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Impact of Psychological Factors on Retirement Saving Behavior of the Nigerian Workers

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Abstract:
Background*: Recent welfare cuts implemented by many governments around the world imply a shift of retirement responsibilities onto individuals via private pension plans and personal retirement savings. To reduce corporate and governmental responsibilities for pension planning while increasing life expectancy, an in-depth study of individuals' retirement saving behavior is required.*
Materials and Methods*:Douglas Hershey retirement planning model was used to develop the research model. Partial least square structural equation modeling (PLS-SEM) was used to analyze 444 sample data collected from the respondents who are mainly Nigerian workers. To provide a comparative result, PLS-MGA, was applied to evaluate the level of differences between the public and private sector workers.*
Results: *The results with overall samples suggested that financial planning activity has a significant positive impact on retirement savings behaviour. While knowledge of financial planning, future time perspective and retirement goal clarity impacted positively on retirement planning activity. Similarly, future time perspective impacted positively on both knowledge and retirement goal clarity. The result of the PLS MGA shows two relative convergent results indicating a significant difference between the public and private sector workers in the relationship between financial planning activity and retirement savings behavior and future time perspective and knowledge of financial planning for retirement.*
Conclusion:*Practitioners are therefore, advice to encourage workers to engage in information-seeking activities, attend financial seminars or designing a workplace retirement preparation program to improve the workers savings behavior.*
Keyword*: Retirement Saving Behavior, goal clarity, future time, knowledge, financial planning*

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I. Introduction

Recent development in welfare cuts implemented by many governments in countries of the world implies a shift of retirement responsibilities onto individuals through private pension plan and personal retirement saving [1,2]. In order to reduce corporate and governmental responsibilities for pension planning coupled with increased life expectancy requires an in-depth study of individuals' retirement saving behavior. Research on retirement planning and savings usually shows that there is serious cause for concern[3]. Many workers in developed and developing countries lack easy access to retirement savings. Lack of opportunities to start retirement savings and encouragements to set aside certain amount of money for retirement is narrowing many people's ability to accumulate savings. To support a reasonable level of income in retirement, the workers are expected to save 10% to 15% of their average annual income. Today, individual's retirement savings rates in most countries are far below expectation [2]. The shortfall in retirement savings for the eight largest pension markets in the world was estimated at $70 trillion while the increase in longevity should be celebrated, longer lifetimes are presently increasing the cost of retirement. Hence, the retirement savings gap is projected to increase significantly. If measures are not taken to increase the levels of retirement savings, the gap may likely grow to $400 trillion by 2050[2].

In the last decades, issues on retirement saving were handled by economists, accountants, and financial advisors. More recently, economists have found psychological concepts to be good enough in explaining economic and financial behavior[3,4]. Since then, researchers have progressively incorporated variables from other disciplines such as psychology in their empirical studies and accumulated evidence for integrated models of retirement saving[5,6]. Theoretical revisions have emphasized the important contributions of psychological variables to retirement savings research. Thus, the objective of this study is to examine the factors influencing the retirement saving behavior of the public and private sector workers in Nigeria and identify the differences between them.

Many studies express serious concern about the incidence of financial bankruptcy among people during retirement[7,8]. Financial sustainability and provision of public and private pension is at risk because many governments around the world have recently adopted welfare cuts by shifting retirement responsibility onto individuals via private pension plans and personal retirement savings in order to reduce financial deficit orchestrated by increased in life expectancy[1,2,9]. On the other hand, financial analyst has recently expressed concern about the poor domestic savings behavior of most African countries, including Nigeria, compared to other areas of the world. Nigeria gross domestic savings fluctuates after the 2012 increase of 33.16%. In 2020, the world bank forecast stood at 23% compared to 22.44% in 2019[11]. Despite the rising trend of private savings in Nigeria, the country is still marked by low investment, implying that the average saving rate ratio is still far from impressive[10]. Meaning that it will be difficult for Nigerian retirees to have adequate income in retirement. In an effort to better understand the reasons why individuals are not saving at an adequate rate, researchers are focusing their attention on the factors that influence the tendency to plan and save. Understanding the motives that underlie individuals' retirement saving practices is important because many, if not most future retirees, will need to rely on personal savings to maintain a reasonable replacement income. The reason behind this study is to build upon the behavioral finance literature by examining the saving behavior of the workers through psychological theory. Specifically, the study is designed to explore the extent to which retirement planning activities, knowledge of financial planning retirement goal clarity influence retirement saving behavior of the workers.

II. Literature Review and Hypothesis Development

Retirement Planning Activity and Retirement Saving Behavior

Retirement planning activities is a multi-step, time-consuming process which guarantee a comfortable, secure and enjoyable retirement. Achieving happiness and self-contentment in retirement, dependent on a number of basicactivities which include, building a financial safety net, excellent health, satisfying social interactions, and participating in recreational and professional activities[12,13,14,15].Previous studies argued that planning activities, encompasses a wide range of behaviors which includes information-seeking activities from retirement counsellor[16,17]. Group-oriented educational interventions, such as attending a financial seminar[18]or partaking in a retirement planning program organized in a workplace[19,20]. The relationship between retirement planning behaviors and individual savings behavior has been long-established. As reported in the literature, the level of retirement planning activity has a direct relationship with retirement savings[21].both in the aspect of saving adequacy[22] and effective savings contributions[23].[24]opine that attending retirement seminars has positive impact on a range of saving behavior. On the other hand, [23]added that reading investment books or pamphlets, listening to financial programs on the radio or television, and accessing financial planning websites on the internet are all standard ways of obtaining financial informationwhich in turn, inspires savings behavior[25,34].In a comparative study, [26]conducted a Panel data study between the public and private sector workers. The findings indicate that public sector workers who participate in defined contribution plans have larger balances in their plans and contribute more to their retirement plans compare to private sector workers. Thus, it is hypothesized that:

HIa: Retirement planning activity has a positive impact on retirement savings behavior of the workers.

H1b: There is a significant difference between retirement planning activity and retirement saving behavior of the Nigerian workers

Knowledge of Financial Planning and Retirement Planning Activity

Financial knowledge is considered as one of the psychological variables that has gained a lot of attention in the saving literature because people need to know more about retirement savings and investment strategies in order to have a better retirement life[27]. Financial knowledge therefore is defined as the sum of financial information that has been explored and systematically collected[28].Conventionally, one needs to have a good knowledge of financial concepts before making any responsible financial behavior. However, knowing what to do does not guaranteed optimal behavior[29]. For instant considering the complex nature of individual financial decision-making, initiating the process of reasonable financial actions can be scary, because any failures or distractions can affect long-term financial behaviors such as retirement planning. Therefore, individuals need to have good financial ideas and at the same time possess long lasting positive self-perception to serve as emotional resources which will in-turn assist in motivating saving behaviors in such a challenging context[30].

Many research established that financial knowledge is positively related to retirement planning activities. For instance, [31]conducted a study using a four-item scale to assess perceived financial planning knowledge of some workers. The results obtained suggested that perceived level of financial planning

knowledge was discovered to be a major predictor of pre-retirement planning and saving. Therefore, those who knew more about financial planning often assumed they were better financially prepared for retirement. Similarly, Robb and Woodyard (2011) reported that objective and subjective financial knowledge has a significant influence on financial behavior, with subjective knowledge having a greater impact on savings. [32]conducted a replicative study with the aim of exploring the factors contributing to perceived adequacy of retirement savings among Hong Kong workers, suggested that financial knowledge has a strong impact on planning activities. Thus:

H2a: Knowledge of financial planning has a positive impact on retirement planning activity of the workers.

H2b: There is significant difference between knowledge of financial planning and retirement planning activities of the Nigerian workers.

Future time perspective and retirement planning activity

Future time perspective (FTP) is often defined as an innate desire for a long-term perception on retirement planning[33,34]. The concept of future time perspective has been recognized in retirement planning literature.[31]conducted research with the aim of exploring the factors influencing the financial preparedness of individuals for retirement. A sample of 230 with an average age of 62.6 years, participants from Arkansas Household were used for the study. The result suggested that Future orientation was found to be a significant predictor of pre-retirement planning and saving. Accordingly, participants who have a strong future orientation were assumed to have higher retirement preparedness. In another study,[35]examined the psychological mechanisms influencing retirement planning and saving practices of 988 Dutch and 429 Americans workers. The result obtained suggested that FTP was positively related to retirement saving practices, The results further expressed that the FTP of the Dutch participants was different from those of their American counterparts because the Americans had significantly longer FTPs compared to the Dutch. The result corroborates the findings of[31,27]. In another study, [14]examined the perceptions of future retirement satisfaction among 90 working middle-aged adults and 1,560 undergraduates in Oklahoma, USA. Individuals' views of FTP were tested. The result shows that among the young group, FTP had an insignificant positive relationship with retirement saving practices. On the other hand, for the middle-aged group, FTP had a significant positive relationship with retirement saving activities or practices. Although there are different opinions regarding the effect of future time perspective on retirement planning and savings[36] suggested that irrespective of the situation, future time perspective may not influence planning and savings. [37]combined the intrinsic rewards of work, FTP and future economic perspective to create a model for the retirement planning psychological process. A significant negative relationship was found to exist between FTP and retirement planning and saving practices. Their result contradicted the findings of previous studies. This could be attributed to their definition of FTP, which was defined as the belief that one holds about how much time is left. In this case, individuals who believe that the future is limited are found to be more prepared for retirement rather than setting up any goal because they assumed they would not work for a much longer time. Thus,

H3a: Future time perspective has a positive impact on Retirement Planning Activity of the workers.

H3b: There is significant difference between Future time perspective and retirement planning activity of the Nigerian workers

Retirement Goal Clarity and Retirement Planning Activity

Retirement goal clarity has been clearly supported in many retirements planning literatures.It entails assessing one's expectations of life after retirement. Beach and Mitchell (1987) proposed that people develop a specific image which influence how they would like to see themselves in the future and attempt to achieve this image. Retirement planning researchers have proposed two most important predictors of retirement goal clarity which include age[38,23] and future time perspective[34].Although it is difficult to precisely explain retirement goals because they often change with age, and to a large extent influence by mental, physical changes and individual life experience. For examples, individuals may reassess their future needs and priorities as they grow older and may give less priority to materialism[39]. Many researchers in the area of psychology agreed that having a clear and well-defined retirement goal is very important because it influences the workers to engage in retirement planning activities, which in-turn increases the amount of savings[40,41,42,23,8,39]. Comparative studies on retirement goals of private and public sector workers are rarely found. However, [43]suggested that males and females usually have a common goal, but the females' goals are more abstract compare to their male's counterpart. and [44,45]reported that females have a habit of developing self-oriented goals and dedicate more time toward leisure

and maintaining social interaction compare to men. This behavior may be due to the retention ability of the females which inspired them to maintain interpersonal relationships compare to the male.

H4a: Retirement goal clarity has a positive impact on retirement planning activity of the workers.

H4b: There is significant difference between retirement goal clarity and retirement planning activity of the Nigerian workers.

Future Time Perspective and financial planning knowledge

Review of retirement panning literature suggested that future time perspective is a surface trait which influence financial knowledge. Empirical support for this basic statement was found in applied 3M model supported[31,46]. Moreover, a study conducted 0by other researchers suggested that Self-rated financial planning knowledge positively influenced future time perspective[40,27,31] Individuals with a strong future orientation are more likely to acquire knowledge about finances. The act of considering retirement and establishing clear goals for later life should stimulate the desire to learn more about how a successful financial quality of life can be achieved. Men have been found to earn higher scores compare to women on measure of financial, investment, and retirement planning knowledge[22].Comparative studies with regards to future time perspective and knowledge of financial planning a rarely found. Moreover, Henry, [47]opine that using a measure of general future time perspective may lead to different results. Thus;

H5a: Future time perspective has a positive impact on financial planning knowledge of the workers.

H5b: There is a significant difference between future time perspective and financial knowledge of the workers.

Future Time Perspective and Retirement Goal Clarity

Future time perspective is about assessing the rate at which people consider the future rather than the present or past[47]. Review of the literature shows that future-oriented persons naturally planned for their future and set a goal that can only be achieved in the long run. Generally, those classes of people are always careful on the long-term consequences of their behavior[48].[49]suggested that future time perspective may have significant positive impact on individuals' attitudes which in-turn, influence his/her behavior. Individuals who assumed that their future is closer, are more likely to planned and save for retirement. Similarly, [35]confirmed that individuals who score high in future time perspective are most likely to set some specific goals and future targets and consequently, they are good in retirement planning and savings practice compared to those who score less. Additionally, [41]conducted a study with the aimed of examining the impact of social, economic and psychological factors on financial planning for retirement. FTP was assumed to positively influence the planning and saving behavior, either directly or indirectly. The results obtained was similar to the findings of the previous studies[40,41] Thus:

H6a: Future time perspective has a positive impact on Retirement Goal Clarity of the workers.

H6b: There is a significant difference between future time perspective and retirement goal clarity of the workers.

Research Framework

From the literature reviewed, the following research framework was proposed to achieved the goal of the study. Retirement saving behavior is regarded as the dependent variable while financial planning for retirement is the mediating variable. The model proposed knowledge of financial planning for retirement, future time perspective and retirement goal clarity as the independent variables.

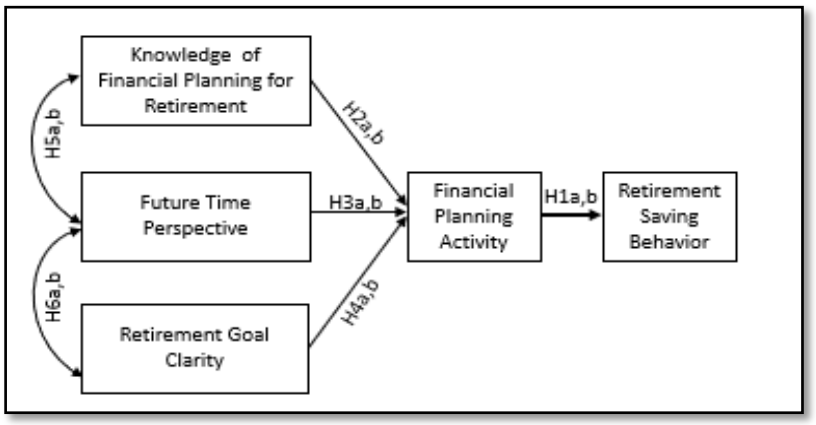

Figure 1 Proposed research Model

Note(s):

1. Financial Planning for Retirement and Retirement Savings Behavior (H1a): Positive
2. Knowledge of financial Planning for Retirement and Financial Planning Activity (H2a): Positive
3. Future Time perspective and Financial Planning Activity (H3a): Positive.
4. Retirement Goal Clarity and Financial Planning Activity (H4a): Positive
5. Future time perspective relates to Knowledge and Retirement Goal (H5a and H6a): Positive
6. The comparison of H1b-H6b between Public and private sector workers: Significant difference

III. Research Methodology

Data collection

The current study was conducted using an adapted questionnaire to collect responses from Nigerian public and private sector workers. The data was gathered using stratified sampling method and primarily included respondents from

Study Design: Cross-sectional study design

Study Location: Three geopolitical region (Nigerian) namely; North East, North central and North West.

Study Duration: The study was conducted between the period of April 2021 to May 2022

Sample size calculation: The National Bureau of Statistics (NBS) provides the sampling frame for this study by publishing periodic statistics which indicates the percentage of the private and public sector workers across all the zones in Nigeria. The geo-graphical zones consist of 53,554,109 workers out of which a sample of 400 workers was calculated. In line with the recommendation of [49] whoproposed that to minimize sample error due to the nature of the respondents, the sample size can be increased using the 50/50 split approach. Thus, the sample was increased by 50%. The new sample size is 600 respondents within the age range of 21 and 51 above years participated in the study. The final response received from the respondents was 526 with a response rate of 87.66%. After data validation and removing of univariate and multivariate outliers of 82 responses, the data analysis was executed with 444 usable responses.

Research Instrument: The questionnaire used for the study was adapted from the work of [40,51]with 7-point Likert type scale, ranging from strongly disagree (1) to strongly agree (7).

IV. Result of the Study

Descriptive statistics

Table 1 explains the demographic features of the respondents. The respondents' ranged from 21–51 years and above, however a large number of respondents were found within the age group of 21–30 years with about 42.1%. Among 444 respondents, 236 were male and 208 were female. Thus, it was resolved that majority of the responds were mostly males. The main observation from demographic analysis suggested that men were mostly engaged in retirement savings compared to their female counterpart.

Table 1 Demography of the Respondent

Demographic Profile	Items	Frequency	Percentage
Gender	Male	236	53.2
	Female	208	46.8
	Total	444	100.0
Age of The Respondents	21-30	187	42.1

	31-40	154	34.7
	41-50	58	13.1
	51 and above	45	10.1
	Total	444	100.0
Academic Qualification	Higher School Cert.	147	33.1
	Bsc/HND	179	40.3
	Masters	74	16.7
	PhD	44	9.9
	Total	444	100.0
Salary Grade	01-06	109	24.5
	07-12	148	33.3
	13-17	85	19.1
	Others	102	23.1
	Total	444	100.0
Employer of Labour	Public Sector	151	34.0
	Private Sector	166	37.4
	Others	127	28.6
	Total	444	100.0

Assessment of measurement model

The PLS SEM model is analyzed in two steps. The first step asses the measurement model by running the PLS Algorithm which measures the validity and reliability of each of the construct in the model (Figure I). The second stage test the structural model by estimating the paths coefficient between the constructs, thus determining their significance and the model's predictive ability. The measurement model shows the associations between the latent variables and the measures of each original construct. The measurement model examined the individual item reliability, internal consistency and reliability, convergent validity and discriminant validity of the model[52,53,54]Figure 1 presents the measurement model of the workers in Nigeria. It shows the associations between retirement saving behavior of the Nigerian workers and other constructs.

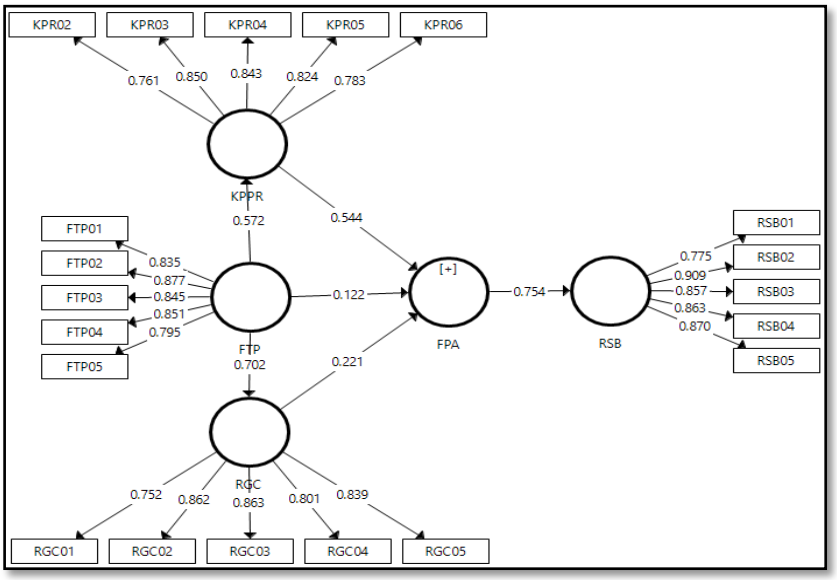

Figure 2 Measurement Model

The measurement model was assessed by using internal consistency and reliabilities, composite reliability and Cronbach alpha for reflective constructs (Table 2), All the construct fall within the threshold range of 0.70–0.95[55,56].

Table 2 Internal Consistency and Reliability

Construct Reliability and Validity	CA	CR	AVE
Financial Planning Activity	0.915	0.931	0.628
FTP Future Time Perspective	0.896	0.923	0.707
Knowledge of Financial Planning for Retirement	0.871	0.907	0.661
Retirement Planning Activity	0.882	0.914	0.680
Retirement Saving Behavior	0.908	0.932	0.733

Note(s): CA is Cronbach's α; CR is composite reliability; AVE is average variance extracted

On the other hand, The Convergent validity is defined as the extent at which items genuinely represent the proposed latent construct and correlate well with other measures of the similar latent construct[54]. The convergent validity is measured by assessing the average variance extracted (AVE) of each latent construct as recommended by[57]The AVE value is calculated as the mean of the squared loadings for all indicators associated with a construct as follows:$\mathbf{AVE_{\varepsilon j}} = \frac{\sum_{k=1}^{kj} \lambda_{jk}^2}{\sum_{k=1}^{kj} \lambda_{jk}^2 + \theta_{jk}}$

Where:

$AVE_{\varepsilon j=}$ Average Variance Extracted

$\lambda_{jk=}^2$ Sum of standardized loadings square

$\theta_{jk=}$ Error variance of the k^{th} indicator ($k = 1,\ldots,K_j$)

To achieve a good convergent validity, the average variance extracted (AVE) of each latent construct should be 0.50 or above which indicates that on average, the construct explains over 50% of the variance of its items[58,59]. In line with the recommendation of[58] the values of AVE in the model (n=444) showed high loadings ($p > 0.50$) on their constructs, signifying good convergent validity.

Similarly, the discriminant validity is the extent to which the construct differs empirically from one another. It is the rate of changes between one construct and the other[54].The estimation of the discriminant validity can be done through cross loading of indicators, Fornell & Larcker criterion or Heterotrait-monotrait (HTMT) ratio of correlation. The Fornell-Lacker criterion for evaluating the discriminant validity compares the square root of the AVE $\left(\sqrt{\text{AVE}}\right)$ with the other latent constructs[54].[57] recommended that the latent constructs should explain the variance of its indicator. Thus, the square root of AVE $\left(\sqrt{\text{AVE}}\right)$ should have a higher value than other latent constructs. Therefore, the correlations between the latent constructs of the model were compared with the square root of AVE $\left(\sqrt{\text{AVE}}\right)$. The findings indicate that all the square root of AVE were higher compared to the correlations between the latent constructs indicating adequate discriminant validity within the latent constructs in the model[57].

Table 3 Fornell & Larcker criterion

Laten Variable	FPA	FTP	KPPR	RGC	RSB
Financial Planning Activity (FPA)	*0.792*				
F`uture Time Perspective (FTP)	0.588	*0.841*			
Knowledge of Financial Planning for Retirement (KFPR)	0.779	0.572	*0.813*		
Retirement GoalClarity (RGC)	0.713	0.702	0.747	*0.825*	
Retirement Saving Behavior (RSB)	0.754	0.619	0.668	0.643	*0.856*

Note:The square root of the AVE are the italics and bold values

The second method for verifying discriminant validity is examining the cross loadings of the indicators. This method requires that the loadings of each indicator on its construct are higher than the cross loadings on other constructs[58,54,6058] recommends that all the indicator loadings should be greater than the cross-loadings. Table 4.13 presents how the indicator loadings relates with other indicators. The result shows that all indicator loadings were higher than the cross loadings signifying that the discriminant validity is fit for further analysis in the main model.

Table 4 Cross Loading

Cross Loadings	FPA	FTP	KPPR	RGC	RSB
FPA02	0.786	0.524	0.650	0.601	0.691
FPA03	0.828	0.454	0.573	0.546	0.645
FPA04	0.792	0.435	0.558	0.529	0.591
FPA05	0.793	0.508	0.543	0.558	0.605
FPA06	0.712	0.492	0.558	0.591	0.457
FPA07	0.832	0.444	0.648	0.540	0.606
FPA08	0.785	0.432	0.700	0.563	0.568
FPA09	0.805	0.440	0.687	0.593	0.589
FTP01	0.475	0.835	0.448	0.538	0.523
FTP02	0.512	0.877	0.488	0.624	0.540
FTP03	0.445	0.845	0.447	0.560	0.436
FTP04	0.472	0.851	0.439	0.598	0.513
FTP05	0.552	0.795	0.565	0.618	0.576
KPR02	0.524	0.471	0.761	0.649	0.450
KPR03	0.626	0.530	0.850	0.695	0.523
KPR04	0.712	0.422	0.843	0.544	0.627
KPR05	0.650	0.491	0.824	0.594	0.600
KPR06	0.642	0.412	0.783	0.565	0.505
RGC01	0.452	0.510	0.509	0.752	0.369
RGC02	0.617	0.669	0.667	0.862	0.550
RGC03	0.580	0.599	0.598	0.863	0.542
RGC04	0.669	0.519	0.681	0.801	0.608
RGC05	0.600	0.584	0.610	0.839	0.555
RSB01	0.593	0.413	0.467	0.427	0.775
RSB02	0.659	0.530	0.625	0.538	0.909
RSB03	0.631	0.565	0.559	0.570	0.857
RSB04	0.638	0.587	0.549	0.632	0.863
RSB05	0.698	0.547	0.646	0.575	0.870

Assessment of structural model

The structural model assessments were performed as per the guidelines of [55,56]. The PLS-SEM generates T-statistics for testing of the structural model (inner and outer model) using a method called bootstrapping. Therefore, bootstrapping is a non-parametric process which permits the testing of statistical significance of different PLS-SEM results. It is very simple to conduct bootstrapping within the PLS-SEM settings[61]. This study, therefore, applied the standard bootstrapping technique with 500 bootstrap samples and 444 cases to evaluate the significance of the path coefficients of the mode–l[53,62,63]

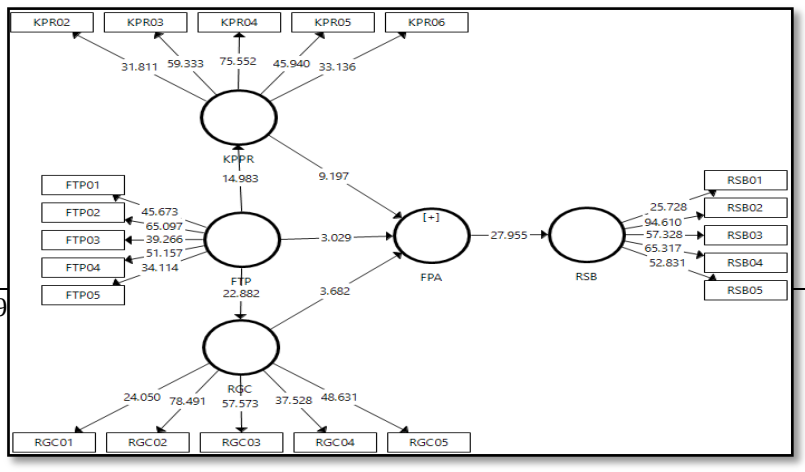

Figure 3Structural Model

The PLS path estimates for the inner model indicate that hypothesis (H1) was supported suggesting that Financial Planning activity significantly predict retirement saving behavior of the Nigerian workers. (β=0.756, t=28.105, p<0.05).

Table 4 Path coefficient of the Overall Model (n=444)

Hypothesis	Relationship	B	Standard Deviation	T-Value	P-Value	Decision
H1a	FPA → RSB	0.756	0.027	28.105	0.000***	Supported
H2a	KFPR→FPA	0.543	0.059	9.223	0.000***	Supported
H3a	FTP → FPA	0.123	0.040	3.050	0.002**	Supported
H4a	RGC→ FPA	0.222	0.061	3.643	0.000***	Supported
H5a	FTP→KPPR	0.573	0.038	15.182	0.000***	Supported
H6a	FTP→ RGC	0.703	0.030	23.071	0.000***	Supported

Note(s):***Significant at 1%,
**Significant at 5%,
*Significant at 10%

Similarly, hypotheses (H2), (H3) and (H4) were supported, suggesting that knowledge of financial planning, future time perspective and retirement goal clarity significantly predict retirement planning activity (β=0.0543, t=9.223, p<0.05; β=0.123, t=3.050, p<0.05; β=0.222, t=3.643, p<0.05). Likewise, H5 and H6 were supported (β=0.573, t=15.104, p<0.05; β=0.703, t=23.071, p<0.05).

Assessment of measurement invariance

An invariance test was carried out to determine whether measurements are similar across the two groups. This procedure is essential before performing multi-group analysis. The goal is to determine "whether measurement models yield measures of the same element under different conditions[64]. Three steps are required to assess measurement invariance namely: configural invariance, compositional invariance, and composite mean value of variance equality[64]. Firstly, configural invariance is established between the public and private sector group data sets because the measurement models have the same basic factor structure for both groups (same number of constructs as well as items loaded on those constructs). Secondly, compositional invariance was assessed using a permutation test. All the groups were not significant except two items which implies a good measurement model. The difference between outer loadings of two items across the two groups were significant which makes the measurement model as partially invariant. The difference between outer loadings of financial planning activity and retirement savings behavior and future time perspective and knowledge of financial planning for retirement their significance in the form of p-values are shown below.

Table5 Measurement Invariance Test Using Permutation

Variables	Path Coefficients (Public Sector Workers)	Path Coefficients (Private Sector Workers)	Path Coefficients Difference (Public Vs Private Sector Workers)	Path Coefficients Permutation Mean Difference (Public Vs Private Sector Workers)	2.5%	97.5%	Permutation p-Values
FPA -> RSB	0.805	0.647	0.158	0.005	-0.143	0.144	**0.033**
FTP -> FPA	0.138	0.647	0.647	-0.082	-0.185	0.200	0.398
FTP -> KPPR	0.690	0.528	0.161	0.008	-0.161	0.176	**0.061**
FTP -> RGC	0.756	0.662	0.095	0.004	-0.136	0.152	0.208
KPPR -> FPA	0.424	0.415	0.009	-0.008	-0.331	0.321	0.964
RGC -> FPA	0.332	0.289	0.043	0.004	-0.330	0.337	0.789

Lastly, composites' equality of mean values and variances was evaluated across the groups. Particularly, the difference of the composite's mean value and variance ratio results must fall within the 95% confidence interval. Based on Table5, the result shows that all composite constructs have non-significant differences in terms of the composite mean value and variances ratio because the result falls between the upper

and lower boundary of 95% confidence interval. Full measurement invariance is thus established for the public and private sector group

PLS MGA

The Henseler MGA and the permutation test were used in this study to perform PLS-MGA[65]. The goal is to find a significant difference in parameter estimation between the two study groups, namely the public and Private workers samples. These two methods are used to calculate the p-value to determine whether there is a significant difference between the path coefficients of the two sample groups. The calculations were carried out using bootstraps of 5,000 samples and 5,000 permutations with a significant p-value of 5%. A p-value of $P<0.05$ confirms that there are differences between the public and private sector workers samples.

Table 6 PLS- MGA Result

Hypothesis	Variables	Path Coefficients-diff (Public VS Private)	P-Value (Public Vs Private)	PLS MGA	Decision
H1b	FPA → RSB	0.158	0.006	0.011**	Sig Difference
H2b	KPPR →FPA	0.009	0.481	0.961	No Difference
H3b	FTP → FPA	-0.082	0.805	0.390	No Difference
H4b	RGC → FPA	0.043	0.400	0.800	No Difference
H5b	FTP → KFPR	0.161	0.022	0.045**	Sig Difference
H6b	FTP → RGC	0.095	0.079	0.159	No Difference

Note(s):**p < 0.1; **p < 0.05; Sig denotes a significant difference at 0.05; No difference denotes nonsignificant difference at 0.05*

Table 6 displays the test results of the MGA. The results of MGA analysis using Henseller's MGA revealed that the variable financial planning for retirement and retirement saving behavior had a p-value < 0.05. This result indicates that there is a significant difference between the public and private sector workers. On the other hand, the results of the future time perspective and knowledge of financial planning for retirement variable had a Henseller's MGA p-value < 0.05, indicating a significant difference between the two groups. Thus, the result of the Permutation analysis and PLS MGA shows the same result.

V. Discussion

The research was designed from Douglas Hershey retirement planning model. Specifically, the study developed a research model to empirically investigate the impact of psychological factors on retirement savings behavior of the Nigerian workers. The results obtained show that all proposed hypotheses in the overall model with 444 samples are supported. On the comparative side, (public Vs Private) model only two relationships were supported namely; financial planning activity and retirement saving behavior and knowledge of financial planning and financial planning activity, respectively.

The overall model postulated a positive relationship between financial activity and retirement saving behavior. The result obtained proved to be positively related, because financial planning activity has a significant influence on retirement saving behavior. It implies that the workers are seeking for information from retirement counsellors, attending a financial seminar, partaking in a retirement planning program organized in their workplace as proposed by the previous scholars[16,17,18] Moreover, the impact of anticipated relationship between knowledge of financial planning for retirement and financial planning activity is significant, which means that the workers level of knowledge of financial planning is greater. Most of them knew more about financial planning for retirement. Hence, they are better financially prepared for retirement[31,32] Likewise consistent with our proposed hypothesis, future time perspective impacted positively on financial planning activity of the workers. The finding signifies those workers who have a strong future orientation were expected to have positive retirement saving practices[14,35]

The results further expressed a significant positive association between retirement goal clarity and financial planning activity. The finding supports the existing literature which suggested that people develop a specific image as they grow old which in turn, shape their future financial planning[66]. As proposed by retirement planning researchers, retirement goal of the workers is influence by their mental, physical changes and individual life experience. For instance, the workers may review their future needs and retirement priorities as they grow older and may give less priority to materialism[39].Therefore, a well-defined retirement goal is an important factor which inspired the workers to participate in retirement planning activities and increases their retirement savings[40,41,42,38,8,39]

Consistent with the proposed hypothesis (H5), future time perspective significantly influences knowledge of financial planning for retirement. The findings implies that workers with a strong future orientation are more likely to acquire knowledge about retirement finances and establishing clear goals for later life. The findings were in line with the existing literature which suggested that Self-rated financial planning knowledge positively influenced future time perspective[40,32,27,31]. The last hypothesis in the overall model of the

workers (H6) assumed to have a significant impact between future time perspective and retirement goal clarity of the workers. As proposed in hypothesis six (H6), future time perspective has a significant positive impact on retirement goal clarity of the Nigerian workers. The result obtain indicates that future-oriented workers (public and private) naturally planned for their future and set an overwhelming goal that can only achieved in the long run. Generally, the result shows that the Nigerian workers are always careful on the long-term consequences of not planning for their retirement. Thus, the result corroborates the findings of the existing literature[32,48].

The MGA results was in support of hypothesis (H1b) which proposed a significant difference between the private and public sector workers. The result obtained shows the path coefficient of the public sector workers to be 0.805 as compared to the path coefficient **(0.647)** of the private sector workers**.** The finding is similar with the study of [26]which suggested that the public sector workers contribute more in their defined contribution plans compare to private sector workers. Similarly, the findings I H5b suggested a significant difference in the future time perspective and knowledge of financial planning for retirement of the two groups. Hence hypothesis H5b was supported. The result corroborates the findings of [47] which suggested that using a measure of general future time perspective may lead to different results. Therefore, workers with strong a strong future orientation are more likely to acquire knowledgeabout finances, and establishing clear goals for later life which in-turn stimulate the desire to learn more about how a successful financial quality of life can be achieved[22]. From the result obtained the public sector workers are future oriented and seek for more knowledge of financial planning as compared to the private sectors workers. Lastly, the result of the PLS MGA shows that there is no significant differences in H2, H3, H4 and H6. Hence the listed hypothesis were not support.

VI. Conclusion

In recent years, the emerging welfare cuts implemented by many governments around the globe forced organizations to shift away from providing their employees with defined benefit plans that guarantee specific income streams when they retire. Instead, they shift the retirement responsibilities onto individuals through private pension plan and personal retirement saving necessitate the present study. The study investigated the relationships between psychological factors and retirement savings behaviour of the Nigerian workers and objective measures of financial planning activity, knowledge of financial planning, future time perspective and retirement goal clarity are considered good predictors of retirement saving behaviour. The result obtained indicate that all the variables in the proposed research model significantly influenced retirement planning activity and retirement saving behaviour of the Nigerian workers. The PLS MGA was used to find out the different retirement saving behavior of the public and private sector workers in Nigeria. The result of the PLS MGA indicate that a significant difference between the two groups in the relationship between financial planning Activity and retirement saving behavior. Moreover, there is also a significant difference between future time perspective and knowledge of financial planning for retirement of the two groups. The conceptual framework of this study considered few potential reasons for disparity between the retirement saving behavior of the two groups.

Theoretical Implication

The findings of this study have a lot of theoretical implication because it validates the strength of aged based theoretical models of retirement planning proposed by[23]as outlined in the study, the model contained retirement goal clarity financial planning activity and a composite measure of retirement savings behaviour. The goal of the research is to investigate how retirement planning activities, knowledge of financial planning, future time perspective and retirement goal clarity are associated to one another (in such a way that all the variable predicts retirement savings behavior of the workers) or whether the influence of knowledge of financial planning, future time perspective and retirement goal clarity influence retirement planning activities which in-turn lead to retirement saving behavior of the workers. The result of the study proved all the variables are good predictors of retirement saving behavior.

Practical Implication

From the applied perspective, the findings of this study stand to inform retirement practitioners on very important issues related to retirement savings. Financial planning activities was found to be an important variable which inspires the workers to adequately saves for their retirement. Practitioners therefore, should confidently encourage the workers to engage in information-seeking activities, for instance, meeting with a financial investment or retirement counselor organizing periodic financial seminar or designing a quarterly workplace retirement preparation program. These activities are important because they increase the knowledge of the workers which in turn, stimulates retirement savings behavior. Moreover, group-oriented educational interventions, such as seminars and workplace programs, may probably stimulate retirement saving behavior.

Limitations and suggestion for further studies

Although strong predictive relationships are often identified between psychological variables, the demographic indicators and level of income were neglected. These may likely be the reasons why there is no much difference between the public and private sector workers. Its is a known fact globally that the income level between the two groups differs significantly. Therefore, we urge future research to look in to at least two important issues in their studies. How gender and income affect the retirement saving behaviour of the two group (public and private).

Reference

[1]. Adami, Roberta, Andrea Carosi, and Anita Sharma. "Retirement saving in the UK: a life-cycle analysis." Studies in Economics and Finance (2018).

[2] World Economic Forum. "How We Can Save (for) Our Future?". Retrieved from http://www3.weforum.org/docs/WP(2018).

[3]. Rai, Kamini, Anshu Tyagi, and Sangeeta Sahni. "Modelling the factors of financial planning for retirement among individuals using ISM." J. Crit. Rev 7 (2020): 1547-1558.

[4]. Topa, Gabriela, Juan Antonio Moriano, Marco Depolo, Carlos-María Alcover, and J. Francisco Morales. "Antecedents and consequences of retirement planning and decision-making: A meta-analysis and model." Journal of Vocational Behavior 75, no. 1 (2009): 38-55.

[5]. Shultz, Kenneth S., and Mo Wang. "Psychological perspectives on the changing nature of retirement." American Psychologist 66, no. 3 (2011): 170.

[6]. Wang, Mo, and Kenneth S. Shultz. "Employee retirement: A review and recommendations for future investigation." Journal of Management 36, no. 1 (2010): 172-206.

[7]. Kadir, Suhaila Abdul, Raja Suzana Raja Kasim, Noraani Mustapha, Muhamad Saufi Che Rusli, Muhammad AshlyzanRazik, Azizah Musa, and Wee Bee Fong. "Retire with Poor or Rich? Life Cycle Model Approach." International Journal of Advanced Research in Economics and Finance 3, no. 3 (2021): 80-88.

[8]. Tomar, Sweta, H. Kent Baker, Satish Kumar, and Arvid OI Hoffmann. "Psychological determinants of retirement financial planning behavior." Journal of Business Research 133 (2021): 432-449.

[9]. Kerry, Matthew J., and Susan E. Embretson. "An experimental evaluation of competing age-predictions of future time perspective between workplace and retirement domains." Frontiers in psychology 8 (2018): 2316.

[10]. Adedokun, Adeniyi J., Olabusuyi R. Falayi, and Adebowale M. Adeleke. "AN AUTOREGRESSIVE ANALYSIS OF THE DETERMINANTS OF PRIVATE SAVINGS IN NIGERIA." Review of Innovation and Competitiveness: A Journal of Economic and Social Research 6, no. 1 (2020): 5-20.

[11]. United Nation https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/undesa_pd-2020_world_population_ageing_highlights.pdf

[12]. Amorim, Silvia Miranda, Lucia Helena de FP França, and Felipe Valentini. "Predictors of happiness among retired from urban and rural areas in Brazil." Psicologia: Reflexão e Crítica 30 (2017).

[13]. Guerson, Luciana Raybolt da SC, Lucia Helena de FP França, and Silvia Miranda Amorim. "Life Satisfaction in Retirees Who are still Working 1." Paidéia (Ribeirão Preto) 28 (2018).

[14]. Gutierrez, Helen C., and Douglas A. Hershey. "Age differences in expected satisfaction with life in retirement." The International Journal ofAging and Human Development 78, no. 2 (2014): 93-114.

[15]. Muratore, Alexa M., Joanne K. Earl, and Catherine G. Collins. "Understanding heterogeneity in adaptation to retirement: A growth mixture modeling approach." The International Journal of Aging and Human Development 79, no. 2 (2014): 131-156.

[16]. Joo, So-Hyun, and John E. Grable. "Factors associated with seeking and using professional retirement-planning help." Family and consumer sciences research journal 30, no. 1 (2001): 37-63.

[17]. Richardson, V. E., and Retirement Counseling. "A Handbook for Gerontology Practitioners." (1993).

[18]. Lusardi, Annamaria. Planning and saving for retirement. Working paper. Dartmouth College, 2003.

[19]. Bernheim, B. Douglas, and Daniel G. Garrett. "The determinants and consequences of financial education in the workplace: Evidence from a survey of households." (1996).

[20]. Madrian, Brigitte C., and Dennis F. Shea. "The power of suggestion: Inertia in 401 (k) participation and savings behavior." The Quarterly journal of economics 116, no. 4 (2001): 1149-1187.

[21]. Schuabb, Thais C., Lucia H. França, and Silvia M. Amorim. "Retirement savings model tested with brazilian private health care workers." Frontiers in psychology 10 (2019): 1701.

[22]. França, Lucia HF, and Douglas A. Hershey. "Financial preparation for retirement in Brazil: A cross-cultural test of the interdisciplinary financial planning model." Journal of Cross-Cultural Gerontology 33, no. 1 (2018): 43-64.

[23]. Stawski, Robert S., Douglas A. Hershey, and Joy M. Jacobs-Lawson. "Goal clarity and financial planning activities as determinants of retirement savings contributions." The International Journal of Aging and Human Development 64, no. 1 (2007): 13-32.

[24]. Ghafoori, Eraj, Edwin Ip, and Jan Kabátek. "The impacts of a large-scale financial education intervention on retirement saving behaviors and portfolio allocation: Evidence from pension fund data." Journal of banking & finance 130 (2021): 106195.

[25]. Gustman, A. L., and T. L. Steinmeier. "Imperfect knowledge, retirement and saving (No. w8406)." (2001).

[26]. Chatterjee, S. (2010). Retirement savings of private and public sector employees: A comparative study. Journal of Applied Business Research (JABR), 26(6).

[27]. Jacobs-Lawson, Joy M., and Douglas A. Hershey. "Influence of future time perspective, financial knowledge, and financial risk tolerance on retirement saving behaviors." Financial Services Review-greenwich- 14, no. 4 (2005): 331.

[28]. Lim, Thien Sang, Rasid Mail, MohdRahimie Abd Karim, ZatulKaramah Ahmad BaharulUlum, JunainahJaidi, and Raman Noordin. "A serial mediation model of financial knowledge on the intention to invest: The central role of risk perception and attitude." Journal of Behavioral and Experimental Finance 20 (2018): 74-79.

[29]. Bandura, Albert. "Self-efficacy mechanism in human agency." American psychologist 37, no. 2 (1982): 122.

[30]. Baumeister, R F., J D. Campbell, J I. Krueger and K D. Vohs. "Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles?." Psychological science in the public interest 4 (2003): 1-44.

[31]. Hershey, Douglas A., and John C. Mowen. "Psychological determinants of financial preparedness for retirement." The Gerontologist 40, no. 6 (2000): 687-697.

[32]. Chou, Kee-Lee, Kar-Ming Yu, Wai-Sum Chan, Alfred M. Wu, Alex YF Zhu, and Vivian WQ Lou. "Perceived retirement savings adequacy in Hong Kong: An interdisciplinary financial planning model." Ageing & Society 35, no. 8 (2015): 1565-1586.

[33]. Hershey, D. A. "Psychological influences on the retirement investor." CSA: Certified Senior Advisor 22 (2004): 31-39.

[34]. Liu, Chang, Xue Bai, and Martin Knapp. "Multidimensional retirement planning behaviors, retirement confidence, and post-retirement health and well-being among Chinese older adults in Hong Kong." Applied Research in Quality of Life 17, no. 2 (2022): 833-849.

[35]. Hershey, Douglas A., Kène Henkens, and Hendrik P. Van Dalen. "Mapping the minds of retirement planners: A cross-cultural perspective." Journal of Cross-Cultural Psychology 38, no. 3 (2007): 361-382.

[36]. Petkoska, Jasmina, and Joanne K. Earl. "Understanding the influence of demographic and psychological variables on retirement planning." Psychology and aging 24, no. 1 (2009): 245.

[37]. Yang, Ting-Ying, and Sharon A. Devaney. "Intrinsic rewards of work, future time perspective, the economy in the future and retirement planning." Journal of Consumer Affairs 45, no. 3 (2011): 419-444.

[38]. Stawski, R. S., and D. A. Hershey. "Goal clarity as an indicator of financial planning for retirement." Unpublished manuscript (2003).

[39]. Zhu, Alex Yue Feng, and Kee Lee Chou. "Retirement goal clarity, needs estimation, and saving amount: evidence from Hong Kong, China." Journal of Financial Counseling and Planning 29, no. 2 (2018): 328-342.

[40]. Hershey, Douglas A., Joy M. Jacobs-Lawson, John J. McArdle, and Fumiaki Hamagami. "Psychological foundations of financial planning for retirement." Journal of Adult Development 14, no. 1 (2007): 26-36.

[41]. Hershey, Douglas A., Kene Henkens, and Hendrik P. Van Dalen. "Aging and financial planning for retirement: Interdisciplinary influences viewed through a cross-cultural lens." The International Journal of Aging and Human Development 70, no. 1 (2010): 1-38.

[42]. Moorthy, M. Krishna, ThamilDurai, L. Chelliah, Chiau Shu Sien, Lai Chin Leong, Ng Ze Kai, Wong Choy R00hu, and Wong Yoke Teng. "A Study on the retirement planning behaviour of working individuals in Malaysia." International Journal of Academic Research in Economics and Management Sciences 1, no. 2 (2012): 54.

[43]. Hershey, Douglas A., Joy M. Jacobs-Lawson, and Kirstan A. Neukam. "Influences of age and gender on workers' goals for retirement." The International Journal of Aging and Human Development 55, no. 2 (2002): 163-179.

[44]. Eismann, Maria, Tim Verbeij, and Kène Henkens. "Older workers' plans for activities in retirement: The role of opportunities, spousal support, and time perception." Psychology and Aging 34, no. 5 (2019): 738.

[45]. Poulter, Luke. "Retirement planning motivation from a reinforcement sensitivity theory (rst) perspective." (2020).

[46]. Hershey, Douglas A., John C. Mowen, and Joy M. Jacobs-Lawson. "An experimental comparison of retirement planning intervention seminars." Educational Gerontology 29, no. 4 (2003): 339-359.

[47]. Henry, Hélène, Hannes Zacher, and DonatienneDesmette. "Future time perspective in the work context: A systematic review of quantitative studies." Frontiers in Psychology 8 (2017): 413.

[48]. Lasane, Terell P., and Deborah A. O'Donnell. "Measurement of temporal orientation." Understanding behavior in the context of time: Theory, research, and application (2005): 11-30.

[49]. Rabinovich, Anna, Thomas Morton, and Tom Postmes. "Time perspective and attitude-behaviour consistency in future-oriented behaviours." British Journal of Social Psychology 49, no. 1 (2010): 69-89

[50]. Salant, P., &Dillman, D. A. "How to conduct your own survey." New York: John Wiley & Sons, Inc.(1994).

[51]. Alkhawaja, Sara Osama, and Mohamed Albaity. "Retirement saving behavior: evidence from UAE." Journal of Islamic Marketing (2020).

[52]. Henseler, Jörg, Christian M. Ringle, and Rudolf R. Sinkovics. "The use of partial least squares path modeling in international marketing." In New challenges to international marketing. Emerald Group Publishing Limited, 2009.

[53]. Hair, Joe F., Christian M. Ringle, and Marko Sarstedt. "PLS-SEM: Indeed a silver bullet." Journal of Marketing theory and Practice 19, no. 2 (2011): 139-152.

[54]. Hair, Elizabeth, Tamara Halle, Elizabeth Terry-Humen, Bridget Lavelle, and Julia Calkins. "Children's school readiness in the ECLS-K: Predictions to academic, health, and social outcomes in first grade." Early Childhood Research Quarterly 21, no. 4 (2006): 431-454.

[55]. Hair, Joseph F., Jeffrey J. Risher, Marko Sarstedt, and Christian M. Ringle. "When to use and how to report the results of PLS-SEM." European business review 31, no. 1 (2019): 2-24.

[56]. Sarstedt, Marko, Joseph F. Hair, Mandy Pick, Benjamin D. Liengaard, LăcrămioaraRadomir, and Christian M. Ringle. "Progress in partial least squares structural equation modeling use in marketing research in the last decade." Psychology & Marketing 39, no. 5 (2022): 1035-1064.

[57]. Fornell, Claes, and David F. Larcker. "Evaluating structural equation models with unobservable variables and measurement error." Journal of marketing research 18, no. 1 (1981): 39-50.

[58]. Chin, W. W. (1998). The partial least squares approach to structural equation modeling. Modern methods for business research, 295(2), 295-336.

[59]. Sarstedt, Marko, Christian M. Ringle, Donna Smith, Russell Reams, and Joseph F. Hair Jr. "Partial least squares structural equation modeling (PLS-SEM): A useful tool for family business researchers." Journal of family business strategy 5, no. 1 (2014): 105-115.

[60]. Henseler, Jörg, Christian M. Ringle, and Rudolf R. Sinkovics. "The use of partial least squares path modeling in international marketing." In New challenges to international marketing. Emerald Group Publishing Limited, 2009.

[61]. Streukens, Sandra, and Sara Leroi-Werelds. "Bootstrapping and PLS-SEM: A step-by-step guide to get more out of your bootstrap results." European Management Journal 34, no. 6 (2016): 618-632.

[62]. Hair, Joseph F., Christian M. Ringle, and Marko Sarstedt. "Partial least squares: the better approach to structural equation modeling?." Long range planning 45, no. 5-6 (2012): 312-319.

[63]. Hair Jr, Joe F., Marko Sarstedt, Lucas Hopkins, and Volker G. Kuppelwieser. "Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research." European business review (2014).

[64]. Ringle, and Marko Sarstedt. "Testing measurement invariance of composites using partial least squares." International marketing review (2016).

[65]. Hair, Joe, Carole L. Hollingsworth, Adriane B. Randolph, and Alain Yee Loong Chong. "An updated and expanded assessment of PLS-SEM in information systems research." Industrial management & data systems (2017).

[66]. Beach, Lee Roy, and Terence R. Mitchell. "Image theory: Principles, goals, and plans in decision making." Acta psychologica 66, no. 3 (1987): 201-220.

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