Financial Knowledge and Retirement Planning among Pension Scheme Members in Kenya

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Abstract
The rising cost of living, increasing life expectancy and high levels of old-age poverty in Kenya implies that many older people cannot afford necessities. Therefore, the need for individuals to plan for their future financial needs through planning for their retirement has become crucial. Unfortunately, most people who save for retirement in Kenya save with the National Social Security Fund (NSSF), which has a low replacement rate. Therefore, financial knowledge plays an indispensable role in influencing an individual's retirement savings behavior. This paper seeks to establish the influence of financial knowledge on retirement planning in Kenya. The target population was members of the occupational retirement schemes, NSSF and individual retirement schemes in Kenya. A cross-sectional research design was used and a stratified sampling technique to obtain respondents. Using binary logistic regression and primary data from a sample of 332 randomly selected members of pension schemes in Kenya, the study found that financially knowledgeable individuals are more likely to plan comprehensively for their retirement. The study recommends the formulation of training and educational programs on critical financial concepts linked to retirement planning to spur pension schemes to actively participate in retirement savings.
Keywords: financial knowledge, retirement planning, Pension schemes, binary logistic regression.
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1. Introduction

Savings are an essential means of consumption smoothing during times of irregular income like the retirement phase of life as they help individuals maintain the same pre-retirement living standards. The responsibility of securing future financial well-being has shifted more to the individuals as new policies are increasingly shifting the responsibility of saving for retirement to individuals. Lusardi (2019) affirms that due to the rising life expectancy and strain on pension and social welfare schemes, there has been a shift by most governments and employers from the defined benefit pension scheme to the defined contribution pension scheme. Financial market development and exponential growth in financial technology have also led to new financial products and services. As a result, individuals are now facing a daunting variety of financial decisions and an extensive variety of financial products, which means that gaining and handling economic know-how is becoming increasingly important.

The biggest financial challenge facing the world today is to provide retirement income. Although an individual can easily borrow money when they are young and working, unfortunately, no one will give you money to survive on in one's old age when it comes to retirement. This can result in the individual suffering humiliation and becoming a burden on the children and family. Furthermore, the quality of life compounds the problem because recent scientific and medical improvements have caused people to survive for a long time, causing long-term reliance by individuals without pension plans (Githui & Ngare, 2014).

Financial literacy plays a crucial function in accumulating wealth through savings and prudent investment, reducing and effectively managing the debt burdens of an individual and proper planning for retirement. (Agnew, et al, 2007; Lusardi, Mitchell, & Curto, 2010). Although different authors have defined financial literacy differently, Lusardi and Mitchell (2014) describe financial literacy as the people's ability to understand financial information and make versed decisions on their financial plans, wealth accumulation and debt management. The common understanding in its definition is the inclusion of awareness of financial products, financial knowledge, attitudes, skills and behaviuor surrounding financial management. (Atkinson & Messy, 20102)

This paper focuses on financial knowledge, which is a crucial element in financial literacy. Financial knowledge is proper interpretation of key financial terms and concepts needed by an individual to function daily in society (Faulcon, 2002). Likewise, OECD (2016) asserts that financial knowledge is an essential constituent of financial literacy for individuals. This knowledge helps individuals make well-informed financial decisions by comparing financial products and services.

Alvarez & Gonzalez (2017) highlight three main areas of financial knowledge; first conceptual knowledge, second, procedural knowledge and third, applied knowledge. Conceptual knowledge encompasses understanding and recalling specific financial concepts, identifying Procedural knowledge is the knowledge of financial procedures and correctly performing financial calculations and arithmetic processes. While applied financial

knowledge is the capability to use financial knowledge to solve financial problems, make proper judgments and constructive financial decisions.

Financial literacy is reported to facilitate one's financial decision-making processes, such as paying bills on time and proper debt management. Financially literate individuals have the requisite financial knowledge required to make savings plans, prepare household budgets, and make strategic financial decisions. Furthermore, applying this knowledge aids in proper planning and allocation of resource at the households level to meet their financial duties. Fundamental knowledge of key financial concepts and numeracy skills within a financial context guarantees a consumer's independence in managing their financial matters and respond appropriately to happenings that may have implications for their well-being financially. (OECD, 2016)

Dare et al (2020) agreed that financial knowledge is an essential element for effective participation of consumers in today's economic life. Lusardi, Michaud & Mitchell (2017) also concurred that financial knowledge as a key factor of inequality of wealth and observed that in a world of uncertainty and imperfect insurance, this knowledge will enable individuals allocate their lifetime resources better. An individual who is well versed in financial concepts and system is presumed to have a better command of his/her financial future, use financial products and services more effectively and be less vulnerable to fraudulent retailers and schemes. (Wachira & Kihui, 2012)

1.1 Statement of the problem.

In Africa, the culture of saving for retirement is not present mainly due to the traditional old-age reliance systems by children and knowledge gaps on savings options (Odundo, 2008). The pension coverage in Kenya stands at 22% of the total labour force in 2019 (Kenya Financial Sector Regulators, 2020), implying that 88% of the total labour force is not saving for retirement. The 2020 Economic Survey reports that 82.9% of the total workforce employed in 2019 was from the informal workforce, where pension coverage is still meager (IOPS, 2018). In addition, the old age poverty rates as per the Kenya Integrated Household Budget Survey for households with heads aged above 65 years stood at 50% (KNBS, 2018). Furthermore, most members save for retirement save with the mandatory scheme; the NSSF is characterized by a low contribution amount and low replacement rate. (IOPS, 2018).

Hauff et al (2020) identified insufficient financial knowledge as one reason why individuals are not taking financial responsibility, particularly their retirement. In addition, the retirement decision-making process is deemed complex resulting in individuals refraining themselves from making a choice between accumulation and consumption of assets over one's life cycle, this intern leads to low savings and improper planning for the retirement phase of life. (Benartzi & Thaler, 2007).

Financial literacy has been proposed to empower and educate consumers with relevant information required for evaluation of products and services in the market and assist in making informed decisions, including retirement planning decisions. However, a national FinAccess survey by FSD in 2019 reported that only 42.7 percent of Kenyans correctly computed an interest rate question. This implied that most Kenyans lacked financial knowledge on vital financial concepts used in financial decision-making, thus posing a challenge in personal finance management (FSD et al, 2019). In addition, earlier research Kenya both in the formal and informal sector, reported low levels of financial literacy and financial knowledge (Githu & Ngare, 2014, Mwangi & Kihiu, 2012). These worrying levels of financial literacy and upcoming issues in planning for retirement necessitate the interest in this paper to examine the influence of financial knowledge on retirement planning.

1.2 Study Objective and Hypothesis

This study aims to evaluate the influence of financial knowledge on retirement planning, guided by the hypothesis that there is no statistically significant influence of financial knowledge on retirement planning.

2.0 Literature review

This section contains both the theoretical framework, conceptual framework and empirical literature that informs the study.

2.1 Theoretical Framework
2.1.1 Family Resource Management Theory

The systems theory is the predominant theoretical framework used in studying financial decisions and resource management practices (Goldsmith, 2005). The theory is self-reflective and is an input-throughput-output-feedback model. Deacons and Firebaugh developed the theory in 1981 as a management theory based on the systems theory where management uses resources to achieve goals (Goldsmith, 2013). The family resource management model describes four stages required in the financial decision-making process, the intended financial goals and how financial behaviours are also developed. The stages are inputs, throughputs, outputs and feedback loop. The figure below illustrates the four stages and their respective attributes in each of these stages.
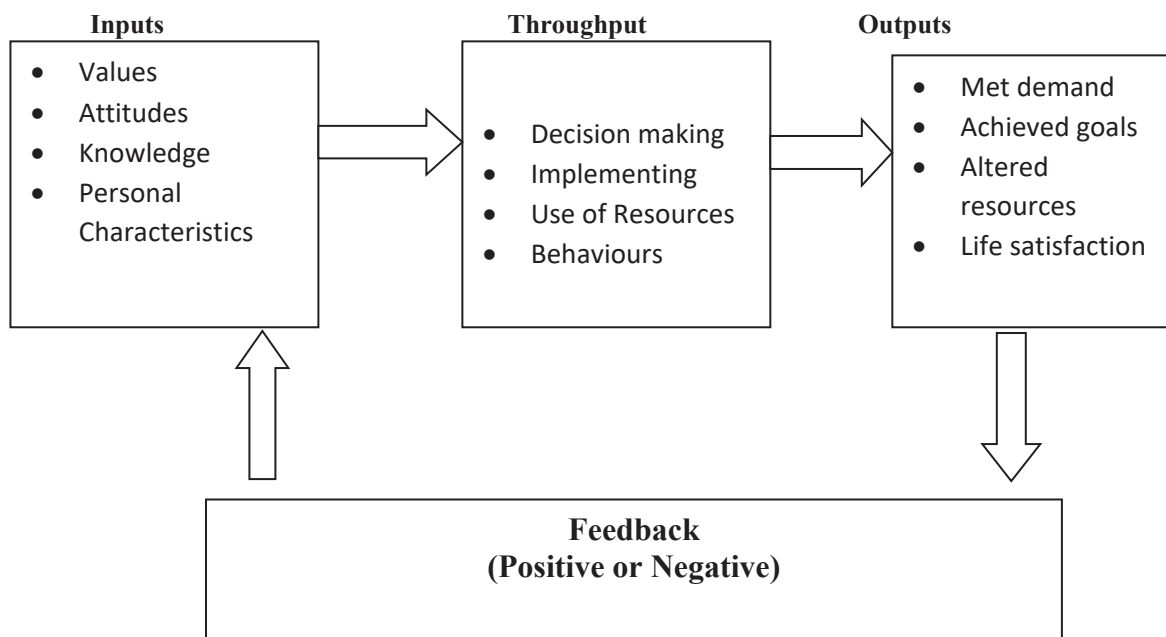
Figure 1 Family Management Resource Management Model (Source Goldsmith, 2013)

Financial decisions are influenced by inputs like values, demands, personal characteristics, attitudes, and knowledge. In this study, the financial decision at hand is retirement planning, the focus on the inputs that influence it will be knowledge borrowed from this model.

2.2 Empirical Review

Several studies have shown that financial knowledge is key to financial literacy. It is predicted that a financial literate person will possess a fundamental comprehension of financial terms such as simple interest rate, compound interest rate, inflation rate, and risk (Huston, 2010). Hilgert and Hogarth (2002) in their study targeting 1000 Americans, confirmed Americans ' lack of financial knowledge in the larger population; they established that Americans were best informed of deposits, then trends in investments, credit cards, and general financial planning. Furthermore, they found that Americans were less educated on mutual funds and the stock market. Lastly, they concluded that the less financially knowledgeable demographic characteristics were the mainly male, minority, relatively low paid, uneducated and young or old.

Lusardi and Mitchell (2011) contend that the way people interpret financial information and use this information in managing household finances is hard to investigate. So the pair developed integrated U.S.HRS financial literacy initiatives with four fundamental principles in mind: clarity, importance, brevity, and distinction ability. The questions concentrated on three main economic principles people should know when making financial decisions: compounding interest, inflation and diversification of risks. Then for ease, respondents assessed whether individuals could perform basic calculations relevant to these principles. The duo reported low levels of financial knowledge worldwide, irrespective of the type of pension provided and the level of financial market development. They then conclude that governments need to take financial literacy seriously and initiate financial education plans that target different subgroups in the world population.

Financial knowledge has been linked to responsible financial behaviours by several authors. Tang et al (2015) acknowledge that financial knowledge is an integral part of financial decision making, while investigating the association between financial knowledge and financial behaviour, they simultaneously tested the role played by parent in influencing an individual's self-discipline and thoroughness, and they report a weak association between financial knowledge and financial behaviour among young people. While Greenspan (2002) notes that financial literacy gives individuals the confidence to manage their day-to-day financial decisions like creating household budgets, implementing savings plans, and making long-term investment decisions by inculcating financial knowledge in individuals. On the other hand, Mwangi and Kihiu (2012) suggest that the proper utilisation of this information allows households to satisfy their financial goals through wise planning and reallocation of resources to obtain total value.

Other studies have reported contradictory results on the relationship between financial knowledge and different financial behaviour. For instance, Borden et al. (2008), when examining the connection between knowledge and financial behavior among college students, reported that financial knowledge was neither a significant indicator of risky financial behaviour nor effective financial behavior. Therefore implying that being financially knowledgeable may not necessarily translate into responsible financial behaviours. Likewise, two

studies conducted among college students on credit card use gave the same contradictory results. First, Jones (2005) basing on a 6-item measure found no link between debt behaviour on credit card and financial knowledge. However, Robb (2011), found a positive association between financial knowledge and use of credit cards. These contradictory findings necessitate further research exploring financial knowledge in different demographics and personal financial management decisions.

Several research surveys have been conducted in Kenya on financial literacy levels. Njuguna *et al.* (2011) conducted a nationwide survey to assess finance and pension literacy levels, determine the financial literacy needs, and demostrate the challenges to involvement in finance and pension education amongst members of pension schemes in Kenya. This study did not show the relationship that existed between financial literacy levels and retirement planning. Other previous studies done in Kenya had predominantly focused members of occupational retirement schemes separately and informal sector separately. For instance, Githui and Ngare (2014) examined the relationship between financial literacy and retirement planning in the informal sector in Kenya. However, Githu and Ngare's research was limited in scope as it only focused on individuals in the informal sector. Another similar study conducted in Kenya was by Gitari in 2012, focusing on members of registered occupational schemes. Other latest studies focused that focused on occupational pension scheme members were by Agunga, Jangogo and Ndede (2017) who majored on parastatals and Aluodi, Njuguna and Omboi (2017) who surveyed employees in Insurance companies. This current study covers both the informal sector and formal sectors, taking into account the contributory pension schemes in Kenya and the pension savings landscape in Kenya.

2.3 Conceptual Framework

FINANCIAL KNOWLEDGE
- Division in a financial context
- Interest rates
- Inflation
- Risk return
- Diversification

RETIREMENT PLANNING
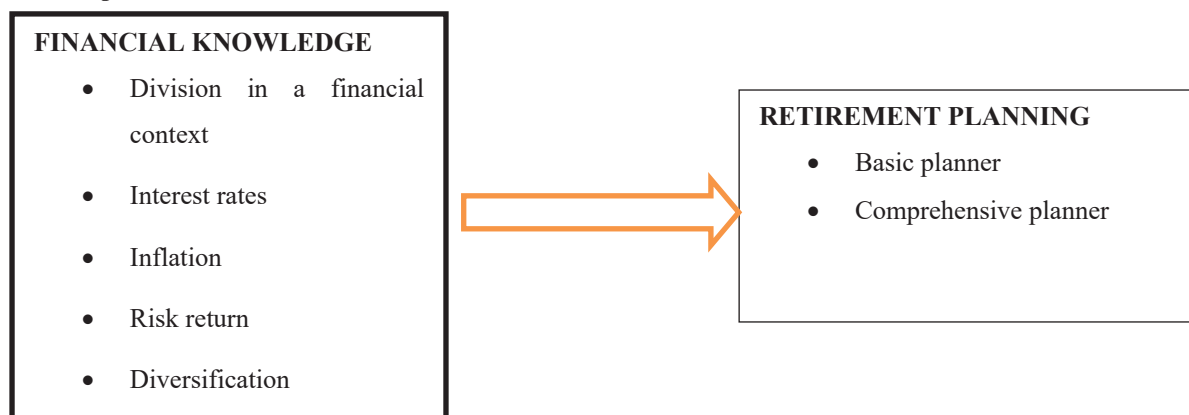- Basic planner
- Comprehensive planner

Figure 2: Conceptual framework

This study utilized tests on individuals' level of financial knowledge in seven main areas covering a range of financial topics as conducted by the OECD/INFE toolkit to measure financial literacy aspects and by Lusardi (2019). These questions are simple and does not require any expert knowledge. The areas covered are division, interest rates, risk-return trade-off, inflation and diversification. The questions will check capability of respondents to tackle a basic mental calculation in a financial context, test the understanding of how inflation affect purchasing power, test respondents ability to figure out simple interest on savings, check whether respondent is aware of compounding, test whether respondent comprehend the association between risk and return, examine the understanding of inflation and its effect on cost of living and test whether respondent is cognizant of the concept of diversification (OECD, 2016).

The paper will use Certified Financial Planners Board of standards and Consumer Federation of America consumer profiling to classify pension scheme members as either basic planners or comprehensive planners. The Household Financial Planning Behaviour Survey of 2013, classified households' financial planning profiles into four main distinct categories; comprehensive planners, basic planners, limited planners and non-planners. This study has utilized the certified financial planners' board of standards approach of classification. Still, it will only use the two categories, basic planners and comprehensive planners, because the current are already pension schemes. So they are already enrolled in a savings plan. The basic planners will be pension scheme members who will have been automatically enrolled to a scheme with a low contributions, while comprehensive planners will be pension scheme members who are automatically enrolled into a scheme but that has a high contribution ratio, as well as those scheme members who have taken up an active role in enrolling themselves into a pension scheme.

3.0 Research Methodology

The study utilized a cross-sectional research design; this design involves analyzing data collected from a sample,

at a specific point in time, that is, cross-sectional data. A cross-sectional design normally involves the use of cross-sectional regression and helps in the analysis of data on many variables from a large number of dispersed subjects. The design is also commonly used to measure attitudes and behavior hence answering the questions on who, what, when and where (Cooper & Schindler, 2013)

3.1 Study Population and Sample

The target population was members of contributory pension schemes in Kenya, that is the occupational retirement schemes, NSSF and individual retirement schemes in Kenya. According to the RBA (2019) there are 1172 occupational pension schemes registered as at the end of December 2018, with total membership coverage of 540,487. The NSSF has the largest membership of 2,629,689 who also incorporate the occupational scheme members, while the individual pension schemes were 45 with a total membership of 199,024. This gives a total of 2,828,713 members who form the population of interest.

A stratified random sampling technique was used in this study. In stratified sampling, relevant groups or strata are identified before sampling begins, and samples are selected from within each of these strata (Curwin & Slater, 2004). Two main strata have already been identified as members of the NSSF schemes and members of occupational schemes and members of individual pension schemes. This is because the first serves employees in the formal sector and the later mostly serves employees in the informal sector. This technique ensured that each stratum was well represented in the sample and is more accurate in reflecting the characteristics of the population. Since the population variance for retirement planning is unknown, the sample size estimate follows the recommendations by Bartlett *et al.* (2001) in the form shown below:

$$n_0 = \frac{t^2\, p(1-p)}{e^2}$$

Where; n_0 = defined sample size, t = t- value at 0.05 one-tailed, where t = 2.58, p = proportion of those who have planned for retirement, and e is the error term. The study used 20% as per the Kenya Financial sector stability Report of 2018. While (1 – p) is the proportion of those who have not planned for retirement and e is the margin of error (taken to be 0.05)

$$n_0 = \frac{2.58^2\, 0.2(0.8)}{0.05^2} = 410$$

The sample size was then chosen proportionately, according to the total membership of the different retirement benefit schemes. A logistic regression analysis was preferred, this is because it is used specifically when the dependent variable is binary; that is takes value of 0 or 1, in this case those who are comprehensive retirement planner, being assigned a value of 1, while those who are basic retirement planners being assigned a value of 0. A simple logistic regression was used to enable the study to capture the non-linear relationship between the variables.

$$In\ (odds) = In\ \left(\frac{p}{1-p}\right) = Logit\ (p)$$

$$Logit\ (p) = \left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 FK + \varepsilon$$

Where Logit (p) is Probability of being a comprehensive planner and FK is financial knowledge.

4.0 Results and Discussion

This section incorporates the discussion of the descriptive results findings of the study variables, with a reporting of a cross-tabulation of financial knowledge of the seven financial concepts, then a reporting of the logistic regression results on the influence of financial knowledge and retirement planning.

4.1 Descriptive results

Table 1 represents the results from the classification of pension scheme members as either basic planners or comprehensive planners. This was based on the category of pension plan an individual had, those with the NSSF scheme that their employer automatically registered were classified as basis planners, while those who had individual pension plan and occupational plans were classified as comprehensive planners. Individuals who had

taken the initiative to register themselves with a pension plan be it NSSF or Individual pension plans were also classified as comprehensive planners as they exhibited intentional savings for their retirement. These categories were adopted from the certified financial planners' board profiling of consumer financial planning categories and adapted it to retirement planning. (CFP Board, 2013)

Table 1: Descriptive results of Retirement planning

		Frequency	Percent	Valid Percent	Cumulative Percent
	basic planner	157	47.3	47.3	47.3
Valid	Comprehensive Planner	175	52.7	52.7	100.0
	Total	332	100.0	100.0	

From table 1, 47.3% were classified as basic planners, while 52.7% were classified as comprehensive planners. These results are contrary to the work of the study by Githu & Ngare (2014), who focused on the relationship between financial literacy and retirement planning in the informal sector, in their study the proportion of non-planners (60%) were more than planners (40%) among individuals in the informal sector. The main reason for the discrepancy could be the target groups. The current study focused on retirement scheme members who are obliged to save by being primarily in the formal sector. In contrast, Githu & Ngare (2014) study focused on the informal sector employees who voluntarily save for retirement.

Table 2: Financial knowledge Frequencies

Financial knowledge	Responses		Percent of Cases
	N	Percent	
Knowledge of division	308	18.7%	93.9%
Knowledge of Inflation and purchasing power	216	13.1%	65.9%
Knowledge of simple interest	281	17.1%	85.7%
Knowledge of compound Interest	117	7.1%	35.7%
knowledge of risk return	259	15.8%	79.0%
Knowledge of Inflation	281	17.1%	85.7%
Knowledge of diversification	182	11.1%	55.5%

a. Dichotomy group tabulated at value 1.

Table 2 shows the responses to the questions that focused on seven aspects of financial knowledge: division, inflation, simple interest, compound interest, the risk-return trade-off, cost of living, and diversification.

Many respondents could undertake basic mental arithmetic in an economic context through division, with 93.9% of the respondents indicating the correct response. Most respondents understood the concept of simple interest, as 85.7% of respondents answered correctly. However, most respondents performed poorly in the concept of compound interest, with a paltry 35.7% of respondents indicating the correct answer. The results for compound interest are in tandem with that of the study by OECD (2016), where three in ten respondents across all countries that participated, gave a correct response to the question on compounding.

Consequently, a more significant percentage of respondents know the concept of inflation and its effect on purchasing power of consumers. 65.7% of pension scheme members indicated that they understand how inflation impacts purchasing of individuals, whereas 85.7% had an understanding of the meaning of the term inflation. The OECD survey of 2016 had a similar findings where majority of people 63% knew the effect of inflation on purchasing power of money, while the concept of inflation was also comparatively known in most countries with 78% across all countries and 81% within OECD countries.

The conceptualization of the trade-off between risk and return was also well articulated by most respondents s 79% of them had a basic knowledge of the same. While these results are slightly lower than the results from the OECD survey among different economies, the difference is very marginal. In their study, a large majority understood the fundamental link between risk and return with across all countries standing at 81% and 83% of those in participating OECD countries.

The last concept under this study was diversification, which had a slightly more than average performance of 55.5% of the pension scheme members understanding it. This concept appears to be more challenging as indicated by the OECD survey. However, their results were of much higher scores than this current study, with 64% across all countries giving a correct response. Overall the concepts that had a high level of understanding among the pension scheme members were simple interest, inflation, risk-return relationship and simple arithmetic division. In contrast, diversification was challenging, while compound interest was the most complex financial term in the study.

4.2 Cross-tabulation of Financial Knowledge and Retirement planning
Table 3: Cross-tabulation of financial knowledge and retirement planning

			Retirement planning		Total
			basic planner	Comprehensive Planner	
Financial Knowledge[a]	Knowledge of division	Count	154	154	308
		% within Retirement planning	98.7%	89.5%	
		% of Total	47.0%	47.0%	93.9%
	Knowledge of Inflation and purchasing power	Count	91	125	216
		% within Retirement planning	58.3%	72.7%	
		% of Total	27.7%	38.1%	65.9%
	Knowledge of simple interest	Count	134	147	281
		% within Retirement planning	85.9%	85.5%	
		% of Total	40.9%	44.8%	85.7%
	Knowledge of compound Interest	Count	50	67	117
		% within Retirement planning	32.1%	39.0%	
		% of Total	15.2%	20.4%	35.7%
	knowledge of risk return	Count	116	143	259
		% within Retirement planning	74.4%	83.1%	
		% of Total	35.4%	43.6%	79.0%
	Knowledge of Inflation	Count	131	150	281
		% within Retirement planning	84.0%	87.2%	
		% of Total	39.9%	45.7%	85.7%
	Knowledge of diversification	Count	73	109	182
		% within Retirement planning	46.8%	63.4%	
		% of Total	22.3%	33.2%	55.5%
Total		Count	156	172	328
		% of Total	47.6%	52.4%	100.0%

Percentages and totals are based on respondents.
a. Dichotomy group tabulated at value 1.

Table 3 shows the level of knowledge of the different financial concepts distributed among retirement planners' two categories: basic planners and comprehensive planners. The simple mental arithmetic in a financial context was equally spread between the basic planners and comprehensive planners as the total who had the correct responses was 93.9%, out of this 47% were basic planners, with an equal percentage of 47 being comprehensive planners. On the contrary, for all the other sets of financial concepts; simple interest, compound interest, inflation, risk-return relationship and diversification, within retirement planning, the comprehensive planners had s slightly higher percentage of individuals who gave the correct response than the basic planners, hence indicating that the comprehensive planners had a slight higher knowledge levels than the basic planners. For instance, the lowest overall performed financial concept was compound interest, with 35.7% of respondents giving the correct response; out of this 20.4% of them are comprehensive planners. In comparison, 15.2% are basic planners a difference of 5.2%. In contrast, on the conceptualization of link between risk and return, the total overall percentage was 79%, with 43.6% being comprehensive planners while 35.4% being basic planners.

Githu and Ngare (2014) had the same observations in their study on the effect of financial literacy on retirement planning among the informal sector, they grouped the respondents into planners and non-planners and observed that there was an increase in percentage scores for the planners in four categories of knowledge concepts; time value of money, risk, diversification and stock. The non-planners on the other hand had lower percentage scores which is also the trend observed by Klapper and Panos (2011) and Lusardi and Mitchell (2011).

Table 4:Pearson Chi-Square Tests

		Retirement planning
Knowledge of division	Chi-square	12.561
	Df	1
	Sig.	.000*
Knowledge of Inflation	Chi-square	6.602
	Df	1
	Sig.	.010*
Knowledge of simple interest	Chi-square	.116
	Df	1
	Sig.	.733
Knowledge of compound Interest	Chi-square	1.503
	Df	1
	Sig.	.220
Knowledge of risk return	Chi-square	2.957
	Df	1
	Sig.	.086
Inflation cost of living	Chi-square	.329
	Df	1
	Sig.	.566
Knowledge of diversification	Chi-square	8.329
	Df	1
	Sig.	.004*

Results are based on nonempty rows and columns in each innermost subtable.
*. The Chi-square statistic is significant at the .05 level.

The chi-square results of the different financial concepts indicated a statistically significant association of simple arithmetic knowledge, knowledge on the effect of inflation on purchasing power and knowledge on diversification with retirement planning at 5% significant level. In comparison, the knowledge of diversification had a statistically significant association with retirement planning at 10%. On the other hand, the knowledge of simple interest, compound interest, and knowledge of effect of inflation on cost of living were found to have no statistically significant association with retirement planning.

4.3 The influence of financial knowledge and retirement planning

The extent to which financial knowledge explains retirement planning is analyzed using a pseudo-R-square in binary logistic regression.

Table 5: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	454.070[a]	.016	.021

a. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

The results in table 5, found a -2 Log likelihood Cox statistic to be 454.070, Cox and Snell R Square was .016 and Nagelkerke R Square was found to be .021 or 2.1% . The results mean that Financial Knowledge alone has a low explanatory power of 2.1% as given by the two R-squares on retirement planning.

Table 6: Hosmer and Lemeshow Test

Step	Chi-square	Df	Sig.
1	3.260	4	.515

In logistic regression, the Hosmer-Lemeshow test is commonly used to assess the model's fitness. From table 6 the H-L test, the Chi-square value is 3.260 with a significance level (P-value) of 0.515, greater than 0.05 the recommended level. This shows a non-significant test which indicates that the model with retirement planning and financial knowledge is a good fit.

Table 7: Classification Tableau

	Observed		Predicted		Percentage Correct
			Retirement planning		
			basic planner	Comprehensive Planner	
Step 1	Retirement planning	basic planner	55	102	35.0
		Comprehensive Planner	45	130	74.3
	Overall Percentage				55.7

a. The cut value is .500

Table 7 presents the results of cross-classifying the outcome variable y, with a dichotomous variable whose values are derived from the estimated logistic probabilities. To get the derived dichotomous variable, a cut-point must be established. Then each of the probabilities is compared to this cutoff point value. Table 6 above shows that a value of 55.7 % is greater than the cut-point value of 50%, indicating a high level of accuracy in the classification of the dependent variable, retirement planning.

4.4 Logistic regression coefficient of financial knowledge and retirement planning.

The parameter estimates in table 8 summarize the influence of finance knowledge predictor on retirement planning. The ratio of the coefficient to its standard error, squared, equals the Wald statistic. If the significance level of the Wald statistic is small (less than 0.05) then the parameter financial knowledge is useful to the model.

Table 8:Variables in the Equation

		B	S.E.	Wald	Df	Sig.	Exp(B)
Step 1[a]	Financial knowledge	.254	.113	5.067	1	.024	1.289
	Constant	.109	.111	.968	1	.325	1.115

a. Variable(s) entered on step 1: financial knowledge.

From the results, Exponential (B) for financial knowledge is equal to 1.289, which means that the odds of being a comprehensive retirement planner for a person who has high score of financial knowledge attribute is 1.289 times the odds of a person with a lower score of financial knowledge. Thus the interpretation in this study is that a financially knowledgeable person is 28.9% more likely to be a comprehensive planner than someone who does not have the attribute of financial knowledge.

These results are in line with Van Rooj, Lusardi and Alessie (2011) findings, who found a strong and positive relationship between financial knowledge and retirement planning in Netherlands, as well as Hilgert, Hogart and Beverly((2003), who reported a statistically significant link between financial knowledge and financial practices. They posit that those who knew more were more likely to engage in recommended financial practices. In addition to these findings, they specify that certain types of financial knowledge were statistically significant for particular financial practices--knowing about credit, saving, and investment was correlated with higher probabilities of engaging in recommended credit, saving, and investment practices, respectively. Although the causality could flow in either direction, their findings indicate that increases in knowledge may improve financial-management practices. On the contrary, Aluodi, Njuguna and Omboi (2017) dissipate this notion after investigating the effect of financial literacy on retirement planning by employees in the insurance sector in Kenya. They utilized the financial knowledge metrics as their measures of financial literacy and found that how well an individual understands financial concepts does not necessarily influence the way they prepare for their retirement.

From table 8, it can also be observed that the significance is 0.024, which is less than 0.05, which denotes that financial knowledge is a significant variable in retirement planning. Githu and Ngare (2014) also confirmed the relationship between financial literacy as measured by knowledge of time value of money, risk, diversification and stock had a significant positive relationship with retirement planning among individuals in the informal sector in Kenya.

5.0 Conclusions and Recommendations

Pension scheme members who exhibited a higher financial knowledge and were found to be more likely to be comprehensive planners, with some taking up individual pension schemes to plan for their retirement and others also taking up voluntary pension to add up to the amount of pension they would receive upon retirement. Contrarily, pension scheme members that had lower scores in the different financial knowledge concepts were found to be basic planners who were mostly automatically enrolled to the pension scheme plans by their employers, and have not taken an active role in planning for their pension even when the amount of anticipated pension is low after retirement.

The study concluded from the logistic regression results that there is a significant influence of financial knowledge on retirement planning among retirement scheme members in Kenya. The descriptive results also indicated that there was a higher likelihood of individuals being a comprehensive retirement planners with a higher score of financial knowledge of basic financial concepts. However the explanatory power is relatively low and therefore other aspects of financial literacy and other explanatory factors need to be explored.

Therefore, the study recommends that both employers, pension scheme providers, and policymakers need to incorporate the basic financial concepts on their financial literacy initiatives that would ensure that the members of the pension schemes actively participate in their retirement planning. The concept of inflation and its effect on the purchasing power of consumers, risk-return trade-off, and diversification needs to be incorporated in the general financial literacy educational campaigns. The government should also incorporate basic financial knowledge within the educational system to prepare the next workforce in personal financial management skills to incorporate retirement planning. This recommendation is backed by the key idea that the likelihood of an individual who is financially knowledgeable being a comprehensive planner is high and that such individuals would more actively participate in pension scheme activities and decisions and either add up their pension amount through additional voluntary pension or take up individual pension plans to meet their retirement savings goals.

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