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Effect of Attitude to Risk on Intention to Buy Life Insurance: A Study in Hanoi City

[1] **Thuy Dung Do,** [2] **Thi Huong Mai**
[1, 2] University of Labor and Social Affairs, Hanoi, Vietnam

Corresponding Author: **Thi Huong Mai**

Abstract

Life insurance is one of the earliest forms of insurance with the initial purpose of insuring the life and death events of the customer. In the world, there has been much research on life insurance in general, the life insurance buying behavior as well as the demand for life insurance. In fact, the insurance model is very diverse in assumptions about risk aversion (all assumptions from being related to completely dependent on risk aversion are assumed), relationship between risk aversion and assets, premium coefficient and loss distribution. Each study explored different angles and emphasized specific groups of factors such as economic, demographic, or socio-cultural. However, regardless of the research aspect, assumptions about life insurance needs as well as research on life insurance purchase decisions are all related to a factor of risk avoidance or attitude toward risk. Therefore, the influence of attitude toward risk is a factor worth considering when studying customers' life insurance decisions.

Data used in this study is collected from individuals in Hanoi city to examine the influence of attitude toward risk on the decision to participate in life insurance of individual customers. From the study result, some recommendations are given to insurers.

1. Introduction

Life insurance is one of the early forms of insurance with the original purpose of insuring the life and death events of the customer. Even though insurance has great benefits and meets many different requirements and needs of customers, with the growth of the economy and the income of customers, the purchase of life insurance products on the market have not developed at a commensurate level.

In the world, there has been much research on life insurance in general and the buying behavior of life insurance as well as the demand for life insurance. Some studies show that one of the barriers to participating in life insurance among people is psychosocial factors such as risk attitudes and perceived benefits.

According to research documents on life insurance, life insurance is purchased for many reasons, but mainly from two points of view:

- The view from classical economics that the decision to buy life insurance is a type of decision under conditions of uncertainty Morgenstern and Von Neumann (1953) [27] or a type of decision under conditions of risk (Kahneman and Tversky, 1979, Schoemaker and Kunreuther, 1979) [23, 33].

- Perspectives from behavioral economics: Behavioral economics believes that the decision to buy life insurance comes from various aspects, especially after the theory of consumer behavior was developed by (Fishbein, 1979, Ajzen, 1985, Ajzen, 2008, Fishbein and Ajzen, 2011) [13, 1, 4, 14]. According to the theory of consumer behavior, purchasing life insurance is influenced by factors such as subjective norms, attitudes, beliefs and intentions (Ogenyi Ejye and Owusu-Frimpong, 2007, Omar, 2007, Fletcher and Hastings, 1984, Hastings and Fletcher, 1983) [28, 30, 15, 19].

Thus, regardless of the aspect, the intention to participate in life insurance is related to choices in terms of risk. Along with the development of scientific research on behavioral psychology, attitude is also believed to influence purchase intention. Meanwhile, life insurance is a type of product to protect participants when they unfortunately encounter risks associated with two events of life or death. In addition, life insurance is also considered a financial investment channel in the current economic context. Therefore, the impact of customer's attitude toward risk is also a factor that needs to be studied and clarified to help insurers approach customers in the best way. This study aims to clarify the demographic factors to the attitude toward risk and intention to participate in life insurance of customers in Vietnam today.

2. Literature review

Attitude

Attitude is defined as a set formed in a person's memory about an object and can be a positive or negative assessment of that object. The attitude power is similar to the power of this set (Fazio, 1990) [12]. The stronger the attitude is, the more likely it is automatically activated and, therefore, is normally accessible from one's memory. By developing the concept of one's own attitude, Olson and Fazio (2008) [29] suggested a method of attitudes measuring. In addition, studies involving intentions and behaviors that use theoretical models to study human behavior Ajzen (1989), Ajzen (1991), Ajzen and Cote (2008), Ajzen and Fishbein (1977), Ajzen and Fishbein (2005), Icek (1988) [2, 3, 5, 21] all emphasize attitude structures as well as the factors that form one's attitude. Accordingly, attitudes toward behavior are interpreted as the degree to which a person judges a certain behavior as positive or negative (Ajzen, 2008) [4]. The study of Brahmana *et al*. (2018) [9] also have similar results when confirming the attitude towards buying behavior is made up of two explaining variables of perceived product benefits and risks awareness.

Kaplan *et al*. (1988) [24] show that each future risk plays an important role in human psychology in purchasing insurance decisions. This is consistent with Berekson (1972) [8], who addresses the role of anxiety in life when buying insurance. Other researchers, like the same finding, emphasize that one's attitude to buy insurance is to avoid risk. In fact, concepts such as risk trends, risk seeking, hedging, etc. is widely used and considered popular to many risk researchers. While risk behaviors have been studied extensively, there are very few existing studies related to people's thinking about risks, for example, risk attitudes such as risk bias or risk aversion. The research overview also shows that there are many claims regarding risk attitudes and risk aversion in owning a life insurance (Eisenhauer and Halek, 1999) [11]. Recent research by Jacobs-Lawson and Hershey (2005) [22] in retirement savings behavior has suggested the addition of an attitude to risk in considering attitudes toward intention behavior.

Risk attitudes

While risky behavior has been thoroughly researched, little research regarding people's perceptions of risk such as risk attitudes, risk propensities or risk aversion has been conducted. Risk attitude is a person's tendency and mindset regarding accepting or avoiding risk in situations with uncertain outcomes. Accordingly, the attitude toward risk is divided into trends including tendency to accept risk and tendency to avoid risk (Rohrmann, 2002) [32]. These two trends can be understood as two poles of the attitude factor. Studies suggest that a person's attitudes towards risk vary considerably: from risk-perception to risk-seeking and risk-taking. Studies also show that risk attitudes are not necessarily stable nor uniform across different types of risk. Instead, people have specific risk tendencies and attitudes toward financial risk; material risk; social or pure risk (Weber *et al*., 2002, Gattig and Hendrickx, 2007) [34, 16].

Research on people's risk-taking or risk avoidance attitudes has primarily evolved in three contexts: decision processes, psychosocial, and personality models (Kahneman and Tversky, 1979) [23]. A review of studies on attitude to risk shows that there are many factors that influence a person's risk attitude such as: gender and age; personality traits; academic level; job; income; degree of risk aversion or intelligence (Gattig and Hendrickx, 2007, Rohrmann, 2002, Rohrmann, 2008, Dohmen *et al*., 2011) [16, 31, 32, 10]. Recent studies have also focused on comparing the economic decisions of people in accordance with hypothesis related to risk aversion.

The analysis of the overview study results, the relevance of the theoretical bases, the application of the theory of planned behavior of (Ajzen and Fishbein, 2005, Ajzen, 2008, Ajzen and Cote, 2008) [7, 4, 5] and the most recent versions of relationship between attitude and behavior show that there is an influence of a person's attitude on his behavior in making economic decisions.

In the insurance sector, attitudes toward behavior can be influenced by attitudes toward risk or attitudes toward products (Fletcher and Hastings, 1984) [15]. Research by Lê Long Hậu (2017) [26] has shown that the estimated coefficient of risk attitude is negatively correlated with the decision to participate in life insurance. This means that the more risk-averse people are, the less likely they are to decide to buy life insurance. However, this study has not clarified the factors affecting the customer of risk attitude. After the overview study, the authors found that there are many factors affecting the attitude toward risk, however, due to the specificity of the insurance market in Vietnam as well as the objectives of the study, the authors want to examine the impact of demographic variables on the attitude toward risk as well as the influence of these factors on the intention to buy life insurance products in the scope of this study. This study tests the influence of demographic variables on the attitude toward risk according to the theory of Dohmen *et al*. (2011) [10] and examines the influence of attitude variable on intention to participate in life insurance according to Omar (2007) [30].

3. Methodology

3.1 Research Model

Based on a synthesis of empirical studies, the research team uses the binary logistics regression to estimate the influence of attitude toward risk on the decision to buy life insurance.
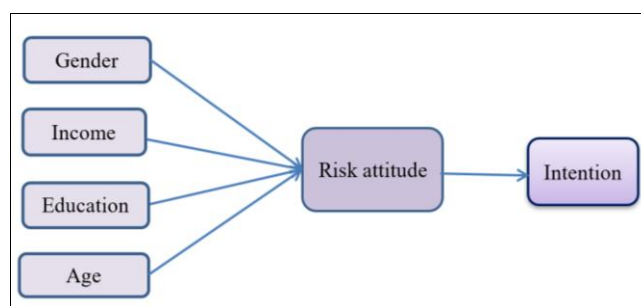

Fig 1: Research Model

Since this study aims to examine the influence of determinants on life insurance buying intention and risk attitude of participants, the research hypotheses that will be discussed include:

Hypothesis H1: Attitude towards risk negatively affects intention to buy life insurance products

Hypothesis H2: Income, age, gender, and education level have a positive influence on the intention to buy life insurance.

Hypothesis H3: Income, age, gender, and education level have affection on risk attitude

After finishing the survey process, there were 350 responses collected and will be examined in the next step of this research. The collected data will be analysed by the SPSS statistical analysis software.

3.2 Methodology

Based on a synthesis of empirical studies, the research uses the Binary logistics regression method to estimate the influence of attitude toward risk on the intention to buy life insurance.

The research model will include:
Dependent variable: intention to participate in life insurance represents the status of individuals as follows (using dummy variable):
Intent = 1: when individuals intend to participate in life insurance
Not intent = 0: when individuals have no intention to participate in life insurance
Independent variables:
- Risk attitude (RISKATTITUDE): shows the attitude of the respondent. To measure this factor, the research uses a hypothetical survey method based on the experience of some previous studies as follows:
The research team asked respondents to choose one of two hypothetical situations:
(1): invest an amount to get 20% interest with a probability of 50%,
(2) invest such an amount and certainly get a 10% return.
(Lê Khương Ninh and Huỳnh Hữu Thọ, 2013) [25].
Then, the study uses a dummy variable with risk attitude = 1 if option 1 is chosen (risk lover) and risk attitude = 0 if the respondent chooses option 2 (risk aversion).
The objective of the study was to examine the effect of attitude towards risk on intention to purchase life insurance. This study applies a quantitative model based on the research of Lê Long Hậu (2017) [26]. The model is presented in the following general form:

$$\text{LOG} (P_i/ (1-P_i)) = \alpha_0 + \beta_i * \text{RISKATTITUDE}_i + \beta_i * X_i$$

In which:
β_i: The regression coefficients of the model
X_i: explanatory variables of the model
P_i: probability of intention to buy life insurance

The estimated coefficients will show how when the explanatory variables change by 1 unit, the probability of intention to buy life insurance will change.
The study uses primary interview data directly from 350 individual customers (current and potential) in Hanoi city, of which 159 have the intention and 191 have no intention of buying in life insurance.

4. Results
Descriptive analysis
As the information of demographics is collected in the first part of questionnaire, it is analysed into general statistical form to see the breakdown of frequency and percentage of each control variables. Descriptive analysis is applied to aggregate the overall respondents' profiles. Table 1 gives the information of the descriptive analysis.

Table 1: Demographic characteristics of Respondents

Variables	Category	Frequency	Percentage (%)
Gender	Male	191	54,6
	Female	159	45,4
Age	20 – 30	121	34,6
	31 – 40	95	27,1
	41 – 50	82	23,4
	above 50	52	14,9
Educational level	Post graduated	78	22,3
	Graduated	143	40,9
	Colleges	129	36,9
Income	Under 9 million	107	30,6
	9 – 15	115	32,9
	15 – 20	82	23,4
	Above 20	46	13,1
Intention	Have intention	191	54,6
	Have no intention	159	45,4
Risk Attitude	Risk aversion	177	50,6
	Risk lover	173	49,4

According to the above analysis results, we can see that types of respondents have a diverse and scattered distribution in all target groups. In which, the age group who participated in the survey the most concentrated on the group from 20-40. The level of the survey subjects focused on the group with university degree and the group with income from 9 to 15 million VND/month accounted for the highest proportion with 32.9%.

Correlations
The results of Pearson correlation analysis aimed to test the close linear correlation between the dependent variable and the independent and explanatory variables of the model. The obtained results show that, except for gender and occupation, the rest of the variables are correlated with the attitude toward risk as well as the intention to participate in life insurance. The independent variable – risk attitude is correlated with the dependent variable – intention to participate in life insurance. The independent and explanatory variables including age, education, occupation, and income are all correlated with the dependent variable. The variables explaining education and income and age are also correlated. This may be consistent with the fact that higher levels of education lead to higher incomes, while older age also leads to higher incomes. The detailed results are shown in the following table:

Table 2: Correlations

		Age	Income	Education	Gender	Risk Attitude	Intention
Age	Pearson Correlation	1	.484**	.583**	-.056	-.611**	.599**
	Sig. (2-tailed)		.000	.000	.298	.000	.000
	N	350	350	350	350	350	350
Income	Pearson Correlation	.484**	1	.519**	.014	-.496**	.563**
	Sig. (2-tailed)	.000		.000	.789	.000	.000
	N	350	350	350	350	350	350
Education	Pearson Correlation	.583**	.519**	1	-.032	-.584**	.599**
	Sig. (2-tailed)	.000	.000		.551	.000	.000
	N	350	350	350	350	350	350
Gender	Pearson Correlation	-.056	.014	-.032	1	.035	-.032
	Sig. (2-tailed)	.298	.789	.551		.518	.553
	N	350	350	350	350	350	350
Risk Attitude	Pearson Correlation	-.611**	-.496**	-.584**	.035	1	-.684**
	Sig. (2-tailed)	.000	.000	.000	.518		.000
	N	350	350	350	350	350	350
Intention	Pearson Correlation	.599**	.563**	.599**	-.032	-.684**	1
	Sig. (2-tailed)	.000	.000	.000	.553	.000	
	N	350	350	350	350	350	350
**. Correlation is significant at the 0.01 level (2-tailed).								

The results in Table 2 show that attitudes towards risk are affected by age, income, and education but not by gender. In which, the impact of age is strongest with the correlation coefficient inversely proportional (-0.611) to the sig level .000, which ensures statistical significance. Next, the effect of education level on risk attitudes shows that people with higher education level are more prudent in risky financial decisions. At the same time, income is also a factor that affects the attitude toward risk.

Factor analysis
George and Mallery (2016) [17] emphasize that one of the most crucial steps when analysing data with SPSS is Exploratory Factor Analysis (EFA), which identifies the correlation among observed variables and examine the validity of the set of items.

KMO and Barlett's Test
In this research, the KMO and Barlett's Test for independent variables is conducted as the result is illustrated in the Table 3. As shown, the KMO value is 0.847 (0.5 < 0.802 < 1) and the sig. value is 0.000 (<0.05), that means these values satisfied the conditions in the study (Hair *et al*., 2010) [18]. In addition, after implementing the rotation matrix, we got the followings: every determinant with factor load > 0.5, Eigenvalues is 1.439 > 1, and the Variance explained = 62.965 %. It demonstrates that the factor analysis of the research data is appropriate.

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.847
Bartlett's Test of Sphericity	Approx. Chi-Square	832.901
	Df	21
	Sig.	0.000

Regression Model Analysis
The data processing results show that the survey variables are meaningful in the model. The coefficient of -2 log likelihood of 228.837 is consistent with the research scale (Hoàng Trọng and Chu Nguyễn Mộng Ngọc, 2005) [20]. Accordingly, the model with an Overall Percentage of 85.7

shows the predictability of 85.7% (> 50%), thus the probability of a person's insurance participation is satisfactory for the next research step.

Model fit
According to the Omnibus test, the sign of the model is 0.00, which is < 0.01 (with 99% level of confidence). Thus, the independent variables have a linear relationship with the dependent variable in the population. In other words, the selection model is appropriate. In conclusion, our model using only 4 independent variables as above is statistically significant (Hoàng Trọng and Chu Nguyễn Mộng Ngọc, 2005) [20]. The detailed results are shown in the following table:

Table 4: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	228.837a	.515	.689
a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.			

Table 5: Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	253.436	4	.000
	Block	253.436	4	.000
	Model	253.436	4	.000

The data processing results show that the survey variables are meaningful in the model. The coefficients -2 log likelihood ensure suitability with the study scale. The model can predict 85.7% of a person's probability of participating in insurance. In which, the probability of taking insurance is strongly negatively affected by the risk attitude. Meanwhile, the probability of participating in life insurance will increase the most when the education level is getting higher, and the income is getting better. In addition, the increasing age also increases the probability of participating in life insurance. The detailed results of the level of influence are shown in the following table:

Table 6: Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	AGE	.603	.190	10.078	1	.002	1.827
	INCOME	.812	.201	16.329	1	.000	2.253
	EDUCATION	1.049	.295	12.683	1	.000	2.854
	RISKATTITUDE	-2.026	.359	31.952	1	.000	.132
	Constant	-4.761	.851	31.270	1	.000	.009
a. Variable(s) entered on step 1: AGE, INCOME, EDUCATION, RISKATTITUDE.							

5. Discussion

Research results, as expected and being consistent with previous studies, show that attitude toward risk does indeed affect intention to participate in life insurance. This result also aligns with previous studies on attitudes to risk in the insurance sector. Insurance products are unexpected products, so participating to get benefits from them is undesirable for customers. While, if this is considered a financial investment tool, insurance products are not attractive to those who like risk because the committed interest rate is lower than the common level of savings products. For those, they prefer more risky forms of investment to be able to get higher returns. Therefore, the competitive advantage of insurance products compared to other forms of investment in terms of profit is not high. Instead, insurers need to focus on the risk protective aspect of the product for those who are risk averse and need firm reassurance. Based on the research results, the authors propose some recommendations to help life insurance businesses come up with reasonable strategies in increasing customers' intention to join life insurance as follows:

In fact, life insurance products are intangible products, and are predetermined contracts with a lot of complicated terms and conditions. Therefore, to understand the product is not easy, so it is critical to make the insurance product simpler and easier to understand for customers. To do this, insurers need to visualize the intangible elements of the product into more visualized elements such as announcements and add the accumulation of recurring contracts to help customers better recognize investment and savings factors as well as accumulation in each product. This will better motivate customers to change their attitudes and behaviors to participate in life insurance.

Life insurance products are mostly associated with two events of life and death. Some customers believe that death is the end, while it comes to illness, life insurance cannot cover the medical fees. Therefore, to enhance the attractiveness of the product, there are now many products that add additional risk insurance elements such as illness, disease, fatal disease. In the context of an increasingly developed society, people become more concerned about health issues and protecting their own interests, the research on new products, serving the right needs and the right customers is urgent.

Many surveyed subjects believe that buying life insurance is not a necessary and right thing to do, they do not believe in the benefits that life insurance products bring. Instead of buying life insurance, the subjects choose other forms of savings because they do not immediately perceive the value that life insurance brings in the future, while other forms of savings give them a sense of security. Thus, to change the attitude of the customers, it is necessary to focus on communicating the difference and the superiority of that buying life insurance compared to other forms of accumulation, especially with the form of savings deposits at banks.

6. Conclusion

Although there have been many studies on the intention to buy life insurance in Vietnam today on many different aspects. However, this study tested the inverse relationship between attitude toward risk and intention to buy life insurance like the conclusion of Lê Long Hậu (2017) [26]. In addition, this study explained differences in attitudes toward risk based on several demographic variables (age, income, education). Some other explanatory variables of the model can be further explored in future studies.

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