



# FACTORS AFFECTING THE VOLUNTARY SOCIAL INSURANCE PARTICIPATION INTENTION: THE CASE OF SMALL TRADERS IN HO CHI MINH CITY

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**Abstract.** This study aims to evaluate the factors affecting voluntary social insurance participation of small traders. The proposed research model was based on merging Theory of Planned behavior (TPB) and Technology acceptance model (TAM) to examine how to form the participating voluntary social insurance intentions. The research sample was taken from 322 people who are small traders in Ho Chi Minh City. The results of data analysis (CB-SEM technique) show that attitude is an important factor affecting intention. Other factors in TAM and TPB also significantly influence voluntary social insurance participation intention. In the conclusion of this study, implications for voluntary social insurance policies were presented.

**Keywords:** Ho Chi Minh City, intention, insurance, SEM, TAM, TPB

## 1 Introduction

Social insurance is a fundamental social security policy in Vietnam. In the social security system, social insurance increasingly has a crucial role in government policies on human protection and development and social justice [1].

According to statistics from Nhan Dan newspaper, by the end of 2020, the total number of people participating in voluntary social insurance in Viet Nam had only reached about 1,013,000 people. It is much less than 35 million people who worked in the informal sector [2]. Thus, although voluntary social insurance has an important role, the number of participating people is low compared to the potential. Thus, finding the cause of this issue is a target of prime importance.

Many prior studies researched the factors that influence purchasing insurance intention. For instance, based on The Theory of Planned behavior, Mamun et al. found the effect of perceived usefulness, attitude, subjective norms, and perceived behavioral control on purchasing health insurance [3]. Alfiero et al. suggested that attitude, awareness, subjective norms, risk perception, and trust have a significant positive influence on consumers' intentions to purchase black box technology auto insurance [4]. Liu et al. indicated that insurance purchasing intention was strongly influenced by attitudes and subjective norms, perceived behavioral control [5]. Most

of the previously proposed research models are based on TPB. However, little study has proposed the model by integrating Theory of planned behavior (TPB) and Technology acceptance model (TAM) to discover the factors that impact purchasing insurance intention.

In the context of Vietnam, the social insurance system is increasingly ensuring publicity and transparency, and the application of information technology in the construction and development of the social insurance system is of great interest to the government. People are facilitated to access, register, and enjoy social insurance benefits. In addition, in the study of Dung and Sinh [6], the authors use both the TPB and TAM to determine the influencing factors that impact voluntary social insurance participation intention. The study results showed that the core variables in TPB and TAM had a positive and statistically significant impact on the intention to participate in voluntary social insurance.

On the other hand, participating in voluntary insurance is also interesting to researchers, however, no research investigates the effect of factors on participating voluntarily in social insurance in Ho Chi Minh city based on the theory of TPB and TAM integration.

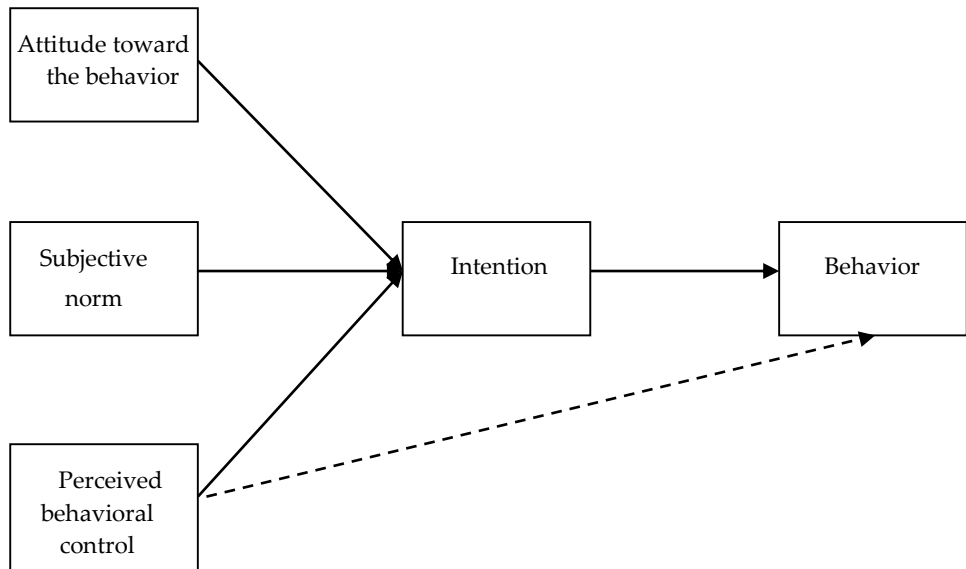
Therefore, the purpose of this study investigates the factors affecting the intention to participate in voluntary social insurance of small traders in Ho Chi Minh City to gain a better understanding of participating in voluntary social insurance intention. We chose these research subjects who are small traders in Ho Chi Minh City because there are many small traders here, but no research has been conducted on this subject to investigate. In addition, the small traders have stable income but rarely participate in voluntary social insurance. The proposed model is an integrated framework that uses the technology acceptance model (TAM) [7] and the Theory of planned behavior (TPB) [8].

## 2 Theoretical framework and research hypotheses

### 2.1 The Theory of planned behavior (TPB)

TPB is known as an extended version of The Theory of Reasoned Action proposed by Ajzen to predict behavioral intentions without completely placing individual control. Ajzen argued that an individual has the ability to particular behavior if he or she believes that action will lead to specific and valuable results [8]. The central factor in TPB is an individual's intention. Intentions are assumed to capture the motivational factors that influence an individual's behavior. Behavioral intention is a fundamental factor in predicting an individual's actual behavior. Behavioral intentions are expressions of the degree to which a person is effortless and willing to try a behavior and is influenced by attitudes, subjective norms, and perceived behavioral control.

Attitude towards the behavior refers to the degree to which a person has positive or negative reviews or ratings towards the behavior in question. It is defined by the total number of accessible behavioral beliefs that associate behavior with different outcomes and other attributes



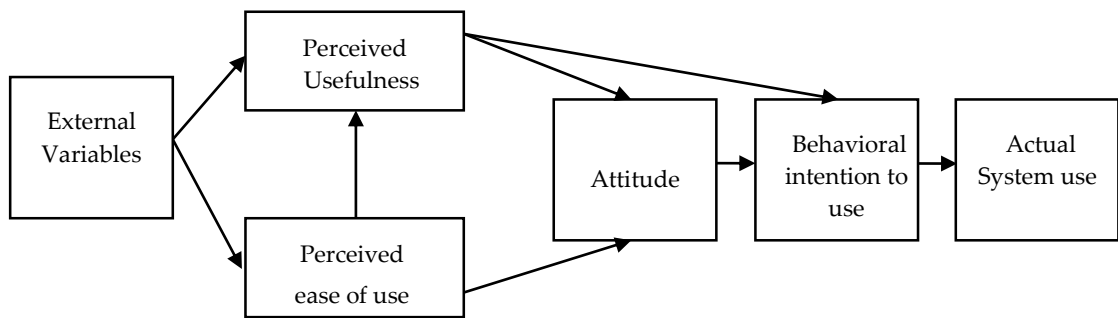
**Figure 1.** Theory of planned behavior [8]

[8]. Subjective norm refers to perceived social pressure to perform or not to perform a behavior. Subjective norm is defined by the sum of accessible normative beliefs regarding the expectations of significant references. Perceived behavioral control is defined as an individual's perception of how easy or difficult to perform a behavior [8].

## 2.2 Technology acceptance model (TAM)

TAM was proposed by Davis. Since this theory was introduced, it has been more and more popular in many studies [7]. TAM has been successfully applied by researchers to predict a variety of consumers' intentions and behavior [10].

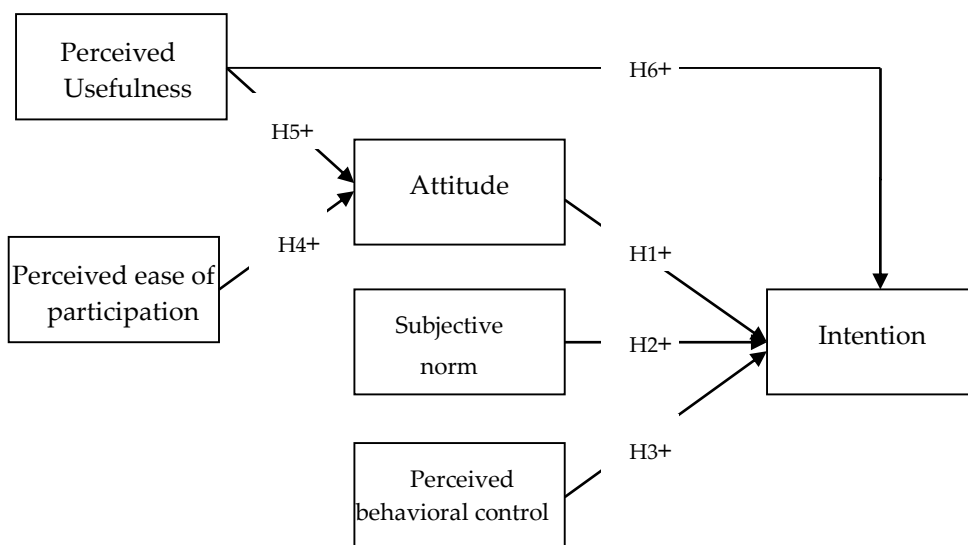
In the TAM, Davis [11] defined the concept of *perceived usefulness* as the degree to which an individual believes that using a particular system will improve his or her job performance; *Perceived ease of use* is the degree to which an individual believes that using a particular system will require no physical or mental effort. Both Perceived usefulness and Perceived ease of use were found to have a direct influence on behavioral intention.



**Figure 2.** Technology acceptance model

### 2.3 Research model and hypotheses

The proposed research model is based on the integration of TPB [8] and TAM [7] because of several reasons. Firstly, in the context that Vietnam is strongly implementing e-Government, people are more and more familiar with e-services of government agencies as well as social insurance agencies [12]. Secondly, several related studies showed that extending the TPB model had better predicting insurance participation intention. For example the study of Dung and Sinh [6], the proposed research model showed that the combination of TPB and TAM models has an explanatory power better than the original TPB.



**Figure 3.** Conceptual model of the study

### **Voluntary social insurance**

According to The Social Insurance Law of Vietnam [13], social insurance is a kind of policy that the government organizes. It has a flexible closing rate, suitable for participants' income. Participants in voluntary social insurance are supported by the government with social insurance premiums and enjoy prescribed benefits such as sickness, retirement, and death. Vietnamese citizens aged 15 years or older who are not subject to compulsory social insurance have the right to participate subject to voluntary social insurance contributions. The monthly payment is equal to 22% of the monthly income of the participant [14].

### **Participating in voluntary social insurance intention (BI)**

Ajzen suggested that intention is one of the central factors in predicting an individual's behavior. In other words, the intention is an individual readiness for cognitive action, which is the most direct antecedent of corresponding behavior [8]. Thus, in this paper, participating in voluntary social insurance intention is known as the individual's intention to perform given participation in voluntary social insurance behavior.

### **Attitude toward participating in voluntary social insurance (AT)**

Attitude is defined as the extent to which an individual makes a positive and negative evaluation towards performing the behavior [8]. In the present study, attitude is known as the extent to which a person makes a positive and negative evaluation of participating in voluntary social insurance. Ajzen suggested that attitude is one of the crucial psychological factors that can predict behavior intention. Ajzen [8] and David [7] indicated that attitude toward behavior has a relevant effect on behavior intention. Additionally, several prior studies showed that attitude impacts significantly purchasing insurance intention [15, 3]. Thus, we posit the following hypotheses:

H1: Attitude has a significant positive impact on voluntary social insurance participation intention.

### **Subjective norm (SN)**

According to Ajzen, subjective norm (SN) refers to the perceived social pressure to the individual behavior. Ajzen suggested that the SN has an important role in the prediction of behavioral intention [8]. Several previous studies found that SN has a significant and positive impact on purchasing insurance intention [3, 4, 15]. Therefore, we propose the following hypotheses:

H2: Subjective norm has a significant positive impact on voluntary social insurance participation intention.

### **Perceived behavior control (PBC)**

PBC is defined as “the perceived ease or difficulty of performing the behavior” [8]. Ajzen indicated the individual’s intention to perform a behavior would be lower due to a lack of access to necessary resources and opportunities for instance cost, time, and others, even if he/she has positive attitudes and social support [8]. Moreover, some studies within the TPB framework have supported the causal relationship between perceived behavior control and purchasing insurance intention [3, 15]. Thus, the following hypotheses are proposed:

H3: Perceived behavior control has a significant positive impact on voluntary social insurance participation intention.

### **Perceived ease of participation (PEoP)**

In TAM, perceived ease of use is a crucial factor that refers to “the degree to which a person believes that using a particular system would be free of effort” [7]. In this study, perceived ease of participation is defined as the degree to which a person believes that he or she participates in voluntary social insurance would be free of effort.

Several related studies have shown that perceived ease of use positively affected customer attitudes [16–18]. Therefore, we propose the following hypotheses:

H4: Perceived ease of participation has a significant positive impact on voluntary social insurance participation attitude.

### **Perceived usefulness (PU)**

Perceived usefulness refers to “the degree to which the individual believes that using a technology would enhance his or her job performance” [7]. In the framework of this study, perceived usefulness refers to a person who believes that participating in voluntary social insurance would enhance the quality of life. Numerous related studies found that perceived usefulness has a significant impact on attitude [16, 17] and behavioral intention [19, 20]. Based on the above review, we proposes the following hypotheses:

H5: Perceived usefulness has a significant positive impact on voluntary social insurance participation attitude.

H6: Perceived usefulness has a significant positive impact on voluntary social insurance participation intention.

### 3 Materials and research methods

#### Data collection

To empirically examine the research hypotheses, a survey was conducted on small traders in Ho Chi Minh City, Vietnam. Due to not having a database of working informal sector workers, a convenience sample was used to collect data. We chose Ho Chi Minh City for this study target because this place has many small traders.

The design of the questionnaire includes 28 items based on prior studies. Measurement items for intention (5 items), attitude (5 items), subjective norm (5 items), perceived behavioral control (5 items), and perceived usefulness (5 items) were adapted from [3]. Measure items for Perceived ease of participation (3 items) were adapted from [21] and [7]. All of the items were modified to fit the context of the present study and rated on a five-point Likert scale using strongly disagree to 5 strongly agree. Two focus group interviews was deployed to have useful information for instrument development. Before a formal investigation, a pilot test with 30 participants had been conducted to improve the meanings before the survey was applied.

Data collection was conducted between May to August 2022 through the survey method. The respondents were small traders at different sites in Vietnam's Ho Chi Minh City. All the individual information of responders will be kept private. Respondents had awarded a small gift (approximate value of \$0.5) after they completed the questions.

The samples were collected from different groups of respondents who differ in age, gender, education level, income, and marital status to get the representation of the whole small traders. People in the range of 15–60 years was selected data, as according to the rule of Social Insurance Law, people from 15 to 60 years have the right to participate in voluntary social insurance.

In total, we have 430 respondents who are small traders in Ho Chi Minh City. There are 322 valid questionnaires, with a rate of 74.8 percent. Of the respondents, 56.5 percent are male, and 43.5 percent are female. In terms of age groups, 41 percent of people range from 15 to 25 age bracket, 36.6 percent belong to 26–45 years, and 22.4 percent belong to the age bracket of 46–60. In terms of education, 35.4 percent is high school diploma, 55.0 percent is Bachelor's degree, 6.5 percent is Master's degree, and 3.1 percent other. In terms of income, 27.0 percent is under 10 million VND, 46.3 percent is from 10- under 15 million VND, and 26.7 percent is higher than 15 million VND. In terms of marital status, 44.4 percent of respondents are single, and 55.6 percent are married. In terms of voluntary social insurance participation, 37 percent of VSP participants, and 63 percent of non-VSP participants (Table 1).

According to Hair et al. [23], the suitable size for samples is from 300 to 500 when using Structural Equation Modeling (SEM). Thus, 322 samples were satisfied for this study.

**Table 1.** Demographic characteristics of the sample

| Measure        | Item                          | N   | Percentage (%) |
|----------------|-------------------------------|-----|----------------|
| Gender         | Male                          | 182 | 56.5           |
|                | Female                        | 140 | 43.5           |
| Age            | 15–25                         | 132 | 41.0           |
|                | 26–45                         | 118 | 36.6           |
|                | 46–60                         | 72  | 22.4           |
| Education      | High school diploma           | 114 | 35.4           |
|                | Bachelor degree               | 177 | 55.0           |
|                | Master degree                 | 21  | 6.5            |
|                | Other                         | 10  | 3.1            |
| Income         | Under 10 million VND          | 87  | 27.0           |
|                | From 10- under 15 million VND | 149 | 46.3           |
|                | Higher than 15 million VND    | 86  | 26.7           |
| Marital status | Single                        | 143 | 44.4           |
|                | Married                       | 179 | 55.6           |
| VSP            | Yes                           | 119 | 37.0           |
|                | No                            | 203 | 63.0           |
| Total          |                               | 322 | 100.0          |

*Note:* Voluntary social insurance participation (VSP)

### Data analysis

In the current study, Cronbach’s alpha reliability analysis and exploratory factor analysis (EFA) were performed to assess the collected data. Next, the structural equation modeling (SEM) with two-stage performed measurement and structural model. First, a confirmatory factor analysis (CFA) was conducted for each construct to evaluate convergent and discriminant validity. Second, we performed the path analysis to test the research hypotheses. This research aims to examine the causal paths in our proposed theoretical model, thus, Structural Equation Modeling was conducted is suitable for data analysis suggested by Hair et al. [23].

## 4 Results

### 4.1 Exploratory factor analysis

Before exploratory factor analysis was conducted, Cronbach's alpha was used to assess internal consistency among the items of each construct. The results showed that Cronbach's alpha value exceeded 0.6, which was above the recommended criterion of Hair [23].

Next step, exploratory factor analysis was applied in this research. The analysis results showed that  $KMO = 0.896 > 0.5$ , sig. Bartlett's test =  $0.000 < 0.05$ . Thus, the variables in the proposed model were suitable for factor analysis.

The eigenvalues for the six factors ranged from 1.635 to 8.852, which were greater than 1.0. Moreover, the factor loading of each item was higher than 0.5. Total variance extracted equals 67.624%, which means that the six extracted factors explain 67.624% of the variation of the observed data.

Additionally, this study used Harman's single factor test to assess the common method bias. Because following Podsakoff et al. [22], method biases are an issue, which is one of the major sources of measurement error. The unrotated factor captured only 29.202 percent of the variance in the data. Hence, the common method bias is not a concern in this study.

### 4.2 Measurement model

Before analyzing the structural model, the confirmatory factor analysis was conducted. The measurement model was assessed by composite reliability (CR), average variance extracted (AVE), and Heterotrait-Monotrait ratio of correlations (HTMT) values by AMOS software.

To achieve convergent validity, Hair suggested that factor loadings should be higher than 0.5 [23]. From data in Table 2, we can see that standardized loadings for all items exceeded 0.5. Thus, all constructs met the threshold values recommended by Hair [23].

**Table 2.** Measurement model results

| Measurement scale                                                                                                          | Standardized factor loading | Cronbach's alpha |
|----------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------|
| <b>Participating in voluntary social insurance intention</b>                                                               |                             | 0.937            |
| BI_1, I have a plan to participate in voluntary social insurance                                                           | 0.868                       |                  |
| BI_2, I would like to participate in voluntary social insurance                                                            | 0.882                       |                  |
| BI_3, I expect to participate in voluntary social insurance                                                                | 0.904                       |                  |
| BI_4, I know the value of voluntary social insurance, and I want to participate                                            | 0.858                       |                  |
| BI_5, I would like to know how a voluntary social insurance plan is better than a savings account or other safety property | 0.815                       |                  |
| <b>Attitude toward participating in voluntary social insurance</b>                                                         |                             | 0.904            |
| AT_1, Voluntary social insurance participation is a good choice                                                            | 0.783                       |                  |
| AT_2, Voluntary social insurance participation is valuable                                                                 | 0.700                       |                  |
| AT_3, Voluntary social insurance participation is essential                                                                | 0.912                       |                  |
| AT_4, Voluntary social insurance participation is a good idea                                                              | 0.876                       |                  |
| AT_5, Voluntary social insurance participation should be compulsory                                                        | 0.837                       |                  |
| <b>Perceived behavior control</b>                                                                                          |                             | 0.903            |
| PBC_1, I have sufficient knowledge to participate in voluntary social insurance                                            | 0.749                       |                  |
| PBC_2, I can participate in insurance without any help from anyone                                                         | 0.843                       |                  |
| PBC_3, I have many resourceful sources about social insurance                                                              | 0.843                       |                  |
| PBC_4, I can participate in social insurance reasonably well on my own                                                     | 0.857                       |                  |
| PBC_5, I can handle any difficulties associated with my participation decision                                             | 0.756                       |                  |
| <b>Subjective Norms</b>                                                                                                    |                             | 0.864            |
| SN_1, My family thinks I should participate in voluntary social insurance                                                  | 0.666                       |                  |
| SN_2, People who influence my decision think that I should participate in voluntary social insurance                       | 0.825                       |                  |
| SN_3, People whose opinions I value think that I should participate in voluntary social insurance                          | 0.765                       |                  |
| SN_4, People who are close to me think that I should participate in voluntary social insurance                             | 0.746                       |                  |
| SN_5, People will like it if I participate in voluntary social insurance                                                   | 0.751                       |                  |
| <b>Perceived Usefulness</b>                                                                                                |                             | 0.941            |

| Measurement scale                                                                                                | Standardized factor loading | Cronbach's alpha |
|------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------|
| PU_1, Voluntary social insurance participation enables me to ease my future expenses                             | 0.787                       |                  |
| PU_2, Voluntary social insurance participation improves my life benefits                                         | 0.878                       |                  |
| PU_3, The voluntary insurance policy will improve my performance in handling my financial needs                  | 0.931                       |                  |
| PU_4, The social insurance scheme will be useful in handling my financial needs when I retired                   | 0.937                       |                  |
| PU_5, The social insurance will enhance my dependent's ability to cope with their financial needs when I retired | 0.821                       |                  |
| <b>Perceived ease of participation</b>                                                                           |                             | 0.771            |
| PEoP_1, I believe it is easy to participate in the voluntary social insurance                                    | 0.769                       |                  |
| PEoP_2, Procedures for participating in social insurance are clearly                                             | 0.763                       |                  |
| PEoP_3, Voluntary social insurance participation has a low mental effort                                         | 0.648                       |                  |

Note: all factor loadings are significant at  $p < 0.001$

**Table 3.** Validity analysis

|             | CR    | AVE   | MSV   | MaxR(H) | BI           | PU           | AT           | PBC          | SN           | PEoP         |
|-------------|-------|-------|-------|---------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>BI</b>   | 0.937 | 0.750 | 0.275 | 0.940   | <b>0.866</b> |              |              |              |              |              |
| <b>PU</b>   | 0.941 | 0.762 | 0.130 | 0.954   | 0.147*       | <b>0.873</b> |              |              |              |              |
| <b>AT</b>   | 0.914 | 0.680 | 0.275 | 0.929   | 0.524***     | 0.195**      | <b>0.825</b> |              |              |              |
| <b>PBC</b>  | 0.905 | 0.658 | 0.178 | 0.911   | 0.385***     | 0.276***     | 0.275***     | <b>0.811</b> |              |              |
| <b>SN</b>   | 0.866 | 0.566 | 0.209 | 0.873   | 0.458***     | 0.360***     | 0.357***     | 0.422***     | <b>0.752</b> |              |
| <b>PEoP</b> | 0.772 | 0.531 | 0.151 | 0.781   | 0.322        | 0.246        | 0.316        | 0.275        | 0.388        | <b>0.729</b> |

Note: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; Bold diagonals represent the square root of the AVE

According to Hair et al. [24], the composite reliability (CR) values should be greater than the threshold of 0.6. Table 3 shows that the construct reliability ranges from 0.772 to 0.941, exceeding the recommended by Hair et al. [24]. Moreover, the results indicate that all the AVE values of latent variables are higher than 0.5. Thus, all the latent variables are reliable and convergent. Data in Table 3 also shows that the square root of each construct's AVE (bold diagonals) exceeds the correlation between latent variables [25]. In addition, Table 4 shows that HTMT values are less than 0.85 according to recommendations by Henseler [26]. Thus the constructs met evidence of discriminant validity.

In addition, CFA results for the model's goodness-of-fit shows  $\chi^2/df = 1.739 < 3$ ; Comparative fit index (CFI) = 0.961 > 0.9; Incremental fit index (IFI) = 0.962 > 0.9; Tucker- Lewis fit index (TLI) = 0.956 > 0.9; Root mean square error of approximation (RMSEA) = 0.048 < 0.6; PCLOSE = 0.690 > 0.05. The results indicate that the measurement model is suitable [27].

### 4.3 Structural model

SEM was used to test the research hypotheses. We found that the positive relationship between AT and BI is significant ( $\beta = 0.412^{***}$ ). This supported H1. It revealed that people with high attitudes toward voluntary social insurance had increased participation.

As shown in Table 5, it has a significant positive of SN upon BI ( $\beta = 0.280^{***}$ ). The effect of PBC on BI was 0.192\*\*. The effect of PEOp on AT was 0.314\*\*, and PU effect on AT was 0.121\*. Hence, H2, H3, H4, and H5 were supported. However, H6 was not supported ( $p > 0.05$ ). Overall, the proposed model predicts 35.8 percent of individuals' intention to participate.

**Table 4.** HTMT analysis

|             | BI    | PU    | AT    | PBC   | SN    | PEoP |
|-------------|-------|-------|-------|-------|-------|------|
| <b>BI</b>   |       |       |       |       |       |      |
| <b>PU</b>   | 0.145 |       |       |       |       |      |
| <b>AT</b>   | 0.519 | 0.199 |       |       |       |      |
| <b>PBC</b>  | 0.401 | 0.284 | 0.278 |       |       |      |
| <b>SN</b>   | 0.468 | 0.352 | 0.376 | 0.446 |       |      |
| <b>PEoP</b> | 0.308 | 0.262 | 0.307 | 0.276 | 0.394 |      |

**Table 5.** Hypotheses test results

|    | Hypothetical path |      |      | Standardized $\beta$ | S.E.  | C.R.   | P     | Conclusion  |
|----|-------------------|------|------|----------------------|-------|--------|-------|-------------|
| H1 | BI                | <--- | AT   | 0.412                | 0.070 | 7.398  | ***   | Supported   |
| H2 | BI                | <--- | SN   | 0.280                | 0.089 | 4.384  | ***   | Supported   |
| H3 | BI                | <--- | PBC  | 0.192                | 0.082 | 3.286  | 0.001 | Supported   |
| H4 | AT                | <--- | PEoP | 0.314                | 0.080 | 4.577  | ***   | Supported   |
| H5 | AT                | <--- | PU   | 0.121                | 0.073 | 2.046  | 0.041 | Supported   |
| H6 | BI                | <--- | PU   | -0.084               | 0.084 | -1.546 | 0.122 | Unsupported |

$R^2_{AT} = 13,2\%$

$R^2_{BI} = 35,8\%$

Note: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; attitude (AT); Subjective norms (SN); Participating in voluntary social insurance intention (BI); Perceived behavior control (PBC); Perceived ease of participation (PEoP); Perceived usefulness (PU).

## 5 Discussion and conclusion

This study investigated the factors affecting voluntary social insurance participation. The proposed study model was based on the TPB and TAM integration to examine how to form the participating voluntary social insurance intentions. The findings show that the proposed model is capable of explaining a relatively BI.

The findings of this research indicated that the positive relationship between AT and BI is significant. The results also showed that AT is a fundamental factor in predicting an individual's participation intention. Among the factors, AT is an important mediator between PEOp, PU, and BI. Therefore, maximum AT might increase the willingness of individual voluntary social insurance participation. These results are in line with the prior studies conducted in different regions with similar variables [5, 3, 15, 28].

The result of the study also indicated SN has a direct positive impact on BI ( $\beta_{SN \rightarrow BI} = 0.280^{***}$ ). This finding is supported by [3, 15]. Additionally, this study found that PBC has also a significant impact to BI ( $\beta_{PBC \rightarrow BI} = 0.192^{**}$ ). This finding is similar to prior researches [3, 15].

This study found that PU does not have a direct impact on BI ( $p > 0.05$ ), however, it has indirect influences on BI through AT ( $\beta_{PU \rightarrow AT} = 0.121^*$ ). Moreover, PEOp has a direct influence on BI ( $\beta_{PEOp \rightarrow BI} = 0.314^{***}$ ). Thus, both PU and PEOp are crucial factors in the prediction AT. In order words, this result confirms the role of perceived usefulness and perceived ease of use as two critical factors in voluntary social insurance participation attitude.

The study result indicates that PU has not a direct impact on BI ( $p > 0.05$ ). This shows that participating in voluntary social insurance is useful, however, small traders also have not intended to participate. According to the Law on Social Insurance 2014 stipulating that from 2022, the number of years of payment will be increased by 5 years compared to the previous regulations, then the employee will be entitled to the maximum retirement regime. Besides, participating in voluntary social insurance, employees are only entitled to retirement and survivorship benefits, while other policies are not. Therefore, although the perception of voluntary social insurance is useful, there is no statistically significant impact on the voluntary social insurance participation intention of small traders.

The empirical results showed that PEOp, PU, AT, SN, and PBC have a significant effect on voluntary social insurance participation intention. Therefore, the findings will be useful in understanding the individual's behavioral intentions to participate in voluntary social insurance.

The findings implicate that to attract people to participate, the government should continue to promote reform of administrative procedures and increase communication about transmitting useful information about voluntary social insurance, enhancing the benefit of participants. The contribution of this study is the integration of fundamental factors of TBP with the TAM to

investigate predictors of social insurance participation intention. The results show that the proposed model has a good explanation in the context of Vietnam.

## 6 Limitations and future research

This study has several limitations. First, the results of this research may not apply to other sites, because collection data had been conducted only in Ho Chi Minh City. Second, this study focused only on small traders. Therefore, the results were not probably applied to other informal sector workers. Future studies should focus on clarifying other types of informal workers.

## References

1. Viet Nam Social Security (2019), Báo chí truyền thông BHXH, BHYT, vì sự phát triển bền vững chính sách an sinh xã hội, In *BHXH Việt Nam*, <https://baohiemxahoi.gov.vn/tintuc/Pages/an-sinh-xa-hoi.aspx?CateID=0&ItemID=12865&OtItem=date>.
2. Nhan Dan newspaper (2021), *Cơ hội tiếp cận của lao động phi chính thức với bảo hiểm xã hội tự nguyện - Báo Nhân Dân*. <https://nhandan.vn/bhxxh-va-cuoc-song/co-hoi-tiep-can-cua-lao-dong-phi-chinh-thuc-voi-bao-hiem-xa-hoi-tu-nguyen-679206/>.
3. Mamun, A. Al., Rahman, M. K., Munikrishnan, U. T., & Permarupan, P. Y. (2021), Predicting the intention and purchase of health insurance among Malaysian working adults, *SAGE Open*, 11(4). <https://doi.org/10.1177/21582440211061373>.
4. Alfiero, S., Battisti, E., & Hadjielias, E. (2022), Black box technology, usage-based insurance, and prediction of purchase behavior: Evidence from the auto insurance sector, *Technological Forecasting and Social Change*, 183, 121896. <https://doi.org/10.1016/j.techfore.2022.121896>.
5. Liu, J., Lin, S., & Feng, Y. (2018), Understanding why Chinese contractors are not willing to purchase construction insurance, *Engineering, Construction and Architectural Management*, 25(2), 257–272. <https://doi.org/10.1108/ECAM-08-2016-0186>.
6. Dung, N. T. N., & Sinh, N. T. (2019), Study on the factors affecting the participating intention of voluntary social insurance of employees in Thach That, Hanoi, *Journal of Science&Technology*, 53, 107–112.
7. Davis, F. D. (1989), Perceived usefulness, perceived ease of use, and user acceptance of information technology, *MIS Quarterly*, 13(3), 319–340. [https://doi.org/10.1016/S0378-7206\(01\)00143-4](https://doi.org/10.1016/S0378-7206(01)00143-4).
8. Ajzen, I. (1991), The theory of planned behavior, *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
9. Choe, J. Y., Kim, J. J., & Hwang, J. (2021), Innovative marketing strategies for the successful

- construction of drone food delivery services: Merging TAM with TPB, *Journal of Travel & Tourism Marketing*, 38(1), 16–30.
10. Teo, T. (2012), Examining the intention to use technology among pre-service teachers: An integration of the technology acceptance model and theory of planned behavior, *Interactive Learning Environments*, 20(1), 3–18.
  11. Davis, F. D. (1985), *A technology acceptance model for empirically testing new end-user information systems: Theory and results*, Massachusetts Institute of Technology.
  12. Nguyen Trong, H., Dang, T. V., Nguyen, V., & Nguyen, T. T. (2022), Determinants of e-government service adoption: an empirical study for business registration in Southeast Vietnam, *Journal of Asian Public Policy*, 15(3), 453–468. <https://doi.org/10.1080/17516234.2020.1805396>.
  13. The National Assembly (2014), *Law on Social insurance*, Retrieved 05/09/2022 from <https://vss.gov.vn/english/legal/Pages/default.aspx?ItemID=3544>.
  14. Viet Nam Social Security (2017), General introduction. In *Viet Nam Social Security*. <https://baohiemxahoi.gov.vn/gioithieu/pages/gioi-thieu-chung.aspx?CateID=0&ItemID=8413>.
  15. Raza, S. A., Ahmed, R., Ali, M., & Qureshi, M. A. (2019), Influential factors of Islamic insurance adoption: an extension of theory of planned behavior, *Journal of Islamic Marketing*, 11(6), 1497–1515. <https://doi.org/10.1108/JIMA-03-2019-0047>.
  16. Buabeng-Andoh, C. (2018), Predicting students' intention to adopt mobile learning, *Journal of Research in Innovative Teaching & Learning*, 11(2), 178–191. <https://doi.org/10.1108/jrit-03-2017-0004>.
  17. Mailizar, M., Burg, D., & Maulina, S. (2021), Examining university students' behavioural intention to use e-learning during the COVID-19 pandemic: An extended TAM model, *Education and Information Technologies*, 26(6), 7057–7077. <https://doi.org/10.1007/s10639-021-10557-5>.
  18. Asnakew, Z. S. (2020), Customers' continuance intention to use mobile banking: Development and testing of an integrated model, *The Review of Socionetwork Strategies*, 14(1), 123–146. <https://doi.org/10.1007/s12626-020-00060-7>.
  19. Zheng, J., & Li, S. (2020), What drives students' intention to use tablet computers: An extended technology acceptance model, *International Journal of Educational Research*, 102(November 2019), 101612. <https://doi.org/10.1016/j.ijer.2020.101612>.
  20. To, A. T., & Trinh, T. H. M. (2021), Understanding behavioral intention to use mobile wallets in Vietnam: Extending the tam model with trust and enjoyment, *Cogent Business and Management*, 8(1), <https://doi.org/10.1080/23311975.2021.1891661>.
  21. Wei, F., Feng, N., Xue, J., Zhao, R., & Yang, S. (2021), Exploring SMEs' behavioral intentions

- of participating in platform-based innovation ecosystems, *Industrial Management and Data Systems*, 121(11), 2254–2275. <https://doi.org/10.1108/IMDS-08-2020-0456>.
22. Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003), Common method biases in behavioral research: A critical review of the literature and recommended remedies, *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>.
23. Hair, J. F., Black, W. C., Babin, B. J., Anderson, R., & Tatham, R. L. (2014), *Multivariate Data Analysis* (7th ed.), Pearson.
24. Hair, J. F., Jr, H., G. T. M., R., & Sarstedt, M. (2016), *A primer on partial least squares structural equation modeling (PLS-SEM)* (Sage Publi), Sage Publications.
25. Fornell, C., & Larcker, D. F. (1981), Evaluating structural equation models with unobservable variables and measurement error, *Journal of Marketing Research*, 1(18), 39–50. <https://doi.org/10.1177/002224378101800104>.
26. Henseler, J., Ringle, C. M., & Sarstedt, M. (2015), A new criterion for assessing discriminant validity in variance-based structural equation modeling, *Journal of the Academy of Marketing Science*, 43(1), 115–135.
27. Hu, L., & Bentler, P. M. (1999), Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives, *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>.
28. Kazaure, M. A. (2019), Extending the theory of planned behavior to explain the role of awareness in accepting Islamic health insurance (takaful) by microenterprises in northwestern Nigeria, *J. Islam. Account. Bus. Res.*, 10(4), 607–620. <https://doi.org/10.1108/JIABR-08-2017-0113>.