; Sarstedt et al., 2019).Similar to the study of Bajaj, I., & Kaur, M. (2022); and Potrich et al. (2018) the measurement model's outcome indicated "Financial Attitude, Financial Behaviour, and Financial Knowledge" as financial literacy's specific elements. However, the findings are different in the sense that these dimensions of financial literacy express a very low correlation with each other stating that each dimension is an independent construct and has separate relevance in forming financial literacy. To summarize, the measurement model findings suggest considering financial literacy to be a higher-order, "reflective-formative" construct. Additionally, the present study validates the model using PLS-SEM, since it can simultaneously validate formative and reflective aspects. Therefore, using PLS-SEM rather than CB-SEM is a further suggestion when the consideration is to validate a Reflective-formative-model. Further by introducing a global measure of financial literacy, this study may aid researchers further to evaluate the convergent validity associated with the second-order construct.This research investigated the academician's extent of financial literacy working in the higher educational institutes of Uttarakhand (covering two districts-Dehradun and Haridwar) and stated that a much larger population out of the sample managed to attain a moderate extent of financial literacy (63.4%) while very few were able to achieve the highest literacy level (14.78%). This conclusion confirms the need to come up with an effective measure and explore the possible reasons for low and moderate financial Literacy among academicians of higher educational institutes) so that a larger chunk of the population falls under the category of high financial literacy.The advancement of any country's culture, society, and economy particularly its young student population relies on financial literacy. From this perspective, teachers must comprehend financial principles and competent to teach young students about financial goals and tactics. Numerous studies have highlighted that students of higher-education institutes demonstrate inadequate financial literacy. However, studying academician's financial literacy is equally critical as financially literate teachers can help students make better financial decisions in the future.

Limitations`

There are few constraints on the study's contribution. The data was collected from the teachers of higher educational institutes of the Dehradun and Haridwar districts of Uttarakhand using non-probability convenient sampling. The findings lacked a wider scope due to limited sample size and time constraints. Therefore, the study cannot be generalized for all the academicians working at different levels (at schools and other educational institutes). The study should be conducted for all teachers at all levels whether at primary, intermediate, or secondary school in addition to educators at higher educational institutes and appropriate strategies must be adopted to fill the financial literacy gaps. Financially literate Teachers can act as role models in guiding the students on how to become financially informed which as a consequence will help them manage their finances in a better way in the future.

Practical Implication

This study has major implications for practitioners, the financial sector, and policymakers. They can develop educational initiatives for educators to improve their financial literacy by focusing on three key dimensions: "financial attitude, financial knowledge, and financial behavior". Academicians play a crucial role in not only their financial wellness but in society as well. By gaining financial literacy, they can better empower students to manage their finances effectively. As financial fraud is becoming increasingly common, financially literate educators along with the government can protect individuals from becoming victims of it.

REFERENCES:

1. Abreu, M., & Mendes, V. (2010). Financial literacy and portfolio diversification. *Quantitative finance*, *10*(5), 515-528.
2. Agarwal, R., Karahanna, E., 2000. Time flies when you're having fun: cognitive absorption and beliefs about information technology usage. MIS Quarterly 24 (4), 665e694
3. Agarwalla, S. K., Barua, S. K., Jacob, J., & Varma, J. R. (2015). Financial literacy among working young in urban India. *World Development*, *67*, 101-109.
4. Ali, F., Rasoolimanesh, S. M., Sarstedt, M., Ringle, C. M., & Ryu, K. (2018). An assessment of the use of partial least squares structural equation modeling (PLS-SEM) in hospitality research. *International journal of contemporary hospitality management*, *30*(1), 514-538.
5. Allgood, S., & Walstad, W. B. (2016). The effects of perceived and actual financial literacy on financial behaviors. *Economic inquiry*, *54*(1), 675-697.
6. ANZ (2015). ANZ survey of adult financial literacy in Australia, summary of findings. ANZ.Retrieved from https://www.anz.com/resources/5/4/54720a2da540-49f0-b0a7- 62f1ffb922e6/adult-financial-literacy-

surveysummary.pdf?MOD=AJPERES

7. Aren, S., & Aydemir, S. D. (2014). A literature review on financial literacy. *Journal of Financial Researches and Studies, 5(11), 33-49. http://dx.doi.org/10.14784/jfrs.2014117326*
8. Atkinson, A. and F. Messy (2012), "Measuring Financial Literacy: Results of the OECD / International Network on Financial Education (INFE) Pilot Study", *OECD Working Papers on Finance, Insurance and Private Pensions*, No. 15, OECD Publishing, Paris, https://doi.org/10.1787/5k9csfs90fr4-en.
9. Bagozzi, R.P. and Yi, Y. (1988), "On the evaluation of structural equation models", Journal of the Academy of Marketing Science, Vol. 16 No. 1, pp. 74-94
10. Bajaj, I., & Kaur, M. (2022). Validating multi-dimensional model of financial literacy using confirmatory factor analysis. *Managerial Finance*, *48*(9/10), 1488-1512.
11. Becker, J. M., Klein, K., & Wetzels, M. (2012). Hierarchical latent variable models in PLS- SEM: guidelines for using reflective-formative type models. *Long range planning*, *45*(5-6), 359-394.
12. Bhabha, J. I., Khan, S., Qureshi, Q. A., Naeem, A., & Khan, I. (2014). Impact of Financial Literacy on Saving-Investment Behavior of Working Women in the Developing Countries. Research Journal of Finance and Accounting, 13(5), 118-122.
13. Bhushan, P., & Medury, Y. (2013). Financial literacy and its determinants. International Journal of Engineering, Business and Enterprise Applications, 4(2), 155-160
14. Bucher-Koenen, T., Lusardi, A., Alessie, R., & Van Rooij, M. (2017). How financially literate are women? An overview and new insights. *Journal of Consumer Affairs*, *51*(2), 255-283.
15. Candiya Bongomin, G. O., Munene, J. C., Ntayi, J. M., & Malinga, C. A. (2017). Financial literacy in emerging economies: Do all components matter for financial inclusion of poor households in rural Uganda?. *Managerial Finance*, *43*(12), 1310-1331.
16. Cheah, J. H., Sarstedt, M., Ringle, C. M., Ramayah, T., & Ting, H. (2018). Convergent validity assessment of formatively measured constructs in PLS-SEM: On using single-item versus multi-item measures in redundancy analyses. *International Journal of Contemporary Hospitality Management*, *30*(11), 3192-3210.
17. Chen, H., Volpe, R.P. (1998), „An Analysis of Personal Financial Literacy among College Students", *Financial Services Review, Vol. 7, No 2, pp.107-128.*
18. Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern methods for business research*, *295*(2), 295-336.
19. Clark, R., Lusardi, A., & Mitchell, O. S. (2017). Employee financial literacy and retirement plan behaviour: a case study. *Economic Inquiry*, *55*(1), 248-259.
20. Department of Higher Education, Government of Uttarakhand. Retrieved from
21. Department of Higher Education (uk.gov.in)
22. Dogra, P., Kaushal, A., & Sharma, R. R. (2023). Antecedents of the Youngster's awareness about financial literacy: A structure equation modelling approach. *Vision*, *27*(1), 48-62.
23. Drolet, A. L., & Morrison, D. G. (2001). Do we really need multiple-item measures in service research? Journal of Service Research, 3(3), 196-204. https://doi. org/10.1177/109467050133001
24. Eniola, A. A., & Entebang, H. (2017). SME managers and financial literacy. *Global Business Review*, *18*(3), 559-576.
25. Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", Journal of Marketing Research, Vol. 18 No. 1, pp. 39-50.
26. Gardner, D. G., Cummings, L. L., Dunham, R. B., & Pierce, J. L. (1998). Single-item versus multiple-item measurement scales: an empirical comparison. Educational and Psychological Measurement, 58(6), 898-915.https://doi.org/10.1177/0013 164498058006003
27. Grohmann, A., Klühs, T., & Menkhoff, L. (2018). Does financial literacy improve financial inclusion? Cross country evidence. *World Development*, *111*, 84-96.
28. Gupta, K., & Negi, V. (2014). Financial literacy of Himachal Pradesh „a case study of Shimla". IMPACT: International Journal of Research in Business Management, 2(9), 1-14
29. Gupta, Sangeeta (2017). A Study of Dimensions of Financial Literacy and its Relationship with Household Savings and Investment(Doctoral Dissertation, Jagannath University, India) Retrieved from http://shodhganga.inflibnet.ac.in/
30. Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook* (p. 197). Springer Nature.
31. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM), 2 nd Ed., Sage, Thousand Oaks, 2017.
32. Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. Journal of the Academy of Marketing Science, 45(5), 616- 632. https://doi.org/10.1007/s11747-017- 0517-x
33. Hair, J., Black, W., Babin, B. and Anderson, R. (2010), Multivariate Data Analysis, 7th ed., Prentice-Hall, Upper Saddle River, NJ.
34. Hassan Al-Tamimi, H. A., & Anood Bin Kalli, A. (2009). Financial literacy and investment decisions of UAE investors. *The journal of risk finance*, *10*(5), 500-516.
35. Henager, R. and Mauldin, T. (2015), "Financial literacy: the relationship to saving behavior in low-to moderate-income households", Family and Consumer Sciences Research Journal, Vol. 44 No. 1, pp. 73-87.
36. Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal ofthe Academy ofMarketing Science, 43(1), 115- 135.

https://doi.org/10.1007/s11747-014- 0403-8
37. Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing* (Vol. 20, pp. 277-319). Emerald Group Publishing Limited.
38. Hilgert, M. A., Hogarth, J. M., & Beverly, S. G. (2003). Household financial management: The connection between knowledge and behavior. *Fed. Res. Bull.*, *89*, 309.
39. Huston, S. J. (2010). Measuring financial literacy. *Journal of consumer affairs*, *44*(2), 296-316.
40. Janor, H., Yakob, R., Hashim, N. A., Zanariah, Z., & Wel, C. A. C. (2017). Financial literacy and investment decisions in Malaysia and United Kingdom: A comparative analysis. Geografia-*Malaysian Journal of Society and Space, 12(2)*
41. Jariwala, H. V. (2015). Analysis of financial literacy level of retail individual investors of Gujarat State and its effect on investment decision. *Journal of Business & Finance Librarianship*, *20*(1-2), 133-158.
42. Kaiser, Tim, Annamaria Lusardi, Lukas Menkhoff, and Carly Urban. (2020). "Financial Education Affects Financial Knowledge and Downstream Behaviors." NBER Working Paper 27057, forthcoming Journal of Financial Economics
43. Kennedy, B. P. (2013). The theory of planned behavior and financial literacy: A predictive model for credit card debt?.
44. Klapper, L., & Panos, G. A. (2011). Financial literacy and retirement planning: the Russian case. *Journal of Pension Economics & Finance*, *10*(4), 599-618.
45. Krische, S.D. (2014), "Who is the average individual investor? Numerical skills and implications for accounting research", Numerical Skills and Implications for Accounting Research, Vol. 27, p. 18.
46. Lohmöller, J. B. (1989). Predictive vs. structural modeling: Pls vs. ml. In Latent VariablePath Modeling with Partial Least Squares (pp. 199-226). Physica, Heidelberg.https://doi. org/10.1007/978-3-642-52512-4_5
47. Lusardi, A., & Mitchell, O. S. (2008). Planning and financial literacy: How do women fare?. *American Economic Review*, *98*(2), 413-17.
48. Lusardi, A., & Mitchell, O. S. (2011). Financial literacy around the world: an overview. *Journal of pension economics & finance*, *10*(4), 497-508.
49. Lusardi, A., Olivia, S.M., Curto, V. (2010). Financial literacy among the young. The Journal of Consumer Affairs, 44 (2), 358-380
50. Lusardi, Annamaria, and Olivia S. Mitchell (2007a), "Baby Boomer Retirement Security: The Role of Planning, Financial Literacy, and Housing Wealth," Journal of Monetary Economics 54, pp. 205-224.