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Behavioral reasoning theory perspectives on voluntary social insurance: The roles of collectivism and long-term orientation

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Abstract

Voluntary social insurance is part of Vietnam's social security system, aimed at stabilizing the lives of laborers, ensuring their safety and lifelong quality of life. To motivate workers to engage in voluntary social insurance, it is necessary to have a thorough comprehension of the fundamental factors that influence their behavioral intentions. Accordingly, this current study expands the framework of behavioral reasoning theory to assess consumers' intentions to purchase social insurance. The authors suggest an expanded behavioral reasoning model that includes the cultural values of consumers, specifically collectivism and long-term orientation. The proposed model underwent testing through the utilization of structural equation modeling with a sample size of 518 individuals who expressed interest in voluntary social insurance in Vietnam. The findings of this study indicate that behavioral reasoning theory is suitable for explaining intentions to purchase voluntary social insurance, where behavioral intentions are influenced by "reasons for," "reasons against," and consumers' attitudes. Furthermore, the cultural values of consumers have an important effect on shaping their perceptions and attitudes towards voluntary social insurance. Therefore, this study has significant ramifications for individuals responsible for making decisions and creating policies who are interested in obtaining a more profound comprehension of consumer intentions about voluntary social insurance.

KEYWORDS
behavioral reasoning theory, collectivism, long-term orientation, voluntary social insurance

1 | INTRODUCTION

Voluntary social insurance in Vietnam is a type of social insurance that is administered by the government of Vietnam, allowing individuals working in informal sectors with unstable jobs and income to choose appropriate contribution levels and methods to ensure their future, especially in retirement plans (Mai, Nguyen et al., 2021; Mai, Pham, et al., 2021). Social insurance in general and voluntary social insurance in particular are part of Vietnam's social security system, aimed at stabilizing the lives of laborers during work or in times of risk, ensuring the safety and quality of life of participants, and contributing to social justice (Vietnam Social Insurance, 2019).

In Vietnam, voluntary social insurance was officially implemented in 2008. It primarily targets individuals such as freelance workers, self-employed individuals, farmers, self-employed laborers, and small-scale business owners, who are not obligated to participate in mandatory social insurance. Despite being a humane policy, the participation rate among the population remains relatively low. Among the 70% of non-formal sector workers (23 million people) who have the need and financial capability to participate in voluntary social insurance, the participation rate is approximately 6.52% (1.5 million people) (Vietnam Social Insurance, 2023). According to the International Social Security Association (ISSA, 2018), some successful countries in expanding social insurance coverage through the development of voluntary social insurance programs include Indonesia, Malaysia, Mongolia, Australia, China, and Japan. Tang et al. (2021) also identified Germany and the Netherlands as two countries with high participation rates in voluntary social insurance, reaching approximately 70% of the labor force.

From a theoretical perspective, studies worldwide have explored various factors influencing consumer behavior towards purchasing insurance products and services. Current studies have relied on the theory of planned behavior to explain consumer behavior towards social insurance. The results show that the theory of planned behavior is suitable to explain behavior in the social insurance context (Hassan & Abbas, 2020; Kazaure, 2019; Raza et al., 2019). Furthermore, previous studies have extended the theory of planned behavior by adding additional factors such as insurance literacy and perceived usefulness (Kiwanuka & Sibindi, 2023; Mamun et al., 2021), customer trust, and benefits (Luo et al., 2021). Therefore, current studies focus on identifying factors driving consumers' intentions to purchase insurance, with very few considering both positive and negative perceptual aspects influencing insurance purchase intentions, especially in the context of voluntary social insurance. An all-encompassing model that encompasses both components could provide a more thorough explanation of consumers' perceptions and intends to acquire voluntary social insurance. Additionally, current studies in the insurance context have examined the roles of consumer demographics through demographic variables such as age and gender (e.g., Dragos et al., 2020; Mai, Nguyen et al., 2021; Mai, Pham, et al., 2021), but overlook the role of individual cultural values in influencing their emotions and behaviors. Cultural values are seen as more stable consumer values for explaining consumer behavior (Hirschberg, 1978). To fill this gap, we developed a framework including individual cultural values, perceptions, and purchase intentions to comprehensively investigate how different values and emotions influence consumers' intentions to purchase voluntary social insurance.

To achieve the research objective, we rely on behavioral reasoning theory to identify both “reasons for” and “reasons against” perceived by consumers, to comprehensively explain the reasons for and against purchasing voluntary social insurance. In addition, specific cultural characteristics like as collectivism and long-term orientation are taken into account, as these values have been confirmed to influence consumers' perceptions and behaviors in the context of environmentally friendly products/services but have not been examined in the context of voluntary social insurance. Thus, we extend the traditional behavioral reasoning theory by adding collectivism and long-term orientation as distinct components of individual values, to test their relationships with “reasons for” and “reasons against,” attitudes, and purchase intentions of consumers towards voluntary social insurance.

We organize the subsequent sections as follows: Sections 2 and 3 provide the theoretical foundation, including key concepts, research hypotheses, and the research model. Section 4 details the research methodology. Section 5 presents the research findings, along with discussions on the practical implications, scientific contributions, and limitations of the study.

2 | THEORETICAL FOUNDATION

2.1 | Voluntary social insurance

Voluntary social insurance is an exemplary, altruistic insurance policy of the Vietnamese government, operating not-for-profit motives. It is a form of social insurance in which individuals voluntarily participate, choosing contribution levels and methods suitable to their income to receive social insurance benefits. The state has policies to support voluntary social insurance contributions so that participants can avail themselves of sickness, retirement, and death benefits (Section 3, Article 3, Social Insurance Law, 2014). Individuals in Vietnam who are 15 years old or older and are not required to enroll in compulsory social insurance have the option to participate in voluntary social insurance. The monthly payment rate is set at 22% of the monthly income of the participant. Many countries worldwide have adopted voluntary social insurance such as Poland, Finland, the United States, China, Thailand, among others. In each country, the concepts and regimes of contribution and benefits differ. However, all are based on voluntary contributions of laborers and are state social insurance policies aimed at achieving the common social security goals of each country (ISSA, 2018).

Purchase intention for products/services is a state in which customers intend to purchase or not purchase a product/service within a certain period. Before the purchase behavior occurs, the purchase intention has already been formed in the customer's mind (Ajzen, 2002). Human buying intentions are influenced by three factors: belief in behavior, belief in norms, and belief in control. There is a direct correlation between the strength of a belief and the level of intention to engage in a particular behavior (Ajzen, 2002). Purchase intention, as defined by Tirtiroglu and Elbeck (2008), refers to the willingness of customers to buy things. Business sales can be surveyed based on customers' purchase intentions. According to Ajzen (2002) and Tirtiroglu and Elbeck (2008), the concept of “intention to join in voluntary social insurance” can be defined as the willingness and preparedness to engage in voluntary social insurance. Thus, consumer participation in voluntary social insurance is greatly influenced by their intention to participate.

2.2 | Behavioral reasoning theory

Behavioral reasoning theory (BRT) is an innovative approach to comprehending behavior that takes into account both the motivations for and against its application within a unified framework. Westaby (2005) introduced the concept of BRT, examining both the elements that support

it and those that oppose it within a single framework. The notion has been employed by researchers to comprehend the reception and opposition towards the adoption of novel products (Claudy et al., 2015).

According to this theory, reasons within specific contexts play a crucial role in the linkage between beliefs, motivations, intentions, and human behavior (Westaby, 2005). Westaby (2005) categorized reasons into two distinct groups: "reasons for" and "reasons against." "Reasons for" and "reasons against" behavior differ conceptually and have been identified as facilitators/barriers, benefits/costs, and promotion/constraint (Westaby, 2005). BRT has been applied to research in various contexts. In the context of E-waste recycling, Dhir et al. (2021) affirmed the presence of "reasons for" including environmental and personal benefits, alongside identifying "reasons against" such as risk barriers, value barriers, usage barriers, and image barriers. Sivathanu (2018) applied BRT to address the healthcare needs of older persons through the use of Internet of Things (IoT)-based wearables, the "reasons for" encompassed compatibility, ubiquity, relative advantage, and convenience, whereas the "reasons against" comprised usage barriers, traditional barriers, and risk barriers. Jan et al. (2023) further expanded BRT in the context of AI-based dialogue systems for shopping. The results confirmed that "reasons against" included usage barrier, risk barrier, and perceived intrusiveness while "reasons for" included ease of use, usefulness, trendiness, and perceived informativeness. Thus, BRT has been applied to explain purchasing behavior in various contexts, but "reasons for" and "reasons against" differ across different contexts. Based on these, we apply BRT to explain consumer behavior in the new context of voluntary social insurance to explore "reasons for" and "reasons against" regarding consumers' intentions to participate in voluntary social insurance.

3 | FRAMEWORK AND HYPOTHESES

3.1 | Attitude and intentions

Attitude, as per the theory of planned behavior, is the primary determinant of individual behavioral intentions and plays a crucial role in explaining customers' decisions to engage in a service or make a purchase (Chaniotakis et al., 2010). Attitude is defined as the positive or negative orientations of consumers towards a product, service, or brand (Assael et al., 2007). It has been indicated that attitude leads to behavior, representing individuals' evaluation that the behavior is worthy of the money spent, and studies have consistently shown a relationship between attitude and behavior. The study conducted by Bhatti and Husin (2019) in the United Arab Emirates about family insurance demonstrates that attitude plays a major role in influencing the decision to participate in family insurance among the public. This research finding is also supported by numerous studies in different contexts (Kazaure, 2019; Raza et al., 2019). Similarly, in the context of voluntary social insurance, attitude is understood as the evaluation of benefits, usefulness, and risks in performing the behavior, which influences consumers to support or oppose the purchase of voluntary social insurance. Consumers who hold a favorable view towards social insurance are more likely to have a higher intention to join in voluntary social insurance, whereas those with a negative attitude are less likely to do so. Therefore, the hypothesis is proposed as follows.

H1. Attitude positively influences the intention to purchase voluntary social insurance.

3.2 | "Reasons for" and "reasons against"

3.2.1 | "Reasons for," attitude, and intentions

"Reasons for" primarily plays a role as motivators or supports for positive perceptions and justifications for actions taken by individuals (Westaby, 2005). People rely on reasons to explain their behavior, and it is connected to psychological concepts such as perceived fit and perceived usefulness (Westaby, 2005). "Reasons for" is a key aspect of individuals' decision-making, as described in BRT. It acts as the driving force behind individuals' engagement in a particular behavior. "Reasons for" are not limited to monetary benefits but encompass various favorable factors in the consumer's purchasing process (Dhir et al., 2021; Westaby, 2005). Previous studies have examined various components to identify and measure "reasons for." In the context of wearable IoT devices, Sivathanu (2018) confirmed that ubiquity, compatibility, relative advantage, and convenience are components of "reasons for." Meanwhile, in the context of e-waste recycling, Dhir et al. (2021) confirmed that personal benefits and environmental benefits are two components of "reasons for." The research results of Jan et al. (2023) using AI-supported conversational agents for shopping showed that "reasons for" include perceived convenience, perceived interactivity, and perceived ubiquity. Thus, "reasons for" may vary depending on different research domains. In the context of voluntary social insurance, current studies have examined "reasons for" in each individual study, with two prominent aspects including personal benefits and compatibility.

Personal benefits refer to how consumers perceive and evaluate the benefits they believe they will receive from a product or service (Zeithaml, 1988). Personal benefits refer to both economic and non-economic benefits that consumers perceive if they participate in voluntary

social insurance. Economic benefits are considered the primary and most common factor and are seen as the main motivation influencing consumers' purchasing intentions. Economic benefits may establish a positive relationship between the insurance company and the insurance buyer. Economic benefits of purchasing social insurance are financial protection in case of job loss, retirement benefits, medical benefits, and accident insurance. Additionally, previous studies have also viewed non-economic benefits as part of personal benefits (Dhir et al., 2021). Benefits of purchasing social insurance are social security and reducing the burden on the family. Those who have purchased insurance have cited reasons for participating in insurance because they perceive many benefits such as loss payment, managing cash flow uncertainty, risk control, and personal credit support.

Compatibility refers to the suitability of the insurance service with the consumer's lifestyle, personal needs, and cultural values. If social insurance buyers feel that the terms and conditions of social insurance are compatible with their individual situation, insurance needs, and future plans, they will have a positive attitude and willingness to purchase social insurance.

Previous literature shows that "reasons for" is an important measure influencing the attitude and purchase intentions of consumers in various contexts (Claudy et al., 2015; Dhir et al., 2021; Tandon et al., 2020). In the context of organic food consumption, "reasons for" is an important factor positively influencing attitude and purchase intentions (Tandon et al., 2020). "Reasons for" is also an important reason influencing attitudes and intentions for waste recycling (Dhir et al., 2021). Therefore, "reasons for" towards participating in voluntary social insurance may be related to positive attitudes and intentions towards participating in voluntary social insurance.

H2. "Reasons for" have a positive relationship with attitude towards voluntary social insurance.

H3. "Reasons for" have a positive relationship with intentions towards voluntary social insurance.

3.2.2 | "Reasons against," attitude, and intentions

In contrast to "reasons for," "reasons against" is one of the two fundamental factors in BRT, which negatively impacts consumer behavior. These two types of reasons not only oppose each other but are also different in quality and have different effects (Claudy et al., 2015). "Reasons against" are impediments that can lead people to perceive something negatively and refrain from engaging in a particular behavior (Sahu et al., 2020). Prior research has investigated several elements in order to assess the factors that oppose a particular idea or argument. Several researchers have utilized the innovation resistance theory to establish the various components that contribute to "reasons against" measurements. These components include risk barrier, value barrier, usage barrier, image barrier, and tradition barrier (Dhir et al., 2021; Kushwah et al., 2019). Within the domain of AI-driven conversational bots, the "reasons against" consist of the perceived obstacles related to utilization, functional risk, and intrusiveness (Jan et al., 2023). Meanwhile, Ahmad and Harun (2023) identified "reasons against" in the context of e-bike sharing services with three components: weather conditions, safety concerns, and image barriers. Thus, the components of "reasons against" may vary depending on different research domains. In the context of voluntary social insurance, current studies have examined "reasons against" in each individual study, with two prominent aspects being financial risks and performance risks.

Consumer decision-making regarding purchasing behavior is evidently influenced by risk perception (Quan et al., 2022; Yi et al., 2020). Mitchell and Vassos (1998) defines financial risk as the risk where a product/service is priced inappropriately compared to the costs incurred by the consumer to acquire it. Financial risk is perceived as a certain amount of money that could be lost or wasted for the normal functioning of the product/service (Quan et al., 2022). Financial risk perception is identified as the trust, attitude, evaluation, and emotions of investors regarding the risk characteristics of an investment product (Nguyen et al., 2019). Financial risk has been confirmed as the most significant risk factor, impacting consumer behavior (Olya & Al-Ansi, 2018; Quan et al., 2022; Yi et al., 2020). In the context of voluntary social insurance, financial risk is described as risks or cost losses that may occur during the process of paying voluntary social insurance premiums. Risks may arise concerning the ability to pay premiums due to unstable incomes, changes in insurance regulations, and increasing payment fees over the long term.

Another concern of voluntary social insurance is performance risk. Roselius (1971) suggests that buyers hesitate in making proactive decisions when planning to purchase products or services because they are unsure if all their purchasing objectives will be achieved upon purchase. Performance risk reflects consumers' perception of potential failures leading to lower-than-expected performance, resulting in losses in functional/economic (time, money) or psychological/social aspects Horton, 1976. For insurance, uncertainty may persist, sometimes extending throughout the lifespan of the insurance buyer–seller relationship. Therefore, the repercussions that ensue from an incorrect selection can have a significant impact on the lives of consumers. Consumer confidence is weakened by the perception of excessive complexity and uncertainty regarding insurance results, which in turn increases the perception of performance risks (Buehler & Maas, 2018). In the context of voluntary social insurance, performance risk is described as consumers' uncertainties and risks regarding the outcomes they receive when participating in voluntary social insurance. Risks may arise concerning the benefits obtained and policy changes, reducing the effectiveness of insurance.

Previous literature shows that "reasons against" is an important measure influencing the attitude and purchase intentions of consumers in various contexts (Claudy et al., 2015; Dhir et al., 2021; Tandon et al., 2020). In the context of organic food consumption, "reasons against" is

an important factor negatively influencing attitude and purchase intentions (Tandon et al., 2020). "Reasons against" is also an important reason influencing attitudes and intentions for waste recycling (Dhir et al., 2021). Therefore, "reasons against" towards participating in voluntary social insurance may be related to negative attitudes and intentions towards participating in voluntary social insurance.

H4. "Reasons against" have a negative relationship with attitude towards voluntary social insurance.

H5. "Reasons against" have a negative relationship with intentions towards voluntary social insurance.

3.3 | Cultural values

In the BRT theory, values and beliefs are capable of strongly influencing "reasons for," "reasons against," and attitudes towards certain behaviors (Huang & Qian, 2021; Westaby, 2005). Values are independent of specific contexts, impacting the reasoning process AND making it possible for the reasoning process to change to achieve self-serving goals (Claudy & Peterson, 2014). Various types of values have been studied in many different contexts: for example, face consciousness (Huang & Qian, 2021), environmental concerns (Dhir et al., 2021), and openness to change (Ahmad & Harun, 2023; Ashfaq et al., 2021; Gupta & Arora, 2017). However, concerning the insurance field, current literature pays little attention to investigating how values influence consumers' perceptions, attitudes, and behaviors. It is crucial to examine how particular cultural norms in various countries affect how customers see things (Penmetsa et al., 2019). Two cultural aspects of consumers considered in this study are collectivism and long-term orientation. Selecting these aspects to explain cultural values is because they have been confirmed as important factors in many studies on consumers' sustainable consumption behavior (Nguyen et al., 2017; Sreen et al., 2018). Furthermore, the two aspects of collectivism and long-term orientation seem interesting to study in the insurance context because social insurance requires a long-term view of the insurance participation process.

3.3.1 | Collectivism

The concept of collectivism was distinguished by Hofstede (1984) at both societal and individual levels. This study specifically investigates the influence of the person level on consumer behavior. Collectivism refers to the degree to which people in a society are integrated into organizations, as defined by Hofstede (2011). Individuals in collectivist cultures demonstrate a willingness to distribute limited resources among members of their society (Sinha & Verma, 1987) and cultivate a favorable mindset towards actions that enhance the well-being of society (McCarty & Shrum, 1994). Consumers in collectivist cultures prioritize interpersonal relationships and cultivate a profound feeling of duty towards their social circles, which encompass friends, coworkers, and family (Cho et al., 2013; Hofstede, 2001). Previous studies have suggested that individuals with high collectivism tend to care about the environment, have positive attitudes towards the environment, and engage in environmentally friendly actions (Ghali-Zinoubi, 2022; Nguyen et al., 2017; Sreen et al., 2018). According to Sun et al. (2020), a collectivist culture has a beneficial impact on how people perceive the usefulness and simplicity of the use of hotel technology. To the best of our understanding, no previous study has investigated the correlation between collectivism, "reasons for," "reasons against," and attitudes of consumers towards voluntary social insurance. We perceive collectivism as a consumer value (Huang & Qian, 2021; Zhang et al., 2020). Therefore, consistent with BRT, collectivism may influence "reasons for," "reasons against," and attitudes of consumers. Furthermore, "reasons for" of social insurance include non-economic benefits such as social security and reducing the burden on families. This aligns with individuals with high collectivism. Similarly, when an individual has high collectivism, they tend to evaluate "reasons against" as lower because they perceive the benefits gained from purchasing voluntary social insurance and thus form a positive attitude. Therefore, the hypotheses might be stated as follows.

H6. Collectivism has a positive relationship with "reasons for" towards voluntary social insurance.

H7. Collectivism has a negative relationship with "reasons against" towards voluntary social insurance.

H8. Collectivism has a positive relationship with attitudes towards voluntary social insurance.

3.3.2 | Long-term orientation

Hofstede (1984) defined long-term orientation as referring to prospects in the future, where an individual perceives that society will be able to overcome its issues over time. Furthermore, Bearden et al. (2006) suggest that long-term orientation is a cultural norm that entails a thorough

analysis of actions over an extended period, considering both the past and the future, rather than focusing primarily on their immediate consequences. Those with long-term orientation tend to preserve societal traditions, adhere to family values, and consider trustworthiness, capability, and empathy as crucial (Furrer et al., 2000). Furthermore, such consumers are often diligent, perseverant, and creative, thus having the ability to overcome barriers, making more effort, and overcoming uncertainties related to products (Nguyen et al., 2017). Previous studies have suggested that individuals with long-term orientation tend to care about the environment, have positive attitudes towards the environment, and engage in environmentally friendly actions (Ghali-Zinoubi & Toukabri, 2019; Sreen et al., 2018). Long-term orientation also positively influences perceptions of usefulness and ease of use of hotel technology (Sun et al., 2020). Park and Lemaire (2011) found that a long-term perspective had a positive impact on the amount of life insurance purchased in the context of life insurance.

Thus far, no prior research has investigated the correlation between long-term orientation, "reasons for," "reasons against," and purchase attitudes of consumers towards voluntary social insurance. Previous research results indicate that long-term orientation is both a national cultural value and an individual level. It is perceived as a consumer value (Lee et al., 2021; Nguyen et al., 2017). Therefore, consistent with BRT, long-term orientation may influence "reasons for," "reasons against," and purchase attitudes of consumers. Furthermore, individuals with long-term orientation tend to emphasize future rewards from their decisions, thus they tend to see higher benefits in the future when purchasing social insurance. Similarly, when an individual has long-term orientation, they tend to evaluate "reasons against" as lower because they perceive reduced financial risks and performance risks, thus forming a positive purchase attitude towards social insurance. Thus, the hypotheses are as follows.

H9. Long-term orientation has a positive relationship with "reasons for" towards voluntary social insurance.

H10. Long-term orientation has a negative relationship with "reasons against" towards voluntary social insurance.

H11. Long-term orientation has a positive relationship with purchase attitudes towards voluntary social insurance.

3.4 | Research model

Based on the BRT theory and the findings of previous studies, the proposed research model (Figure 1) consists of 11 hypotheses and 5 concepts, where "reasons for" and "reasons against" are second-order constructs.

4 | METHOD

4.1 | Measures and questionnaire

There are six constructs measured in this study, including 2 second-order reflective constructs "reasons for" and "reasons against." Due to the scarcity of studies on voluntary social insurance, the measurement scales in this study are adapted from scales used in similar contexts such as life insurance and health insurance. In order to ensure the suitability of the measurement scales in this research setting, we employed a multi-method approach, which included conducting a literature review, open-ended essays, seeking expert feedback, and administering cross-sectional surveys (Hair et al., 2010).

First, the constructs in the model and the measurement scales were synthesized through a literature review process, and the most suitable measurement scales for the research context were compiled in preparation for this study. Next, open-ended essays were conducted to gather opinions on "reasons for" and "reasons against." We conducted a survey with 16 individuals interested in voluntary social insurance, including 8 who have not purchased it and 8 who have purchased voluntary social insurance services. The questions focused on "reasons for" and "reasons against," such as what benefits does voluntary social insurance provide compared to other types of insurance? What are the reasons for purchasing/not purchasing voluntary social insurance? What benefits are obtained from purchasing voluntary social insurance? Are you concerned about financial risks and performance risks when purchasing voluntary social insurance, and why? The results showed that, consistent with the literature review process, the constructs used to measure "reasons for" include perceived benefits and compatibility, while the constructs used to measure "reasons against" include financial risk and performance risk.

Furthermore, expert interviews were conducted to refine the questionnaire. The experts included 2 finance and insurance professors, 2 employees working in social insurance agencies, and 3 customers interested in voluntary social insurance. They independently adjusted the questionnaire. Based on the expert opinions, we developed measurement scales for concepts including: Collectivism scale (5 variables) adapted from Sharma (2010), Long-term Orientation scale (5 variables) adapted from Yoo et al. (2011), Perceived Benefits scale (5 variables) adapted from Bosmans and Baumgartner (2005), Compatibility scale (3 variables) adapted from Moore and Benbasat (1991), Financial Risk

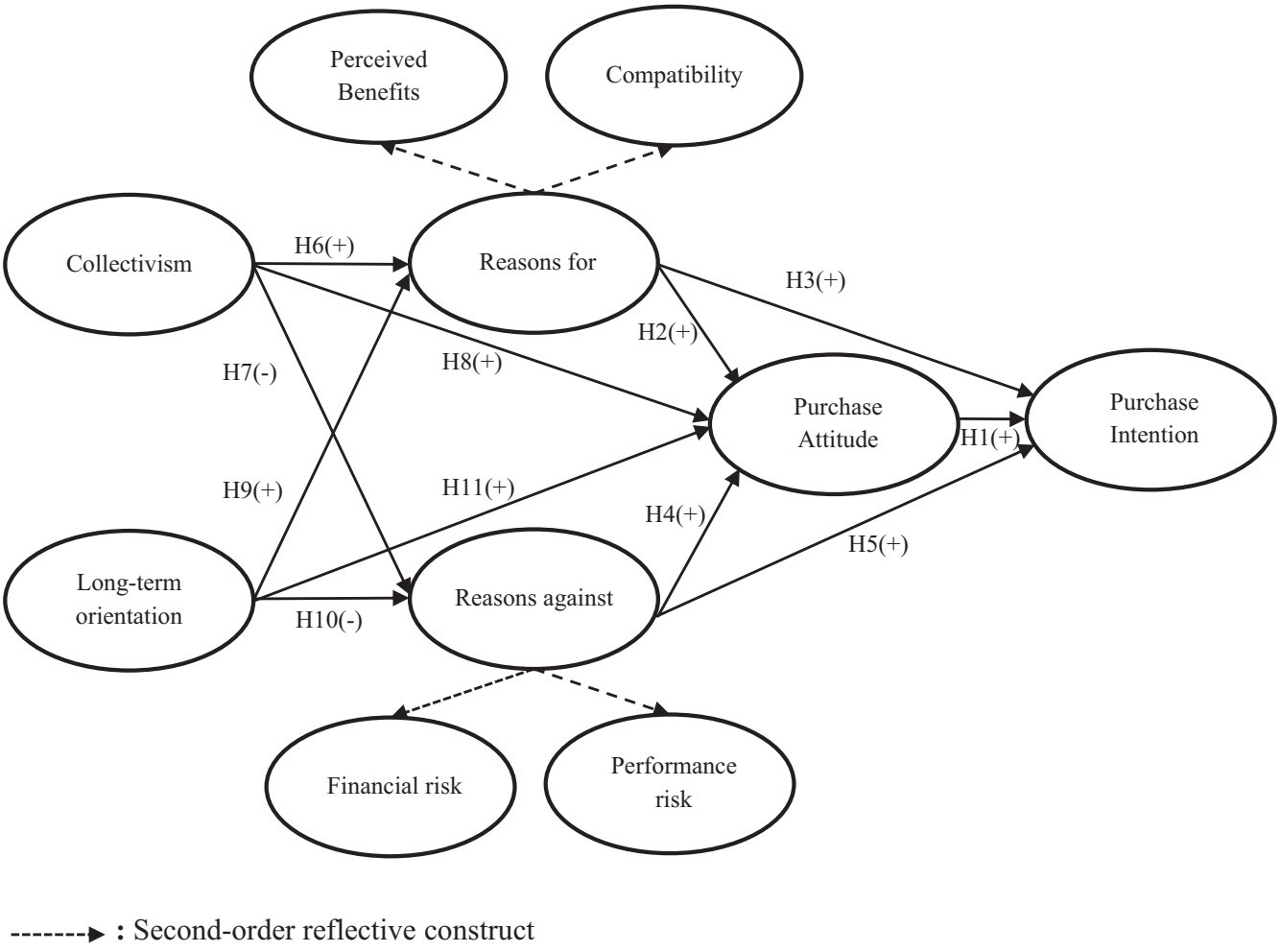

FIGURE 1 Proposed research model.

scale (4 variables) adapted from Yi et al. (2020), Performance Risk scale (4 variables) adapted from Nepomuceno et al. (2014), Purchase Attitude scale (4 variables) adapted from Nosi et al. (2014), and Purchase Intention scale (4 variables) adapted from Jahan and Sabbir (2018). The list of experts who adjusted the items and the results of the scale adjustments are presented in Appendices 1–3.

4.2 | Data collection

A dataset was collected in a cross-sectional manner to test the hypotheses and make generalizations about the study problem (Dooley, 2001). The scope of this study encompasses individuals who are interested in voluntary social insurance and have never engaged in it before, as well as individuals who have previously participated in mandatory social insurance but have discontinued and now have a need to resume their participation in voluntary social insurance. The cross-sectional data were collected both online through the Google Forms link and directly through voluntary social insurance advisory staff in December and January 2023 to ensure the necessary sample structure. After removing inappropriate responses due to incomplete responses or the presence of errors (Hair et al., 2010), the sample size consisted of 518 valid responses used in this study. Among the respondents, males accounted for 57.7% and females accounted for 42.3%. The status of participating in mandatory social insurance is as follows: 56% have never participated in mandatory social insurance, while 44% have previously participated in mandatory social insurance. The age ranged from 26–35 years old accounted for 43.1% and from 36 to 45 years old accounted for 41.3%. In terms of education level, undergraduate and below accounted for over 97.7%. Income below 20 million VND accounted for over 76.4% (See Table 1).

Given the intricate nature of the study model, which encompasses both primary and secondary components, we utilized the partial least squares structural equation modeling (PLS-SEM) technique to conduct path analysis, as introduced by Wold in 1980. The analysis approach consisted of two main stages: examining the measurement model and examining the structural model (Hair et al., 2017).

TABLE 1 Demographic profile of respondents ($n = 518$).

Variables	Frequency	%
Age		
18–25	33	6.4
26–35	223	43.1
36–45	214	41.3
≥46	48	9.3
Gender		
Male	299	57.7
Female	219	42.3
Participation status in mandatory social insurance		
Never participated	289	56%
Previously participated	229	44%
Education		
High school and below	242	46.7
Intermediate, college	173	33.4
University	91	17.6
Postgraduate	12	2.3
Income (million VND)[a]		
<10	241	46.5
10–15	155	29.9
15–20	91	17.6
>20	31	6.0

[a]1 USD = 23,919 VND (January 2024)

5 | RESULTS

5.1 | Measurement model evaluation

The suggested study framework contains both first-order and second-order structures. Thus, we utilize the approach of incorporating higher-order latent variables in two stages, a technique frequently employed for higher-order component models (Becker et al., 2012). The first-order measurement models are assessed by estimating the PLS path model in stage 1 using the repeated indicator approach. The PLS path model is built in stage 2 by utilizing the observed variables of the latent variable scores in the measurement model.

Firstly, the results obtained in stage 1 are used to assess the measurement model for first-order structures. The results from Table 2 indicate that the Cronbach's alpha coefficients range from 0.779 to 0.924, all of which are higher than 0.7. The composite reliability values range from 0.855 to 0.946, all of which are higher than 0.7. The rhoA coefficient varies between 0.786 and 0.949, with all values being larger than 0.7. The analysis demonstrates that the first-order constructs utilized have a strong internal consistency, as evidenced by the research conducted by Dijkstra and Henseler (2015).

To evaluate the convergent validity of the observed variables, we calculate the outer loadings and average variance extracted (AVE) (Fornell & Larcker, 1981). The findings displayed in Table 2 demonstrate that the outer loadings of the studied variables surpass 0.7, except for three variables (COL1, PB5, PB6). Additionally, the AVE values for all structures surpass the recommended threshold of 0.5. Therefore, the confirmation of convergent validity is established according to Fornell and Larcker (1981).

The cross-loadings of variables within each construct demonstrate significantly higher values compared to those observed in other constructs. The square root of AVE for each construct surpasses all other correlation coefficients listed in Table 3. Furthermore, the heterotrait–monotrait ratio of correlations (HTMT) values in Table 4 are below 0.9, as recommended by Henseler et al. (2016). The results of the bootstrap testing, conducted over 5000 iterations, indicate that the confidence range for HTMT values, ranging from 2.5% to 97.5%, does not include the value of 1. Thus, the confirmation of discriminant validity between the constructs is established (Dijkstra & Henseler, 2015).

The next step is to analyze the second-order measurement model using stage 2. There are two second-order constructs including “reasons for” and “reasons against.” The “reasons for” construct consists of two components: perceived benefits and compatibility, while the “reasons against” construct comprises two components: financial risk and performance risk. The data presented in Table 5 indicate that the coefficient

TABLE 2 Item loadings, internal consistency, and validity.

Research construct	Items	Outer loadings	α	C.R	rhoA	AVE
Collectivism (updated from Sharma, 2010)	COL1. The welfare of my group members is a priority for me	0.599	.924[a]	0.946[a]	0.949[a]	0.813[a]
	COL2. I consistently and conscientiously labor towards the objectives of the collective.	0.88				
	COL3. I actively engage in collaborative endeavors.	0.928				
	COL4. It is important for group members to remain united, especially in the face of disagreement.	0.87				
	COL5. I derive pleasure from both sharing intriguing findings and investing time with my group.	0.926				
Long-term orientation (updated from Yoo et al., 2011)	LTO1. I tend to manage finances carefully to prepare for the future.	0.815	.85	0.892	0.86	0.623
	LTO2. I do not easily give up even in the face of potential failure.	0.83				
	LTO3. I always strive to work hard so I can succeed in the future.	0.731				
	LTO4. I prefer long-term planning over short-term planning.	0.798				
	LTO5. I am willing to forego present pleasures to achieve success in the future.	0.768				
Perceived benefits (updated from Bosmans & Baumgartner, 2005)	PB1. Participating in social insurance gives me peace of mind.	0.791	.81[a]	0.876[a]	0.813[a]	0.638[a]
	PB2. I am not concerned about depending on my children in old age.	0.83				
	PB3. I will receive stable income in old age.	0.808				
	PB4. Social insurance helps me plan my personal finances.	0.764				
	PB5. I feel more responsible to my family and society.	0.489				
	PB6. Social insurance reduces potential losses in uncertain life situations.	0.356				
Compatibility (updated from Moore & Benbasat, 1991)	COMP1. Participating in social insurance aligns with my lifestyle.	0.834	.784	0.874	0.787	0.698
	COMP2. Participating in voluntary social insurance meets my needs.	0.842				
	COMP3. Participating in social insurance aligns with how I prepare for the future.	0.831				
Financial risk (updated from Yi et al., 2020)	FR1. I am concerned about unstable employment to afford voluntary social insurance.	0.804	.863	0.907	0.866	0.71
	FR2. I am concerned about unstable income while participating in voluntary social insurance.	0.898				
	FR3. I believe I will receive lower service quality for the amount I pay for voluntary social insurance.	0.866				
	FR4. I am concerned that the premiums for voluntary social insurance will be higher than other insurance types with less benefits.	0.799				
Performance risk (updated from Nepomuceno et al., 2014)	PR1. I worry that voluntary social insurance will not provide the benefits I expect.	0.802	.779	0.855	0.786	0.596
	PR2. I think participating in voluntary social insurance is very risky in terms of money, time, and effort.	0.788				
	PR3. I feel uncertain about the benefits I may receive when participating in voluntary social insurance.	0.739				
	PR4. I worry about the possibility of social insurance fund insolvency.	0.758				
Purchase attitude (updated from Nosi et al., 2014).	PA1. I think purchasing voluntary social insurance is beneficial.	0.845	.852	0.9	0.855	0.692
	PA2. I think purchasing voluntary social insurance is a wise idea.	0.836				
	PA3. I think purchasing voluntary social insurance is easy.	0.863				
	PA4. I think purchasing voluntary social insurance is necessary.	0.783				
Purchase intention (updated from Jahan & Sabbir, 2018)	PI1. I intend to purchase voluntary social insurance soon.	0.744	.82	0.881	0.827	0.651
	PI2. I will try to purchase voluntary social insurance as soon as possible.	0.863				
	PI3. I think having a plan to purchase voluntary social insurance is mandatory for everyone.	0.829				
	PI4. I intend to recommend voluntary social insurance to family members and friends.	0.786				

[a]The observed variables COL1, PB5, PB6 have been deleted.

TABLE 3 Discriminant validity (Fornell and Larcker method).

Constructs	1	2	3	4	5	6	7	8
1. Collectivism	0.902							
2. Compatibility	0.327	0.836						
3. Financial risk	−0.076	−0.443	0.843					
4. Long-term orientation	0.059	0.36	−0.242	0.789				
5. Perceived Benefits	0.077	0.5	−0.539	0.386	0.799			
6. Performance risk	−0.067	−0.338	0.445	−0.318	−0.423	0.772		
7. Purchase Attitude	0.221	0.553	−0.527	0.42	0.56	−0.502	0.832	
8. Purchase Intention	0.278	0.573	−0.526	0.369	0.492	−0.311	0.716	0.807

TABLE 4 Discriminant validity (HTMT method).

Research constructs	1	2	3	4	5	6	7	8
1. Collectivism								
2. Compatibility	0.38							
3. Financial risk	0.088	0.531						
4. Long-term orientation	0.073	0.432	0.274					
5. Perceived Benefits	0.091	0.619	0.643	0.454				
6. Performance risk	0.078	0.399	0.494	0.391	0.498			
7. Purchase Attitude	0.25	0.675	0.611	0.487	0.669	0.589		
8. Purchase Intention	0.31	0.708	0.623	0.437	0.599	0.351	0.855	

TABLE 5 Second-order model evaluation.

Constructs	Outer loadings	α	C.R	rhoA	AVE
Reasons for		.808	0.848	0.841	0.750
Perceived Benefits	0.851				
Compatibility	0.880				
Reasons against		.832	0.872	0.848	0.721
Financial risk	0.875				
Performance risk	0.822				

of Cronbach's alpha (α), composite reliability (C.R), and rhoA coefficient all exceed 0.7, suggesting a strong level of internal consistency for the second-order structures. Furthermore, the AVE values are greater than 0.5 (Table 5), the square root of AVE for each construct is higher than all other correlation coefficients, and the HTMT values are below 0.9. Thus, both second-order constructs achieve convergence and discriminant validity.

5.2 | Structural model evaluation

To evaluate the existence of multicollinearity, the variance inflation factor (VIF) is utilized. The study model consists of four sub-models, each having one dependent variable (Hair et al., 2016). The results indicate that the VIF values of the constructs range from [1.003–1.813], all of which are less than 5, thus concluding no multicollinearity issue exists (Hair et al., 2016).

Afterwards, the coefficient of determination (R^2) is used to evaluate the prediction effectiveness of the independent variables. The data presented in Table 6 indicate that the concept "reasons against" has a low predictive ability, with an R^2 value of .110, whereas the predictive power of "reasons for" is moderate ($R^2 = .231$) and the predictive power of purchase attitude and purchase intention is strong ($R^2 = .517$ and .555) (Hair et al., 2016). In addition, the coefficient of predictive relevance (Q^2) is utilized to evaluate the ability to make predictions outside of the sample. The results indicate that the out-of-sample predictive capability of "reasons against" and "reasons for" is low, while the out-of-sample predictive capability of purchase attitude and purchase intention is high (Table 6).

The path coefficients and *p*-values were computed using the bootstrap method to assess the structural correlations. Attitude significantly influences the intention to use voluntary social insurance (H1: $\beta = .531$, $p < .01$). It indicates that people's attitudes towards voluntary social insurance positively affect their intention to purchase voluntary social insurance. The findings indicate that the "reasons for" had a positive impact on buy attitude (H2: $\beta = .353$, $p < .01$) and purchase intention (H3: $\beta = .261$, $p < .01$). The results confirm that "reasons for" regarding voluntary social insurance influence both attitude and intention to purchase voluntary social insurance. "Reasons against" negatively influence purchase attitude (H4: $\beta = -.339$, $p < .01$), but have no significant influence on purchase intention (H5: $\beta = -.028$, $p > .05$). The study results also show the role of collectivism, where collectivism significantly influences "reasons for" (H6: $\beta = .216$, $p < .01$) and purchase attitude (H8: $\beta = .100$, $p < .01$); however, collectivism does not significantly influence "reasons against" (H7: $\beta = -.065$, $p > .05$). Lastly, long-term orientation has a substantial positive effect on "reasons for" (H9: $\beta = .417$, $p < .01$), a significant negative effect on "reasons against" (H10: $\beta = -.321$, $p < .01$), and a significant positive effect on purchase attitude (H11: $\beta = .153$, $p < .01$). The findings are displayed in Table 6 and Figure 2.

TABLE 6 Results of hypothesis testing in the study.

Path relationships	Path coefficient	*t*-value	*p*-value	Conclusion
H_1: Purchase attitude → Purchase intention	0.531	10.277	.000	Accepted
H_2: Reasons for → Purchase attitude	0.351	7.501	.000	Accepted
H_3: Reasons for → Purchase intention	0.261	5.568	.000	Accepted
H_4: Reasons against → Purchase attitude	−0.339	8.352	.000	Accepted
H_5: Reasons against → Purchase intention	−0.028	0.72	.472	Rejected
H_6: Collectivism → Reasons for	0.216	5.533	.000	Accepted
H_7: Collectivism → Reasons against	−0.065	1.561	.119	Rejected
H_8: Collectivism → Purchase attitude	0.100	2.739	.006	Accepted
H_9: Long-term orientation → Reasons for	0.417	9.861	.000	Accepted
H_{10}: Long-term orientation → Reasons against	−0.321	6.49	.000	Accepted
H_{11}: Long-term orientation → Purchase attitude	0.153	4.317	.000	Accepted
$R^2_{\text{Reasons for}} = .231$; $R^2_{\text{Reasons against}} = .110$; $R^2_{\text{Purchase attitude}} = .517$; $R^2_{\text{Purchase intention}} = .555$	$Q^2_{\text{Reasons for}} = .167$; $Q^2_{\text{Reasons against}} = .074$ $Q^2_{\text{Purchase attitude}} = .353$; $Q^2_{\text{Purchase intention}} = .355$			

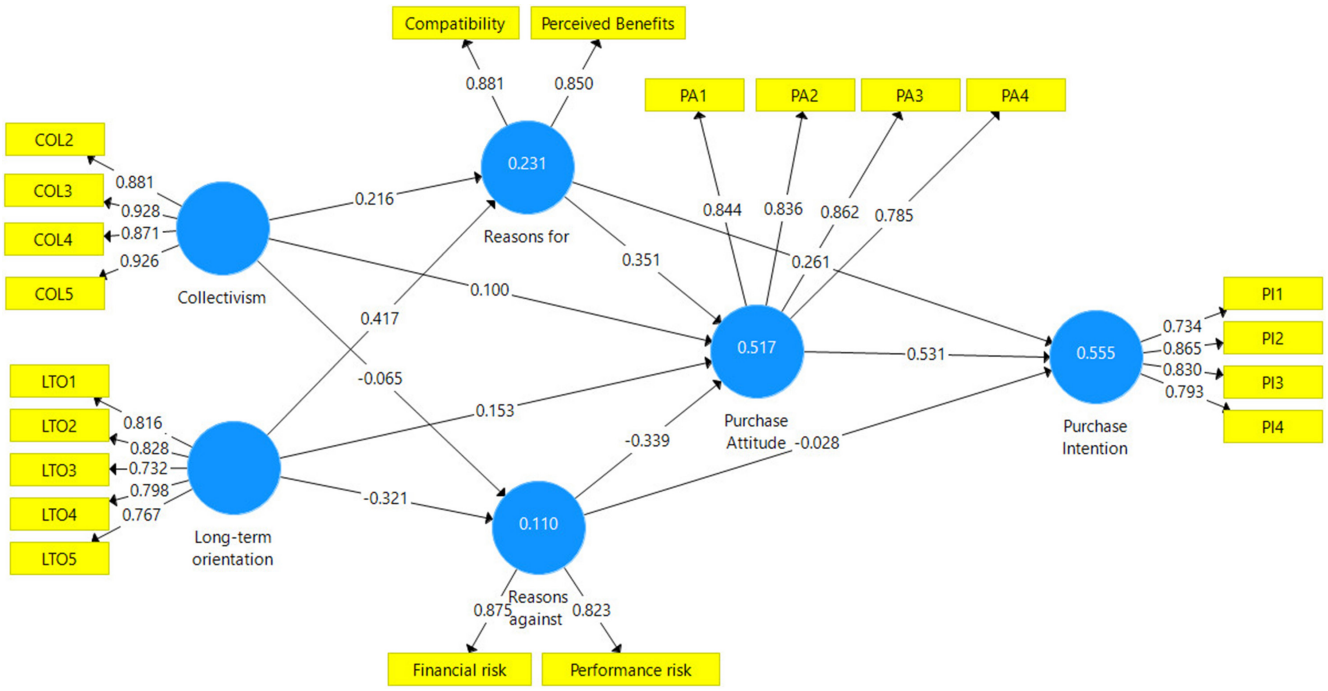

FIGURE 2 PLS-SEM results.

6 | DISCUSSION AND IMPLICATION

6.1 | Discussion

This study has developed and validated a model linking the cultural values of individually oriented consumers with the intention to purchase voluntary social insurance, based on behavioral reasoning theory, a step not previously taken in academia. The main findings of this study are discussed in the following section.

Firstly, the study developed and validated second-order reflective measurement scales comprising "reasons for" and "reasons against." The results revealed that the "reasons for" structure is measured by two first-order structures: perceived benefits and compatibility. Both structures have nearly equal weights, suitable for measuring the "reasons for" construct. Thus, in the context of voluntary social insurance, perceived benefits such as peace of mind, financial stability in old age, and compatibility with lifestyle and needs are important positive perceptions of consumers. Although there have been no studies examining the components of the "reasons for" structure in the context of voluntary social insurance, these results indicate support for common components of the "reasons for" structure in various contexts (Ahn et al., 2016; Botelho et al., 2016; Dhir et al., 2021; Raza et al., 2019). Additionally, the results of the measurement scale assessment also confirmed that "reasons against" comprise two components: financial risk and performance risk, with nearly equal weights. The financial risk structure is perceived by customers as risks stemming from unstable employment and concerns about premium levels. The performance risk structure is perceived as concerns about benefit levels and fears of the social insurance fund collapsing, reflecting negative consumer perceptions of voluntary social insurance. These results are also consistent with studies applying behavioral reasoning theory in various contexts (Dhir et al., 2021; Kushwah et al., 2019; Tandon et al., 2020).

Secondly, the results indicate that "reasons for" positively influence purchasing attitude (H2) and the intention to purchase voluntary social insurance among customers (H3). These research findings align with previous studies in different contexts, suggesting that "reasons for" is an important aspect influencing customer attitudes and purchasing behavior (Claudy et al., 2015; Dhir et al., 2021; Tandon et al., 2020). This indicates that when customers perceive that social insurance provides benefits and aligns with their needs, they will have a favorable attitude and an increased intention to purchase social insurance. Furthermore, the research results also confirmed that "reasons against" negatively influence attitude (H4) and attitude positively influences the intention to purchase voluntary social insurance (H1). However, the results show that "reasons against" do not significantly influence the intention to purchase voluntary social insurance. Thus, we confirm that in the context of voluntary social insurance, when customers perceive financial risks and service performance risks, they will have a more negative attitude and indirectly influence their intention to purchase voluntary social insurance. This result partially aligns with previous studies suggesting that "reasons against" is one of the two fundamental factors in BRT that negatively influences consumer attitudes and purchasing intentions (Claudy et al., 2015; Tandon et al., 2020).

Thirdly, collectivism positively influences "reasons for" (H6) and customer attitudes towards voluntary social insurance (H8). The results also show that collectivism does not negatively influence "reasons against" (H7 not supported). Although there have been no studies exploring the role of collectivism cultural values of customers influencing their perceptions and attitudes towards social insurance, studies in various contexts have suggested that collectivism culture plays a role in shaping customer perceptions. Those with high collectivist tendencies tend to care about the environment and have positive attitudes towards it (Ghali-Zinoubi, 2022; Nguyen et al., 2017; Sreen et al., 2018). Collectivist culture also positively influences perceptions of usefulness and ease of use of hotel technology (Sun et al., 2020). Thus, in the context of voluntary social insurance, when customers have higher collectivist tendencies, they tend to perceive higher benefits from participating in social insurance and feel more compatible with it. Additionally, they have a more positive attitude towards social insurance.

Lastly, long-term orientation positively influences "reasons for" (H9), negatively influences "reasons against," and positively influences customer attitudes (H11). Thus, similar to the characteristic of collectivism, the long-term orientation of customers has not been explored in the context of voluntary social insurance. However, long-term orientation is considered a consumer value (Lee et al., 2021; Nguyen et al., 2017). Therefore, consistent with BRT, long-term orientation may influence the "reasons" and "reasons against" and the attitudes of consumers. Furthermore, individuals with long-term orientation tend to emphasize future rewards from their decisions, hence they tend to perceive higher benefits in the future when purchasing voluntary social insurance. This finding demonstrates that the long-term orientation of customers plays an important role in influencing their perceptions and attitudes towards voluntary social insurance. When customers have higher long-term orientation, they tend to perceive higher benefits from participating in social insurance, perceive decreasing risks, and ultimately influence their favorable attitudes towards voluntary social insurance.

6.2 | Theoretical implications

This work makes a substantial contribution to academic literature in several ways. Firstly, it explores the second-order measurement scales of two concepts, "reasons for" and "reasons against," in the context of voluntary social insurance. The results indicate that the measurement

structures of these concepts are reliable and robust, with "reasons for" comprising perceived benefits and compatibility and "reasons against" comprising financial risk and performance risk. Therefore, this study has developed second-order measurement scales in the context of voluntary social insurance.

Secondly, unlike previous studies primarily investigating positive consumer perceptions in the insurance industry in general and very few studies in the context of voluntary social insurance specifically, this research attempts to utilize BRT to explain the combined effects of "reasons for" and "reasons against" on consumer attitudes and intentions to purchase voluntary social insurance. This is a significant contribution of this study, as "reasons for" and "reasons against" are two essential aspects of consumer behavior. Many studies have confirmed that examining both contrasting aspects can explain more variance in behavior compared to other behavioral theories (Gupta & Arora, 2017; Westaby, 2005).

We have examined the functions of two cultural values, long-term orientation and collectivism, within the framework of voluntary social insurance. Although these are common cultural aspects studied in various contexts, their roles in influencing consumer behavior towards voluntary social insurance have not been examined. This study fills this gap by considering long-term orientation and collectivism as two consumer value dimensions. We rely on BRT to examine how collectivism and long-term orientation influence "reasons for," "reasons against," and consumer attitudes. We confirm that the role of long-term orientation value is more prominent, influencing both "reasons for," "reasons against," and consumer attitudes. Meanwhile, collectivism influences "reasons for" and consumer attitudes towards voluntary social insurance.

6.3 | Practical implications

This study provides valuable insights into customer intentions to participate in voluntary social insurance, offering several important practical implications. Firstly, "reasons for" positively influence attitudes and intentions to purchase voluntary social insurance, with "reasons for" comprising perceived benefits and compatibility. Thus, social insurance agencies can use these results to enhance customer attitudes and intentions to participate in voluntary social insurance. Therefore, insurance management agencies need to evaluate voluntary social insurance policies, ensuring that they are beneficial for participants and their families. Social insurance agencies also need to reassess potential risks to customers during the insurance enrollment process, providing support to ensure immediate benefits for customers (e.g., accident benefits, medical benefits). Additionally, policy evaluation is necessary for retirement-age customers, ensuring stable policies and practical benefits for voluntary social insurance participants when they retire and may lack income-generating capabilities. Furthermore, social insurance agencies need to engage in dissemination and promotion efforts to ensure that the public increasingly understands the benefits of participating in voluntary social insurance. The findings of this study also show the importance of the compatibility of social insurance with customers' current lifestyles. People will have a positive attitude and purchase voluntary social insurance if they believe it aligns with their lifestyle. This finding provides an important suggestion that social insurance agencies need to reassess customer needs during potential enrollment, classify customers to develop appropriate insurance services, and focus on target customer groups appropriate for the services provided by voluntary social insurance.

Secondly, the results show a negative relationship between "reasons against" and attitudes towards voluntary social insurance. This indicates that when consumers perceive higher financial and performance risks, they will have a negative attitude towards voluntary social insurance. Citizens are concerned that participating in voluntary social insurance may not provide benefits greater than the amount they contribute. Furthermore, during the process of enrolling in voluntary social insurance, unstable incomes may affect their participation. Concerns about ineffective management of the social insurance fund will also affect consumer benefits. These concerns are quite relevant to the context of voluntary social insurance because most participants are self-employed and lack stable employment. Furthermore, citizens do not fully understand the actual benefits of participating in voluntary social insurance. Therefore, there are barriers that need to be overcome to increase consumer intentions to participate in voluntary social insurance. Social insurance agencies need policies to ensure appropriate contribution levels when there are income fluctuations among citizens. In addition, dissemination efforts are needed to ensure that citizens understand the significant benefits of participating in voluntary social insurance.

Lastly, our findings demonstrate that individual values significantly influence "reasons for," "reasons against," and consumer attitudes in the context of voluntary social insurance. The first characteristic is collectivism, where individuals with high collectivist values will have higher perceptions of "reasons for" and attitudes towards voluntary social insurance. Thus, social insurance agencies need to emphasize the role of social insurance for families and the community, while also improving support policies for the families of voluntary social insurance participants, so that consumers perceive that participating in social insurance contributes to mitigating risks for their family members. The second characteristic is the long-term orientation, emphasizing the role of customers' long-term orientation when participating in voluntary social insurance. Thus, it is imperative for social insurance agencies to prioritize the long-term advantages that clients might gain from their voluntary participation in social insurance. They also need to ensure that customers can see tangible benefits in the future when participating in voluntary social insurance.

Based on research and discussions on China's voluntary insurance policy (Thucuc, 2023), the Social Insurance Agency (SIA) collaborates with various sectors and levels to compile a list of potential individuals who have yet to participate in social insurance to focus on targeted

outreach and advocacy. The SIA continues to diversify communication methods at all levels, such as organizing conferences, seminars, competitions, consultations, and direct dialogues. Emphasis is placed on direct outreach and advocacy at the grassroots level, targeting specific groups or organizing customer conferences. The SIA organizes training sessions to improve the quality of collection service activities to guide professional skills and advocacy techniques. Additionally, the SIA proactively seeks contributions and support from businesses, philanthropists, agencies, and organizations. These contributions help support voluntary social insurance participants by providing social insurance books as gifts to disadvantaged individuals in various localities.

6.4 | Limitations and future research

Although this study provides intriguing contributions and profound insights into the purchase behavior of optional social insurance, it also has many limitations. Primarily, this research was exclusively carried out within the framework of voluntary social insurance in Vietnam. Further research could be conducted in additional countries to extrapolate the findings. Secondly, this study did not consider the demographic characteristics of consumers. Future studies could examine demographic characteristics to assess specific target groups more effectively. Additionally, future research could also consider other individual characteristics such as compatibility and risk acceptance to explain consumer behavior in the context of voluntary social insurance. Furthermore, the study sample mainly relied on the researcher's accessibility. This affects the overall generalizability of the study. Future studies could generalize the results by expanding the survey sample size to ensure a more representative sample. Lastly, it is crucial to examine the role of trust in public institutions, as this factor significantly impacts the intention to participate in voluntary social insurance programs managed by the government. Investigating specific aspects of social trust, such as trust in public institutions in Vietnam, can provide valuable insights for developing strategies to enhance public confidence and increase participation in voluntary social insurance.

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CONFLICT OF INTEREST STATEMENT

No potential conflict of interest was reported by the authors.

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APPENDIX 1

FOCUS GROUP QUESTIONS

Q1: What benefits does voluntary social insurance provide compared to other types of insurance?

Q2: What are the reasons for purchasing/not purchasing voluntary social insurance?

Q3: What benefits are obtained from purchasing voluntary social insurance?

Q4: Are you concerned about financial risks and performance risks when purchasing voluntary social insurance, and why?

APPENDIX 2

LIST OF THE SEVEN PARTICIPANTS IN THE ADJUSTED SCALES

Participant	Gender	Education level	Work experience	Occupation
1	Male	Master	Over 10 years	Finance and Insurance
2	Female	Bachelor	5–10 years	Education
3	Male	PhD	Over 10 years	Healthcare and Social Services
4	Male	Bachelor	Under 5 years	Information Technology
5	Female	Master	5–10 years	Business and Management
6	Male	PhD	Over 10 years	Finance and Insurance
7	Female	Bachelor	Under 5 years	Education

APPENDIX 3

ADJUSTED SCALES

Research construct	Adjusted items	Degree of adjustment
Collectivism (updated from Sharma, 2010)	COL1. The welfare of my group members is a priority for me	Retain the original item
	COL2. I consistently and conscientiously labor towards the objectives of the collective.	Adjusting the wording from the original item
	COL3. I actively engage in collaborative endeavors.	Adjusting the wording from the original item
	COL4. It is important for family members to remain united, especially in the face of disagreement.	Adjusting the wording from the original item
	COL5. I derive pleasure from both sharing intriguing findings and investing time with my group.	Adjusting the wording from the original item
Long-term orientation (updated from Yoo et al., 2011)	LTO1. I tend to manage finances carefully to prepare for the future.	
	LTO2. I do not easily give up even in the face of potential failure.	Adjusting the wording from the original item
	LTO3. I always strive to work hard so I can succeed in the future.	Retain the original item
	LTO4. I prefer long-term planning over short-term planning.	Adjusting the wording from the original item
	LTO5. I am willing to forego present pleasures to achieve success in the future.	Adjusting the wording from the original item
Perceived benefits (updated from Bosmans & Baumgartner, 2005)	PB1. Participating in social insurance gives me peace of mind.	Retain the original item
	PB2. I am not concerned about depending on my children in old age.	Adjusting the wording from the original item
	PB3. I will receive stable income in old age.	Adjusting the wording from the original item
	PB4. Social insurance helps me plan my personal finances.	Adjusting the wording from the original item
	PB5. I feel more responsible to my family and society.	Retain the original item
	PB6. Social insurance reduces potential losses in uncertain life situations.	Retain the original item
Compatibility (updated from Moore & Benbasat, 1991)	COMP1. Participating in social insurance aligns with my lifestyle.	Adjusting the wording from the original item
	COMP2. Participating in voluntary social insurance meets my needs.	Adjusting the wording from the original item
	COMP3. Participating in social insurance aligns with how I prepare for the future.	Adjusting the wording from the original item
Financial risk (updated from Yi et al., 2020)	FR1. I am concerned about unstable employment to afford voluntary social insurance.	Adjusting the wording from the original item
	FR2. I am concerned about unstable income while participating in voluntary social insurance.	Adjusting the wording from the original item
	FR3. I believe I will receive lower service quality for the amount I pay for voluntary social insurance.	Retain the original item
	FR4. I am concerned that the premiums for voluntary social insurance will be higher than other insurance types with less benefits.	Retain the original item

Research construct	Adjusted items	Degree of adjustment
Performance risk (updated from Nepomuceno et al., 2014)	PR1. I worry that voluntary social insurance will not provide the benefits I expect.	Adjusting the wording from the original item
	PR2. I think participating in voluntary social insurance is very risky in terms of money, time, and effort.	Adjusting the wording from the original item
	PR3. I feel uncertain about the benefits I may receive when participating in voluntary social insurance.	Adjusting the wording from the original item
	PR4. I worry about the possibility of social insurance fund insolvency.	Adjusting the wording from the original item
Purchase attitude (updated from Nosi et al., 2014).	PA1. I think purchasing voluntary social insurance is beneficial.	Adjusting the wording from the original item
	PA2. I think purchasing voluntary social insurance is a wise idea.	Adjusting the wording from the original item
	PA3. I think purchasing voluntary social insurance is easy.	Adjusting the wording from the original item
	PA4. I think purchasing voluntary social insurance is necessary.	Adjusting the wording from the original item
Purchase intention (updated from Jahan & Sabbir, 2018)	PI1. I intend to purchase voluntary social insurance soon.	Adjusting the wording from the original item
	PI2. I will try to purchase voluntary social insurance as soon as possible.	Retain the original item
	PI3. I think having a plan to purchase voluntary social insurance is mandatory for everyone.	Retain the original item
	PI4. I intend to recommend voluntary social insurance to family members and friends.	Adjusting the wording from the original item