

Determinants Of Financial Literacy And Their Effects On Retirement Planning: Evidence From University Of Cape Coast

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Abstract

The study examined the financial literacy and retirement planning of administrative staff of the University of Cape Coast. Data was collected from 357 administrative staff of UCC through simple random sampling and was analyzed by employing the Partial Least Square estimation technique. The main finding of the study was that the level of financial literacy among the administrative staff of UCC is demonstrated by staff adequate knowledge in financial investments, insurance packages, budgeting, saving, debt management, and good personal financial decisions among others. Also, the study found that staff who develop a retirement budget, retirement plan, have enough idea of retirement income and saving could enhance their retirement planning. Based on the findings of the study, it was recommended that the administrative staff of UCC should continue to implement their financial literacy ideas for their retirement. Again, the administrative staff of UCC should seek financial advice from experts on how they engage in credible investment, business and save money towards their retirement. Finally, the administrative staff of UCC should engage in concrete measures such as workplace financial education required to further strengthen their financial knowledge, behaviour, attitudes and skills in order to prepare sufficiently for their retirement.

Date of Submission: 02-03-2024

Date of Acceptance: 12-03-2024

I. Introduction

Financial literacy has been a subject of various definitions provided by different authors. Essentially, it pertains to possessing the essential financial knowledge and competencies related to specific financial matters, which enables an individual to confidently and effectively make decisions that align with their personal and financial objectives (Beale *et al.*, 2015). One of the key life objectives for many individuals, especially those in the workforce, is to ensure they lead a decent life in their retirement years and this goal requires careful and deliberate planning. In developing economies like Ghana where retirees do not receive adequate pension benefits, the importance of retirement planning cannot be downplayed (Adam *et al.*, 2017). Research findings have demonstrated that financial literacy serves as a valuable instrument that individuals can utilize to effectively prepare and strategize for their retirement (Amoah, 2018).

For instance, according to Bucher-Koenen and Lusardi (2011), financial literacy and application of the knowledge acquired reduces the rate at which people fall prey to the schemes of unscrupulous financial services and financial products that are not in their best interest especially after their retirement. Also, Capuno and Ramsay (2011) stated that a person's level of financial literacy is factored by the person's control of his finances, budgeting practices, living within their means, knowledge about borrowing and debt literacy. This stands to reason that, financial literacy is distinct as having a precise sort of knowledge, having the aptitude to use that knowledge, and having a recognized grasp of it, upright financial conduct and financial exposure (Hung, Parker & Yoong 2009).

Despite the well-recognized benefits of financial literacy in the context of retirement planning and broader life objectives, it's worth noting that some developing economies continue to face challenges in this area. For instance, South Africans reach their retirement age without adequately planning for retirement (Dhlembeu, 2022). This may be because they do not understand the essence of financial planning for their retirement income. Supporting this observation, the level of financial literacy in South Africa is quite low, with only 42% of the adult population being financially literate, according to a 2021 survey conducted by the Organization for Economic Co-operation and Development (OECD). That apart, the Ghana Statistical Service

in 2022 revealed that 64.3% of workers in Ghana are financially illiterate. Most of these people survive on their SSNIT aids which are miserably insufficient to satisfy their desires.

This underscores the importance of enhancing financial literacy among Ghanaian workers, particularly in the context of their retirement planning. Numerous research studies have explored the significance of financial literacy in relation to pension arrangements for workforces, both within and outside Ghana (Boisclair *et al.*, 2017; Sarpong-Kumankoma, 2023). While previous research has explored the role of financial literacy in pension arrangements in vast domain, this study aims to fill a gap by specifically focusing on administrative staff in the University of Cape Coast. The expressed concerns of University of Cape Coast's administrative workforce regarding their financial well-being post-retirement further underscore the importance of this research.

This paper through simple random sampling of a number of administrative workers in University of Cape Coast will look at fulfilling these three tasks; first, investigate the level of financial literacy among the administrative staff of University of Cape Coast, second, assess the extent of retirement arrangement among the administrative workforce of University of Cape Coast and lastly explore the affiliation among financial literacy and pension arrangement among the administrative staff of University of Cape Coast. The rest of the paper is organized into the following: Section 2 provides an overview of the dataset and methodology used in the study. Section 3 describe the detailed results. Some brief conclusions are provided in section 4.

II. Methods

Study Design and Sample

The study was specifically focused on the administrative staff of the University of Cape Coast. The colleges within the University consists of various faculties, schools, and departments, and the administrative responsibilities within these entities are carried out by both senior non-teaching staff and senior/junior administrative staff members. The targeted population included only the administrative staffs working in the University. A total of 3,289 administrative staffs were targeted for this research. The size of the population was deemed too extensive to manage effectively, necessitating the reduction of the population to a more manageable sample size. The Yaro Yamane (1967) statistical formula was used to find a sample size for the study. The formula is given as:

$$n = \frac{N}{[1+N(e)^2]} \quad (1.0)$$

Where n is the sample size, N is the finite population and e is the significance level (0.05). This formula gave us a sufficient sample size of 357, which was proposed to be used in the study. Once the sample size was obtained, the simple random sampling technique was used to pick the participants for the study.

We used a structured questionnaire to obtain data from the participants. Therefore, a reply rate of 98.68% was obtained. The questionnaire relied mainly on the 5- point Likert scale in obtaining responses from participants. The study utilized empirically validated scales for measuring the constructs under investigation. The validated scales were operationalized to fit the context of the study. Then financial literacy scale was adapted from these empirically validated sources (Kafari, 2019; Lusardi & Mitchell, 2011). Four indicators were used as a proxy to measure financial literacy. They are financial knowledge, financial behaviour, financial attitudes and financial skills. Retirement planning sub-scale was also adapted from this source (Kafari, 2019; Musardi & Mitchell, 2016)

Statistical Analysis

We employed the Partial Least Squares- Structural Equation Model estimation technique (PLS-SEM) for analysis. It has been argued that the utilisation of PLS-SEM keeps researchers from bias estimate of items loadings (Götz, *et al.*, 2010). It has the ability to evaluate the nexus in model constructs simultaneously (Hair *et al.*, 2014). For the purposes of this study, PLS-SEM was used to define the β values, p-values, collinearity, Variance Inflation Factor (VIF), R^2 , effect size (F^2) and predictive relevance (Q^2) for each of the analysis carried out in the study.

III. Results

Demographic Characteristics of Respondents

Table 1 shows the data summary regarding the respondents' demographic features such as gender, age, educational status, marital status, number of dependents, years of work experience and income levels. As indicated in Table 1, the study includes a higher proportion of female workers than males (56.3% compared to 43.7%). The data shows diversity in educational levels with the majority of workers (75.1%) having attained a First Degree, followed by HND holders (28.8%) and then Second Degree holders (1.1%). The majority of respondents are in their 30s. The largest segment of the respondents, comprising about 70.0%, falls within the range of 6 to 10 years of work experience.

Table 1: Demographic Characteristics of Respondents

Variable	Frequency	Percentage
Gender		
Male	156	43.7
Female	201	56.3
Age (years)		
24 –28	50	14.0
29 –33	102	28.5
34 –38	150	42.0
39–43	31	8.8
Above 43	24	6.7
Educational Level		
HND	85	23.8
First Degree	268	75.1
Second Degree	4	1.1
Marital Status		
Single	60	16.8
Married	282	79.0
Divorced	15	4.2
Number of Dependent		
1-5	325	91.0
6-10	32	9.0
Years of Work Experience		
1– 5 years	82	23.0
6– 10 years	250	70.0
11– 15 years	25	7.0
Income Levels (GHS)		
1000-2000	152	42.6
2001-3000	100	28.0
3001-4000	59	16.5
4001-5000	46	12.9
Current Position		
Junior Staff	232	65.0
Senior Staff	80	22.4
Senior Member	45	12.6

Source: Authors (2023)

Common Method Bias

Table 2 presents the Extraction sum of square loadings using the Harman’s one-factor test. Chin (1998) opined that studies with large data of this kind should not face problems relating to indicator loadings and path coefficient. Table 2 shows that the percentage of variance (20.13%) is lower than the standard 50% as proposed by Podsakoff et al., (2003).

Table 2: Extraction Sum of Square Loadings

Factor	Extraction sum of square loadings		
	Total	% of variance	Cumulative %
1	13.435	20.132	20.132

Extraction Method: Principal Axis Factoring.

Model Fit

To determine the reliability and accuracy of the model's predictions, inferences, and its overall suitability for the research objectives, we test the fitness of the model. We used the work of Lohmöller (1989) as a rule of thumb to test the overall fitness of our model. According to Lohmöller (1989) the rms Theta values in measurement models should be lower than 0.12 to be declared as a well-fitting model. The author further stressed that, figures larger than 0.12 means a poor-fitting model. As it can be seen in Table 3, the rms Theta value of 0.107 confirms that the model is fit for the study. Again, Hu and Bentler (1999) suggested that a structural model is considered fit when the SRMR value is below 0.08. The SRMR value of 0.055 is below this threshold, indicating that the model is indeed fit.

Table 3: Model Fit

	Saturated Model	Estimated Model
SRMR	0.055	0.087
d_ULS	3.317	6.923
d_G	2.062	2.294
Chi-Square	2113.334	2287.655
NFI	0.684	0.679
rms Theta	0.107	

Source: Authors (2023)

Checking for Reliability and Validity of the Model

Table 4 presents model's reliability and validity by examining its measurements. For reliability, a loading is considered reliable when its external loadings exceed 0.7 (Henseler *et al.*, 2015). The analysis revealed that most outer loadings were above 0.7, ensuring reliability. Although some items loaded below 0.7, they were retained due to satisfactory Average Variance Extracted (AVE) values. Composite reliability, indicating the overall dependability of each component, ranged from 0.887 to 0.969, meeting reliability criteria. Convergent validity, determined through AVE values, should be 0.5 or higher (Chin, 1998; Hair *et al.*, 2014). The model achieved AVE values between 0.656 and 0.722, confirming convergent validity for each construct. Additionally, Cronbach's alpha values, indicating internal consistency, ranged from 0.859 to 0.917. These values surpassed the recommended threshold of 0.7 (Bryman & Bell., 2011), affirming the constructs' reliability.

Table 4: Summary of Measurement of Scale

Latent Variable	Indicators	Mean	SD	Loadings	CR	AVE	Cronbach Alpha
Financial Knowledge					0.944	0.722	0.917
	FK1	5.434	1.149	0.808			
	FK2	5.826	1.033	0.923			
	FK3	5.801	0.963	0.886			
	FK4	6.031	0.188	0.841			
	FK5	5.905	0.198	0.824			
Financial Behaviour					0.887	0.656	0.867
	FB1	6.042	0.844	0.773			
	FB2	6.042	0.989	0.818			
	FB3	6.042	0.793	0.847			
	FB4	6.042	0.859	0.830			
	FB5	6.042	0.968	0.721			
Financial Attitudes					0.964	0.703	0.907
	FA1	5.877	0.988	0.764			
	FA2	5.728	1.201	0.570			
	FA3	5.697	1.338	0.851			
	FA4	5.882	1.106	0.877			
	FA5	5.826	1.063	0.875			
	FA6	5.586	1.047	0.908			
Financial Skills					0.953	0.712	0.896
	FS1	6.042	1.262	0.950			
	FS2	6.107	1.055	0.931			
	FS3	6.171	0.991	0.930			
	FS4	6.119	0.918	0.888			
	FS5	6.185	0.958	0.929			
	FS6	5.812	1.397	0.868			
Retirement Planning					0.969	0.706	0.859
	RP1	6.116	1.133	0.919			
	RP2	6.048	1.103	0.849			
	RP3	6.021	1.081	0.865			

	RP4	6.224	1.007	0.858			
	RP5	6.146	0.793	0.771			
	RP6	6.121	0.859	0.777			
	RP7	5.952	0.968	0.669			
	RP8	5.877	0.988	0.768			
	RP9	5.728	1.201	0.539			
	RP10	6.016	1.133	0.919			

Source: Authors (2023)

Additionally, table 5 shows the Fornell–Larcker criterion for Determining Discriminant Validity. Following Hair et al. (2016), it can be indicated that all the component met the requirement for discriminant validity. This also goes to assure the divergent validity of the model.

Table 5: Fornell–Larcker criterion for Determining Discriminant Validity

	FK	FB	FA	FS	RP		
FK	0.654						
FB	0.551	0.716					
FA	0.561	0.574	0.753				
FS	0.554	0.623	0.734	0.748			
RP	0.615	0.553	0.627	0.633	0.705		

Source: Authors (2023)

Where, FK is Financial Knowledge, FB is Financial Behaviour, FA is Financial Attitude, FS is Financial Skill and RP is Retirement Planning.

Level of financial literacy among the administrative staff

Summary Statistics

Table 6 shows the descriptive summary of the financial literacy level among University of Cape Coast administrative staffs. We can infer from the table that the mean score for all the survey question related to individuals' self-assessed level of financial literacy shows that on average, respondents felt quite confident in their knowledge and skills in these financial areas. Additionally, the standard deviation which measures the variation in responses, suggest that responses were relatively consistent and tightly clustered around the mean.

Table 6: The Level of Financial Literacy among the Administrative Staff of UCC

	N	Mean	Std. Deviation
I have adequate knowledge about investments (stocks, bonds, mutual funds), insurance packages, budgeting, saving and debt management	357	4.89	.495
I know how to take good personal financial decisions, keep good financial records, good control over financial issues, manage resources available to me and live within my means	357	4.79	.492
I don't struggle to set financial goals for myself and spend less money on less important things	357	4.70	.506
I know how to make complex financial decisions and recognize a good financial investment	357	4.68	.493

Source: Authors (2023)

Pension arrangement among the administrative staff

Table 7 shows the descriptive summary of the level of pension arrangement among University of Cape Coast administrative staffs. We can infer from the table that the mean score for all the items that measure individual's pension arrangements shows that on average, individuals have comprehensive idea on how they may survive after retirement and will eventually plan towards it. Again, the standard deviation which measures the variabilities or spread in responses, suggest that individual responses were relatively consistent and tightly clustered around the mean showing that the workers have made enough pension arrangement.

Table 7: The Level of Retirement Planning Among the Administrative Staff of UCC

	N	Mean	Std. Deviation
I've created a pension spending proposal.	357	4.90	.480
My pension plan is set up.	357	4.88	.478
I know sufficient about what I will need for pension.	357	4.86	.499
I have no trouble fostering a culture of saving.	357	4.82	.490
I allocate my money as I feel fit.	357	4.77	.475

When I'm getting ready for pension, I focus more on my income.	357	4.75	.478
When making pension decisions, I consider long-term housing options.	357	4.72	.470
I have a personal mission statement	357	4.65	.466
I have no trouble creating a pension outline.	357	4.60	.483
I keep an eye on and assess my pension schemes.	357	4.57	.462

Source: Authors (2023)

Financial literacy and retirement planning among the administrative staff

Using the Partial Least Square-Structural Equation Modelling (PLS-SEM) analytical approach, we analysed the relationship between financial literacy and retirement planning among the administrative staffs in the University of Cape Coast. As disclosed in Table 8 and Figure 1, the R² value in the structural model displays that the components of financial literacy described about 0.920% of variation in retirement planning. This therefore, can be justified that the R² value is good enough to make it possible for the interpretation of the path coefficients. According to Götzet al. (2010), a Q² figure bigger than zero is said to have a predictive relevance. Therefore, a Q² value (0.352) greater than 0, indicate that financial literacy has a large predictive relevance for retirement planning.

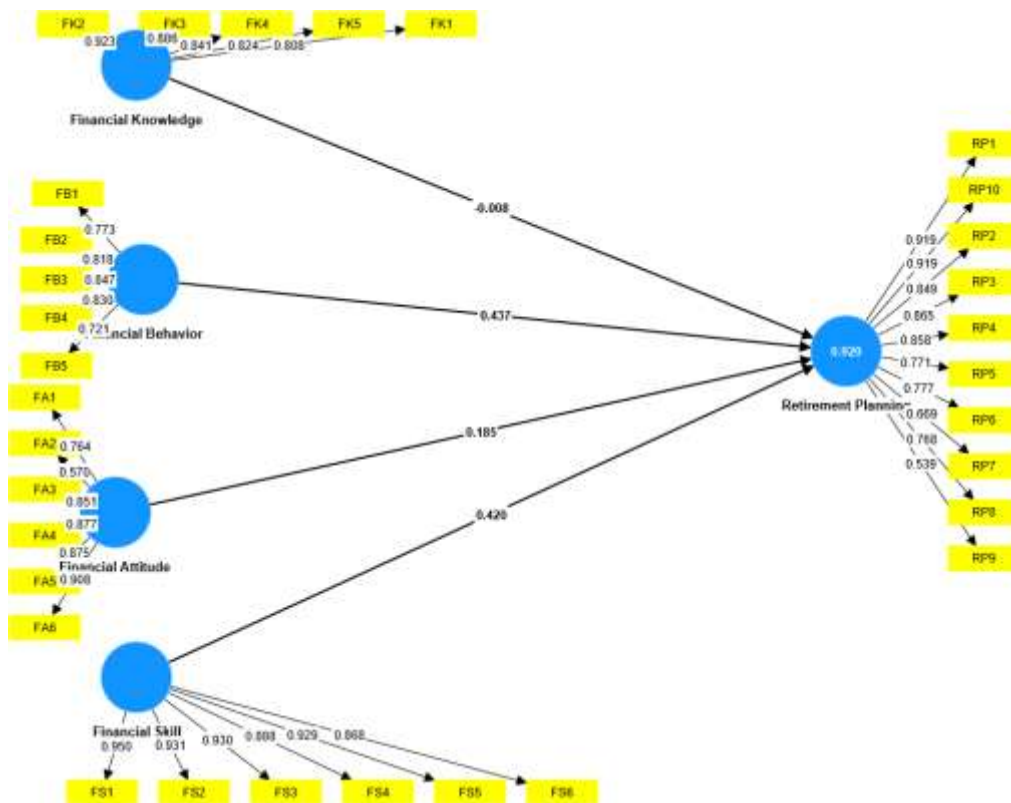


Figure 1: Path Modelling and Factor Loading Results

From Table 8, the path coefficient ($\beta = -0.008, p = 0.741$) establish a negative relationship between financial knowledge and pension arrangement. This results however is not statistically significant. With the financial behaviour-pension arrangement nexus, the path coefficient ($\beta = 0.437, p = 0.000$) also indicates a statistically significant positive relationship. This relationship is in line with the works of Eberhardt, et al., (2022) who opined that people who make good financial decisions and take good control over their financial issues do have upper hand when it comes to planning for their retirement. Also, positive financial attitude affect retirements planning in a beneficial way. This relationship is statistically significant ($\beta = 0.185, p = 0.000$). The result is no different from the relationship between financial skill and retirement planning ($\beta = 0.420, p = 0.000$).

Table 8: Summary of Findings

IV	DV	Path coeff.	S. E	t-Stats	P-Values	R ²	f ²	Q ²	VIF
FK	RP	-0.008	0.066	0.452	0.741	0.920	0.332	0.352	2.000
FB	RP	0.437	0.067	5.225	0.000	0.920	0.323	0.325	1.232
FA	RP	0.185	0.047	3.549	0.000	0.920	0.024	0.352	1.260

FS	RP	0.420	0.087	0.027	0.000	0.920	0.020	0.352	1.735
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Source: Authors (2023)

IV. Conclusion

This paper seeks to evaluate the level of financial literacy within the administrative staff of UCC, as well as to assess their pension arrangements and how financial literacy, including financial knowledge, behaviour, attitudes, and skills, influenced their retirement planning. The study confirmed that the administrative staff at UCC possess significant knowledge in financial areas such as investments (stocks, bonds, and mutual funds), insurance options, budgeting, saving, debt management, making wise personal financial decisions, maintaining good financial records, and effectively managing available resources. Additionally, the research found that staff members who create a retirement budget, establish a retirement plan, have a clear understanding of retirement income, engage in saving, and focus on long-term living arrangements are better prepared for their retirement.

The results posit that workers with positive financial behaviour, attitudes, and skills, have a good retirement planning. Having financial knowledge, according to the study, have adverse effect on the workers' retirement planning. This result is however not statistically significant. Intuitively, possessing financial knowledge contribute positively to one's retirement planning. Based on these conclusions, we recommend that the university management should organize seminars and workshops with the primary goal of providing financial education to its employees. These seminars should be designed to offer comprehensive and practical insights into various aspects of personal finance and financial planning. We suggest further study on financial literacy and pension arrangement should be extended further in other sectors to confirm the nexus in this study

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