A Combined Model to Examine Contributory Factors to Vietnamese Employee's Adoption of Life Insurance with Pension Scheme

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Abstract

This paper combined demographic and psychological variables to construct a model of factors influencing Vietnamese employees' adoption of pension scheme insurance. We surveyed the sample 320 long-term working Vietnamese employees to test the significance of seven exploratory variables on the probability of buying a retirement package: Marital status, Age, Educational Level, Income, Location, Attitude toward pension scheme adoption, and Retirement Financial Need. We ran a binary logistics and found the significant positive impact of these above factors on the pension insurance adoption of Vietnamese employees.

Like other developing countries, the financial pressure on the state budget of Vietnam became severe when the expansion of the aging population increased dramatically recently. Hence, the findings of this study provide an essential basis for the Vietnamese government, insurance companies, and agents to accelerate pension product adoption together with ensuring social wealth and financial security for older people in the future

Keywords: Pension scheme, Contributory factors, Adoption, Employees, Vietnam

1. Introduction

Asian countries face the demographic challenge of the aging population expanding significantly. According to the World Health Organization (WHO), by 2030, one in every six people in the world will be aged 60 years old or over. However, the aging rate in Asia is greater than the global average. The Asian Development Bank anticipates that one out of four Asian people will be over 60. The total number of people over 60 in this region will reach close to 1.3 billion people by 2050, triple times higher than that in 2010. The demographic transition will significantly impact the regional social and economic aspects. Previous studies reported the negative influence of the aging population on the economic growth of Asian countries, including South Korea, the Philippines, Thailand, Malaysia, and Singapore. Some authors argue that the effect of an aging population on economic growth varies with the level of growth rate (Jayawardhana et al., 2023). Countries with a high share of aging people should focus on structural reform policies that do not push up the cost of the elderly population and pass the burden to the government. ADB indicated that the government's rising pension expenses could destabilize the economy. Alternatively, building a resilient community with a sustainable pension plan is critical for developing countries to be ready for the social and economic burden of the aging population. It requires collaboration among multiple stakeholders, and the employees must be the most active party in protecting their families and themselves from uncertainties after retirement.

Vietnam is pointed out as one of the fastest-aging countries in the world (World Bank, 2021). According to GSO (2021), during the decade from 2009 to 2019, the older population increased from 7.45 million (2009) to 11.41 million (2019), equivalent to the average growth rate of 4.35 percent. The increasing rate of the aging population in Vietnam is approximately four times higher than that of the total population. Population projection to 2029 under the medium-fertility assumption shows that the number of older persons aged 60 and above will be 17.27 million, taking 16.53 percent of the total population. Financial security after retirement becomes a critical consideration for policymakers due to the potential old-age support ratio in Vietnam, which is on a downward trend from 7.3 percent in 2020 to 2.9 percent in 2050. The increase in the dependence ratio will damage the state budget for the young generation, which is the primary labour force for sustainable economic growth. World Bank (2021) indicated that Vietnam will become an aged society in 2035, demonstrating that Vietnamese are getting old before getting rich.

Moreover, the Vietnamese family structure is shifting towards nuclear mode with more independence among family members in the context of urbanization and modernization (Nguyen, 2014). The traditional structure in which four or three generations live together and

share the elderly, or children care responsibilities is being eliminated gradually. Alternatively, older people must prepare well for retirement since family and government support will shrink considerably.

The pension system in Vietnam has been reformed since 1994 to expand its coverage and financial stability. The social insurance pension system, the voluntary scheme, was introduced in 2006 and effective from 2008. The third pillar, the voluntary and privately managed scheme, was introduced in 2010. Although the current Vietnamese national pension system has four pillars, the compulsory social insurance pension scheme dominates the pension system. The worries about the depletion of the social insurance pension system (Asian Insurance Review, 2018) proposed a tricky question to governors and insurance companies about how to encourage the engagement of employees in private pension packages. Hence, the call for studies on forces driving individual adoption of voluntary private pension schemes becomes urgent in Vietnam. An insight into pension package adoption from the demand side provides a critical basis for policymakers, company managers, and insurance companies in facilitating the private pension package market in Vietnam.

Extant literature on employees' private pension plan purchases in Vietnam seems too scarce. Most of the studies on pension plans pay attention to the social pension plan offered by the government. Another school of thought focuses on the individual behaviour towards general life insurance products rather than private pension plans. Therefore, this study will enrich the existing literature on private pension plans by providing empirical evidence on factors affecting employee's private pension plan purchases. We construct a combined model with seven exploratory variables, including demographic and psychological, to test the significance of predetermined variables on pension plan purchase. Our study is one of the first studies in Vietnam to examine the actual employee's purchase rather than the purchasing intention for private pension plans. Moreover, we integrated the demographic and psychological aspects to draw an inclusive portrait of innovators towards the private pension plan.

2. Literature Review and Hypothesis Development

2.1 Theoretical Background

The significance of individual characteristics on the life insurance demand is based on the three critical theories: (i) The permanent income hypothesis developed by Milton Friedman (1957) and expanded through the life cycle hypothesis introduced by Ando and Modigliani (1963). (ii) The Expected Utility Theory (EUT) formalized by Von Neumann and Morgenstern (1944), and (iii) The Theory of Planned Behaviour (Ajzen, 1985). According to the permanent income hypothesis, both current income and the long-run expected income influenced the consumption patterns of consumers. In order to keep consumption patterns constant, individuals tend to transfer income from the high-income period to the low-income period. It is a personal incentive to adopt an insurance plan. In Friedman's permanent income theoretical model, education and experience are classified as human capital assets that will generate returns in the form of future income. Alternatively, education can contribute to the demand for insurance. Ando and Modigliani (1963) presented the life cycle hypothesis, which

demonstrates the relationship between consumption and current income and the consumer's future income over an individual lifetime. The employees will start their life span with low income and move to the next stage with higher one until reaching the peak before retirement. Thus, employees tend to shift from the high-income to the low-income flow stage during working time to avoid the decline in utility during retirement. This hypothesis confirmed the importance of individual income to the demand for pension insurance plans. High disposal income might enhance income-shifting behaviour in a particular current consumption.

The Expected Utility Theory is about decision-making under risk, stating that the decision-maker is based on the expected outcomes and respective probabilities to make a decision. As such, consumers will utilize the best strategies to maximize their expected utility. Buying insurance is one way to maximize the lifetime expected utility of individuals (Lewis (1989). According to Lewis, the customer's decisions to consume and save (including life insurance) are determined by economic (income, wealth), socio-demographic (age, gender, location), and cultural variables (education, religion) (Dragos, 2020). Nyman (2001) approached the demand for insurance from expected utility theory from a gain perspective. The author elaborated on the relevance of gain perspective since the demand for insurance derives from the demand for an income payoff that occurs only in a pre-specified state, purchased with income that could have been spent in either of the two uncertain states of the world.

Theoretically, pension plan purchasing is an individual decision-making process in which an employee has to experience multiple stages before making the final decision. The information gap between the supply and demand side can impact the demand for pension plans. Mitchell (1988) stated that the sub-optimal decision of employees relating to pension plans was made when they were informed imperfectly about tax deference, channel selection, and other plan features. Hence, education level can contribute positively to the probability of participating in a private pension plan. Berstein (2002) pointed out that educated people are more likely to participate in pension plans. Generally, researchers proposed that demographic attributes such as education, income, age, marital status, and number of children can navigate the probability of pension participation (Dummann, 2007).

The last theory, The Planned Behaviour Theory, emphasizes the extensive importance of behavioural factors in explaining the adoption behaviour of insurance products. Together with socio-demographic aspects, psychological traits were under consideration when studying insurance demand (Rey-Ares et al., 2023). Statistical supportive evidence has been found in many previous studies on insurance demand. Long et al. (2024) built the hypothetical model through a combination of four theories, including the Theory of Planned Behaviour – TPB (Ajzen, 1985), the Responsible Environment Behaviour – REBM (Hines et al., 1986), the Technology Acceptance Model – TAM (Davis, 1989), and the theory of Risk Perception (Solvic, 1993). That study examined the impact of 9 explanatory variables on participation intention: Pension Knowledge, Perceived Usefulness, Risk Perception, Degree of trust, Family Burden, Policy Support, Participation Attitude, Subjective norm, and Perceptual behaviour. They found significant supporting evidence for all hypotheses: pension knowledge, perceived usefulness, perceived risk, and trust. Wu and Gong (2023) integrated the FBM and

UTAUT models to construct a conceptual framework and investigated the determinants of the intention to purchase a private pension scheme in China. The research findings indicated that the two most influential factors are Effort Expectancy and Performance Expectancy. Since the private pension scheme could be more difficult for participants to understand its rules and articles than other financial products, Effort Expectancy shows a more substantial impact than Performance Expectancy. This result also confirmed the significance of knowledge in insurance adoption behaviour. She et al. (2024) emphasized the significance of financial knowledge in enhancing the participating retirement plan. Financial Knowledge acted as the catalyst for individual financial behaviour. Lusardi and Mitchell (2007) show that individuals with higher financial literacy are likelier to adopt private retirement plans.

2.2 Hypothesis Development

Based on the above discussion about theoretical background and empirical supporting evidence, we construct the following hypotheses to examine the determinants of pension insurance adoption by Vietnamese employees as follows:

H1: The demographic characteristics of an employee (marital status, age, education, income, location) make a significant impact on the pension plan adoption of Vietnamese employees.

H2: The attitude towards the private pension plan facilitates the pension plan adoption of Vietnamese employees.

H3: The financial need after retirement enhances the adoption of the pension plan for Vietnamese employees.

2.3 Conceptual Model

The following diagram illustrates the conceptual framework of the study:
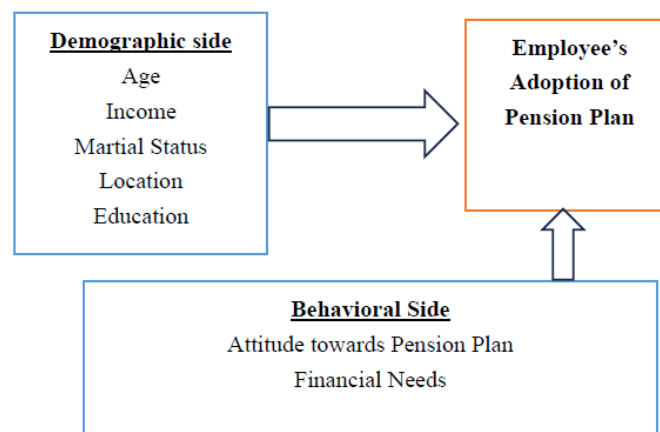
3. Data and Methodology

3.1 Data and the Sample of the Study

We collected the primary data for the study through a self-administrative questionnaire

delivered online. Participants in our study are working employees in enterprises in Vietnam. The survey was conducted from January 2021 to June 2021. During that period, Vietnam was under the social distancing of the COVID-19 pandemic, so we collected the data online through a Google form. Although we conducted an online survey, we attempted to keep the data random by sending the questionnaires randomly using the list of enterprises from the tax authority.

Moreover, we diversified the profiles of enterprises to ensure that our sample, to some extent, could represent the population in the study on voluntary pension funds at enterprises in Vietnam. However, the pandemic crisis stagnated our collection process. We received the answers from 320 valid respondents during that window, equivalent to a response rate of 91.43%.

Table 1. Basic information about the study sample

Criteria	Gender		Mariage status		Residence		
	Male	**Female**	**Married**	**Single**	**Hanoi city**	**HCM City**	**Others**
Number	*167*	*152*	*222*	*98*	*172*	*43*	*105*
Percent	*52.4%*	*47.6%*	*69.4%*	*30.6%*	*53.8%*	*13.4%*	*32.8%*

(Source: Authors' Calculation from the survey result)

Table 1 indicates the essential characteristics of respondents in our sample. 52.47% of the sample are male. The proportion is relatively fit to the current gender structure of the Vietnamese population. Regarding marriage status, the number of married persons accounts for 69.4%. This metric is quite similar to the population indices 2019 (69.2%). The marital status of our sample is also relevant to the study on pension participation since the dependence ratio is one of the crucial factors affecting the intention to participate in voluntary social insurance in Vietnam. Most of the respondents are located in Ho Chi Minh City, with about 54%. Other provinces take 32.8% of the total. The residence structure can be a good representative for the study on voluntary pension participation since Ho Chi Minh City and Hanoi City are two metropolitan areas of Vietnam with the highest percentage of the labour force. According to the report on the labour of GSO (2021), Ho Chi Minh City contributed 9.1% of the total labour of Vietnam, and the figure for Hanoi City was 7.8%. The average working time of the respondents is 9.2 years. All respondents have at least 1-year experience. In summary, our sample could be relevant for the study on the participating intention of employees in Vietnam.

3.2 Methodology

3.2.1 Model Explanation

To estimate the significance of each factor on the employees' adoption of pension plans, we run the binary logit model based on the random utility maximization theory (Manski, 1977; Xie & Manski, 1989) to test the hypothesis. We define the latent utility of purchasing insurance with the pension plan of each employee as the following equation:

$$U_i^* = BX_i + \varepsilon_i \ (-\infty < U_i^* < +\infty)$$

Where:

U_i^* measures the utility of pension plan adoption

i indicates the employee i

X_i is the transposed vector of predictors

B is the parameter vector expressing the influences of explanatory variables on the dependent variable

ε_i is the error term of the employee i

The utility of the pension plan adoption for each respondent is observed when purchasing insurance with a pension plan. When the error term follows the logistics distribution with the cumulative distribution function $F(\varepsilon) = \frac{e^\varepsilon}{1+e^\varepsilon}$, the odds ratio between adoption and not adoption is expressed as the following equation:

$$\frac{\Pr(Adoption)}{1 - \Pr(Adoption)} = e^{BX_i}$$

The following equation expresses the empirical model of the study:

$$\ln\left(\frac{Adoption}{Not\ Adoption}\right) = \beta_0 + \beta_1 * Marriage + \beta_{21} * Age1 + \beta_{22} * Age2 + \beta_{23} * Age3 +$$
$$\beta_{31} * Edu1 + \beta_{32} * Edu2 + \beta_{33} * Edu3 + \beta_4 * Income + \beta_5 * Local1 + \beta_6 * WTJ + \beta_7 * FinNeed + \epsilon$$

3.2.2 Variable Explanation

The detailed explanation of variables in the empirical is shown in the following table:

Table 2. Explanation of variables in the empirical model

Variables	Explanation	Code	Number	Percentage
PenAdopt	Buy Life Insurance	PenAdopt = 1	163	50.9
	with Pension Scheme	PenAdopt = 0	157	49.1
Marriage	Get married	Marriage = 1	222	69.4
	Single	Marriage = 0	98	30.6
Local1	Work in Hanoi	Local1 =1	176	55.0
	Work in other cities	Local1 =0	144	45.0
Age	Under 30 years old	Age1	119	37.2
	30 ~ 40 years old	Age2	127	39.7
	40 ~ 50 years old	Age3	58	18.1
	Over 50 years old	Base group	16	5.0
Education	High-school degree	Edu1	15	4.7
	College degree	Edu2	19	5.9
	University degree	Edu3	230	71.9
	Graduate degree	Base group	56	17.5

Income	Under 5 million VND		20	6.3
	5 ~ 10 million VND		99	30.9
	10 ~ 18 million VND		115	35.9
	18 ~ 32 million VND		38	11.9
	32 ~ 50 million VND		44	13.8
	Over 50 million VND		4	1.3
WTJ	Willingness to join	WTJ = 1	262	81.9
	Not Willingness to join	WTJ = 0	58	18.1
FinNeed	Financial Need after Retirement	Factor score extracted using Principal Component Analysis	Min = -7.348	Max = 1.018

For the variable "FinNeed," we used the factor score extracted using the PCA method. This factor has three items: Income Need, Finance Need, and Attitude towards Financial Risk after retirement. Income Need measures the employees' need for stable income after retiring. We used the Likert scale with three levels to reflect the income needs of the employees after leaving work: 1 = not necessary; 2 = necessary; 3 = very necessary. Financial needs reflect the employee's financial reserve when they retire. This variable also measures employees' perception of the importance of preparing financial resources during retirement when their income decreases. Attitude towards Risk measures the attitude of each employee to the risk occurring in personal finance management. Each respondent was asked to rank from the lowest level (1 = I try to avoid risk by all means) to the highest level (10 = I want to take all potential opportunities). The PCA result shows FinNeed = 0.717*Income Need + 0.67*Finance Need + 0.542*Attitude towards Financial Risk. It could be seen that the highest significance was placed on Income need. That means ensuring a stable income is critical for Vietnamese employees after retiring. This result is reasonable since Vietnamese people prefer savings and avoid risky investments. They usually hold their assets in the form of real estate or gold.

Table 2 also reports the features of the study sample. About 51% of the respondents had already joined an insurance program with the pension scheme. This rate expressed that pension plans have already diffused in the market, passing the early stage and reaching the growing adoption stage. This is due to the Vietnamese government and enterprises' great effort in educating and encouraging employees to engage and commit to the pension program. All sample respondents already participate in the social pension program as a compulsory obligation of employees. The mean value of the variable "Attitude towards Financial Risk" is 7.30, indicating that Vietnamese employees seem risk-avoidant. Moreover, 316/320 (98.75%) respondents chose "Yes" because of the importance of financial needs after retirement. Only two respondents indicated that children must be cared for during retirement. Most of the sample understands the need for a stable income after retiring. This result could be partially affected by the COVID-19 pandemic. However, it shows Vietnamese employees understand the significance of financial need and security after retiring.

In terms of Age, most of the study sample was under 40 years old. Specifically, 37.2% of the sample is under 30 years old, and 39.7% of the sample is from 30 years to 40 years old. The employees over 50 years old account for only 5.0%. About the educational level of the employees, about 72% of the sample have a university degree. Only 5.7% of the sample have a high-school degree. So, our study's employees have higher educational degrees than the national average. About average monthly income, the range from 5 to 10 million VND and from 10 to 18 million VND take the most significant proportion of the sample. The rate of employees with 50 million VND per month is merely 1.3%. The average monthly income of employees in our study is similar to that of employees in big cities in Vietnam.

Regarding the Altitude Pension Scheme, the Willingness-To-Join (WTJ) measures the readiness of each employee to join the pension plan. About 82% of the sample shows a supportive attitude towards Voluntary Pension Plan or Private Pension Plan. This figure indicates the innovativeness of Vietnamese employees for Private Pension Plans.

The influence of predictors (shown in Table 2) on the employees' adoption of insurance with pension plans was invested through the binary logistics model. The criteria of the model are reported in Table 3. The model satisfied the assumption of a proportional odds ratio of the binary logistics regression with a p-value of 0.221. The Nagelkerke R-Square = 0.215. The overall classification of the model is 67.2%.

Table 3. The summarized results of the binary logit regression

Predictors	Beta Coefficient	Standard Error	Wald	df	Sig.	Exp(B)
Marriage	0.952***	0.361	6.944	1	0.008	2.592
Age1	1.491**	0.676	4.867	1	0.027	4.44
Age2	0.915	0.599	2.334	1	0.127	2.496
Age3	0.804	0.63	1.63	1	0.202	2.234
Edu1	-1.164	0.719	2.62	1	0.106	0.312
Edu2	-1.627***	0.623	6.833	1	0.009	0.196
Edu3	-0.693*	0.357	3.768	1	0.052	0.5
Income	0.316**	0.126	6.307	1	0.012	1.372
Local1	-0.465***	0.265	3.069	1	0.08	0.628
WTJ	1.171***	0.344	11.575	1	0.001	3.226
FinNeed	0.396***	0.151	6.837	1	0.009	1.485

Note: (***), (**), (*) significant at p-value <1%, 5%, and 10%

Table 4. Hypothesis testing summary

Hypothesis	Statement	p-value	Result
H1	The demographic characteristics of an employee make significant impact on the pension plan adoption of Vietnamese employees		
	Marriage	*0.008*	*Confirmed*
	Age1	*0.027*	*Confirmed*
	Edu2	*0.009*	*Confirmed*

	Edu3	*0.052*	*Confirmed*
	Income	*0.012*	*Confirmed*
	Local1	*0.08*	*Confirmed*
H2	The attitude toward the private pension plan facilitates the pension plan adoption by Vietnamese employees.	0.001	Confirmed
H3	The financial need after retirement enhances the adoption of the pension plan for Vietnamese employees.	0.009	Confirmed

Table 3 reported the estimates of the empirical model, and Table 4 showed the hypothesis testing result. It can be seen from Table 4 that three proposed hypotheses in our study were confirmed statistically. The difference in demographic characteristics statistically leads to a change in pension plan adoption. Employees who already get married have odds of adoption 2.592 times higher than single employees. Getting married means long-term commitment and family responsibilities. Thus, it increases the future orientation characteristics of employees, pushing them to the status of getting ready for retirement. So, the adoption probability of married employees is 0.721 times higher than single ones. Regarding Age, only the variable "Age1" shows a statistically significant impact on the odds ratio of pension plan adoption. Compared to other age groups, employees under 30 are likely to adopt a pension plan that is 4.44 times greater. This result is inconsistent with the results of previous studies. Nong and Nguyen (2023) found the positive impact of Age on the buying behaviour of Vietnamese life insurance. They also indicated the existence of a limit on the age at which buying behaviour starts declining. Dummann (2007) identifies the positive influences of age on the insurance demand in Germany and argues that older people are more aware of the importance of pension plans in their retirement. However, in our study, the younger employees tend to adopt insurance with a pension plan at higher odds than the older ones. This result can be explained in two ways. First, if we approach the pension plan from an uncertain perspective, the cost of the pension plan becomes cheaper for young employees, who can generate higher income from their human capital. Another way to explain this result is by examining the mediating role of financial literacy. In the context of digital technology and the social media platform explosion, the young generation has a particular understanding of personal finance management and plans their financial objectives very early. Therefore, the likelihood of young employees engaging in an annuity plan tends to increase.

Regarding the impact of Educational Level, employees with higher educational levels show greater odds of adopting a pension plan. A statistically significant impact was found when the level of education moved from college and university degrees to graduate degrees. No significant effect was reported in the group of employees with high-school degrees. This result is similar to the previous findings. Higher educational employees better understand the necessity of insurance with a pension plan during retirement, so they prepare for this issue by buying pension plan insurance.

Moreover, insurance, in general, and pension insurance, in particular, are complex financial products. It requires the participants to have sufficient financial knowledge and skills. Hence,

employees with high-school degrees have difficulty understanding the insurance products' article terms. Lusardi and Mitchell (2007) and Alessie et al. (2011) show that individuals with higher financial literacy are more likely to adhere to private retirement plans.

The positive effect of income on the probability of pension plan adoption aligns with the previous statement of income influence. High income gives employees sufficient financial sources to fulfil the annuity commitment with the insurance company or fund. Moreover, in the light of the life cycle income hypothesis, high income inspires employees to save for future uncertainties, transferring the higher income in the present to the future to maintain the permanent consumption pattern over the whole life. This finding is consistent with several studies on the purchasing intention of life insurance in Vietnam; however, it is completely different from the study of Alam and Chen (2021), when the authors found the negative effect of income on pension buying intention. The authors argued that higher-income people usually have a sound financial understanding and management skills. Therefore, they tend to place their money in different investment opportunities rather than merely committing to the annuity of the pension plan.

The last demographic variable, Local1, reported a statistically significant impact on the adoption odds. When moving from Hanoi city to other provinces, the pension plan adoption odds increase by 0.628 times. Since most of the employees in Hanoi work in the office area and have more financial knowledge and information, they tend to diversify their investment strategy to make higher returns than the introductory rate of the pension plan. Therefore, it lowered the probability of pension plan adoption.

Examining the importance of Attitude towards Pension Scheme and Financial Need after retirement, we can see the supportive evidence at p-value <1%. The positive influence of attitude towards the Private Pension Scheme indicates that the adoption probability is higher for the group that said yes when asked about WTJ's pension plan. Besides, we can confirm the H3 hypothesis when the FinNeed variable positively affects pension plan adoption. Specifically, an employee needing financial ensure, periodical income, and risk avoidance shows a higher probability of adopting a pension plan. Alternatively, when the factor score of FinNeed increases by 1 point, the odds of adoption increase by 1.485 times.

In summary, the binary logistics regression reported the estimates of parameter coefficients of contributory factors to the pension plan adoption of Vietnamese employees. The findings emphasize the predictors' statistically significant impacts on the pension plan's individual adoption rate. Three proposed hypotheses were confirmed at the p-value <5%.

5. Managerial Implications and Conclusion

This study examines the impacts of demographic and psychological variables on Vietnamese employees' adoption of Vietnamese pension plans. We constructed an empirical model to test three proposed hypotheses. We found the confirmed evidence for our hypotheses from the empirical model. We can understand the driving forces of Vietnamese employees' adoption of pension plans through empirical estimates. In summary, all demographic variables: Marriage, Age, Educational Level, Income, and Located province significantly impact the odds of

pension plan adoption. We can make some following managerial implications for insurance companies and government agencies:

Firstly, young employees under 30 should become the potential customer group of the private pension scheme or other form of life insurance. Since this group is technology savvy and interacts mainly online, consumer education training about the necessity of retirement pension plans should be placed online in dynamic and digital form. The government needs a comprehensive Finance Literacy Boosting Action Plan to improve the young generation's financial knowledge, attitude, and behaviour. Moreover, trained employees should diffuse their knowledge and experiences in society. In the future, aging care and financial support will not be the responsibilities of younger ones. Hence, young employees have to prepare right now for uncertainties.

Secondly, enhancing the positive attitude towards pension plan adoption is critical. Any employee with higher WTJ will buy a pension plan, boosting the market efficiency, and choose to buy a pension fund as a time-saving method. Since the retirement pension plan is the future navigating process, employees tend to adopt more if they have a higher point of WTJ. In highly uncertain political and economic issues worldwide, retirement preparedness is necessary for insurance companies and the government. To release the financial burden for the state budget, the Vietnamese government needs to have strict requirements and specific policies for the social insurance system and private pension plan. Currently, the COVID-19 pandemic reduces the disposal income of each employee; hence, the periodical financial commitment becomes seriously difficult. Therefore, together with the regulatory framework, the government should launch a particular support program for employees who adopt private pension plans.

Thirdly, insurance companies should develop multiple pension plan options so that employees can take the money on the table. Rather than focusing on high-income, high-educational employees, it is essential to improve pension insurance coverage in Vietnam through supportive actions for low-income, low-educational level, living, and rural areas that cannot access the social insurance system. The government and insurance companies must collaborate and coordinate to create an inclusive and sustainable pension system for Vietnam.

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Authors contributions

PhD Student Nguyen Thanh Hung and Associate Professor Tran Thi Xuan Anh were responsible for the study and questionnaire design. Nguyen Thanh Hung was responsible for data collection. Dr. Tran Thanh Thu processed data and conducted the empirical study. PhD Student Nguyen Thanh Hung drafted the manuscript, and Dr. Tran Thanh Thu and Associate Professor Tran Thi Xuan Anh revised it. All authors read and approved the final manuscript. In this paragraph, explain any special agreements concerning authorship, such as if authors

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