

4-30-2018

Planned Behaviour in Purchasing Health Insurance

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Recommended Citation

Brahmana, Rayenda; Brahmana, Ritzky Karina; and Memarista, Gesti (2018) "Planned Behaviour in Purchasing Health Insurance," *The South East Asian Journal of Management*. Vol. 12 : No. 1 , Article 3.

DOI: 10.21002/seam.v12i1.7465

Available at: <https://scholarhub.ui.ac.id/seam/vol12/iss1/3>

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PLANNED BEHAVIOUR IN PURCHASING HEALTH INSURANCE

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This research aims to investigate why there is low insurance purchasing in Indonesia. The research framework adopts the theory of planned behaviour in exploring the insurance purchase intention behaviour of Indonesians. Furthermore, this research introduces health value as the moderating variable on the relationship between attitude towards insurance purchasing and the intention to purchase insurance. We take 311 insurance holders from five Indonesian big cities as the sample. The results show that perceived risk and perceived usefulness play important roles in the attitude towards the intention to purchase health insurance. Our findings also show that health value contributes significantly in explaining health insurance purchasing. This research contributes to the body of knowledge by introducing the theory of planned behaviour in health insurance research. Moreover, this research suggests to policymakers or insurance companies how to gauge psychological factors in terms of influencing people to purchase health insurance.

Keywords: Health insurance; Theory of Planned Behaviour; Health Value; Perceived Usefulness; Perceived Future Risk; Behavioural Economics

Penelitian ini bertujuan untuk menyelidiki alasan di balik rendahnya pembelian asuransi di Indonesia. Kerangka penelitian mengadopsi Theory of Planned Behaviour dalam mengeksplorasi perilaku niat pembelian asuransi masyarakat Indonesia. Selanjutnya, penelitian ini memperkenalkan nilai kesehatan sebagai variabel moderasi pada hubungan antara sikap terhadap pembelian asuransi dan niat untuk membeli asuransi. Kami mengambil 311 pemegang polis asuransi dari lima kota besar di Indonesia sebagai sampel. Hasilnya menunjukkan bahwa risiko yang dirasakan dan kegunaan yang dirasakan memainkan peran penting dalam sikap terhadap niat untuk membeli asuransi kesehatan. Temuan kami juga menunjukkan bahwa nilai kesehatan memberikan kontribusi signifikan dalam menjelaskan pembelian asuransi kesehatan. Penelitian ini memberikan kontribusi terhadap perkembangan literatur dengan memperkenalkan Theory of Planned Behaviour dalam penelitian asuransi kesehatan. Selain itu, penelitian ini memberikan saran kepada pembuat kebijakan atau perusahaan asuransi terkait bagaimana mengukur faktor psikologis yang mempengaruhi seseorang untuk membeli asuransi kesehatan.

Kata Kunci: Asuransi kesehatan; Theory of Planned Behavior; Nilai Kesehatan; Perceived Usefulness; Perceived Future Risk; Ekonomi Perilaku

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Abstract

Abstrak

The status of healthcare in Indonesia has been characterized by slow progress (Koblinsky, 2003; Aji *et al.*, 2017), as evidenced by a report from the World Health Organization (2017), which revealed that the bottom 60% of the country's population has very poor access to hospital or clinical care services. On average, each household has to spend more than 100% of their income for admission for healthcare. The mortality rate also increased from 11% in 2004 to 12% in 2007, and remained stable in 2010. Indonesian expenditure on health by GDP proportion was among the lowest in the South East Asia region, which was only 2.7% in 2012.¹ The World Health Report (2010) addressed low education, geographical access, and healthcare financing as the factors contributing to the slow improvement in healthcare.

Interestingly, with a bright prospect for the economy, the number of people purchasing health insurance in Indonesia has continued to decrease. The Indonesia Insurance Association (IIA) stated that the number of insurance purchasers in the country decreased from 40.8 million in 2011 to 34.7 million in 2012². This is an interesting development considering the increasing number of middle class citizens in Indonesia and the country's inferior healthcare system³.

The purpose of this research is to determine Indonesian attitudes and behavioural intentions of consumers

towards purchasing health insurance. Understanding the behavioural intention of Indonesians may provide a useful framework for future marketing communications in order to reach the target population and to determine ways to encourage more Indonesian consumers to consider buying health insurance. The findings are likely to help health insurance marketers to form their strategic focus in developing the market for health insurance in Indonesia, and to assist insurance firms in their sustainability and going concern. The application of planned behaviour to health insurance services in Indonesia will contribute to the current literature by analysing the underlying constructs of behavioural intention towards purchasing health insurance in a developing country.

Using the theory of planned behavior (TPB) (Fishbein & Ajzen, 1975) as the research framework, this research aims to explore the determinants of Indonesian intention behaviour in purchasing insurance. The theory of planned behaviour addresses the attitude towards behaviour (ATB), perceived behavioural control (PBC), and subjective norms (SN) as the antecedents of behavioural intention (BI). For robustness, this research expands the framework further by taking health value as the moderating effect.

This study's contribution is threefold. First, to the best of our knowledge, this study is the first to examine the planned behavior of insurance purchasing with

¹ Based on the WHO report 2012, the expenditures of South East Asian countries on health per GDP in 2012 were 3.6% in Malaysia, 4.7% in Thailand, 6.8% in Vietnam, and 4.8% in Singapore

² See <http://keuangan.kontan.co.id/news/jumlah-tertanggung-asuransi-jiwa-menurun/2013/05/03>.

³ Refer to http://factsanddetails.com/indonesia/Education_Health_Energy_Transportation/sub6_6b/entry-4076.html/2016/04/11.

an Indonesia context. Although there has been much work about health insurance, there has not been a study conducted in Indonesia using planned behavior perspective. Second, we add to the literature by extending the understanding of this research area in a big emerging market such as Indonesia. The expectation is that there will be other replications of similar studies in emerging countries which can use this study as a benchmark. Finally, we empirically investigated how attitudes, behavioral control, norms, and health values may play significant roles in determining the purchase of health insurance in the context of emerging countries.

The rest of this paper is structured in the following manner. Relevant literature and theoretical underpinning are reviewed in section 2. The research method and data collection process are introduced in section 3. Section 4 discusses the findings and results, and section 5 concludes.

LITERATURE REVIEW

Economics studies of the determinants of health insurance purchase have been extensively investigated (e.g. Browne and Kim, 1993; Berry 1995; Beck & Webb, 2003; Lee, Kwon, & Chung, 2010; Lieberg, Carson, & Dumm, 2012a), and yet, rarely has it been studied from the behavioural side. For instance, the study of Browne and Kim (1993) identifies macroeconomic factors on the demand for health insurance. They address national income, government spending, inflation, and demography as important factors in inducing health insurance demand. Beck and Webb (2003) confirm it by showing that inflation and demograph-

ic factors are the influencing factors in purchasing health insurance. Lee *et al.* (2010) also conclude that household demand for health insurance relies on the demographic profile and economic factors. Similarly, Liebenberg, Carson, and Dumm (2012a) indicated that parenthood profiles are a significant factor in the purchase of health insurance. From a microeconomic perspective, Berry (1995) addresses company profile, product variability, and the complexity of insurance as the important factors to induce the demand of health insurance. The findings of recent studies conducted by Hong and Rios-Rull (2012), Liebenberg *et al.* (2012b), Akotey, Sackey, Amoah, and Manso (2013), and Bahloel, Hachicha, and Bouri (2013) are consistent with the results derived by Berry (1995), who found that microeconomic factors play an important role in inducing insurance demand. Nevertheless, those rational-based model papers cannot explain the phenomenon of the health insurance market in Indonesia. Given the good pace with which the economy is growing and improvements to the level of education in the country, health insurance demand is decreasing, contrary to the evidence presented by the aforementioned research papers (Pitriyan & Siregar, 2013).

The findings of Auerbach and Kotlikoff (1991) might explain the gap in Indonesia by documenting that insurance purchasing rarely follows utility. They gave evidence that the demand in health insurance is not always about economic factors and demographics because the majority of health insurance holders are those who are not actually in need of insurance. Insurance purchasing might not be driven by ra-

tional expectation; instead, it is driven by hedonic utility, such as anxiety (Berekson, 1972), perceived risk (Laroché, McDougall, Bergeron, & Yang, 2004), or maybe optimism (Coelho & Maza, 2012; Memarista, 2016). Meanwhile, Outreville (2013) contends that risk aversion behaviour and the level of education are the main factors to induce health insurance demand. This is consistent with the conclusion of Eling and Kochanski (2013) who surmise that insurance research on individuals is very scarce.

Behavioural studies argue that scholars have to gauge psychological factors to explore the anomalies in economic activities. For example, Kahneman (2003) mentions bounded rationality as the explanation for the violence of the axiom utility function and hedonic utility. Brahmana, Hooy, & Ahmad (2012) suggest that psychological biases are the factors that explain a calendar's seasonality in the stock market. Another paper is that of Brahmana, Siregar, and Hsb (2013), who concluded that hyperbolic discounting accounts for why managers execute their strategic planning at excessively early schedules. In our insurance phenomenon, there is Rabin and Thaler (2001), for example, who argue that risk aversion might explain the anomalies in the insurance market in that people tend to purchase insurance when they should not and tend to refuse when they are actually in need. Therefore, this research also uses behavioural approach to explain the anomalies of planned behaviour in insurance.

Another explanation for the anomalies in health insurance demand can

be found using the planned behaviour perspective. Planned behaviour might explain what factors determine the intention of people purchasing health insurance. Correspondingly, the current research adopted the TPB (first introduced in 1985) as an extension of the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). This theory is widely used by researchers to study human behaviour through their action. The four main variables of TPB consist of attitude towards behaviour (ATB), subjective norms (SN), perceived behavioural control (PBC), and intention. The model is as follows:

$$\begin{aligned} &BEHAVIOUR \Rightarrow INTENTION \\ &= f(ATB, SN, PBC) \end{aligned}$$

ATB, SN, and PBC are the determinants or the independent variables. Meanwhile, intention is the dependent variable and is also the central factor of the theory because it shows how hard a person is willing to try and exert effort to perform behaviour. This theory also portrays the situation involving the presence of non-motivational factors and resources, such as the time and money that is likely to control a particular person's behaviour. This means that the chances of a person who possesses both resources as well as the intention to perform a task of successfully performing the behaviour is certain.

Nevertheless, other researchers have further explored the relationship between the determinants and the intention (see Ajzen & Fishbein, 1977; Armitage & Conner, 2001; McEachan, 2011), and found that ATB, SN, and PBC are strong predictive determi-

nants of intention. Moreover, Shepard, Hartwick, and Warshaw (1988) as well as McEachan, Corner, Taylor, and Lawton (2011) conducted meta-analysis to investigate the effectiveness of the Fishbein and Ajzen model in social research, and concluded that this planned behaviour model has strong predictive utility even when used to investigate situations and activities that do not fall within the boundary conditions originally specified for the model. Other researchers also added other factors as the mediator or the moderator between the determinants and the intention. For instance, Luszczynska, Cao, Mallach, Pietron, Mazurkiewicz, and Schwarzer (2010) treat self-efficacy as the moderator in explaining the intention of physical activity in Chinese and Polish adolescents. Høie, Moan, and Rise (2010) extend the TPB by adding past behaviour as the moderator in explaining the intention to quit smoking. Manning and Betten-court (2010) choose health plan as the mediator between the determinants and intention to use medical adherence among cancer survivors. There is also Rhodes and Pfaeffli (2010) who added physical activity as the mediator in explaining the intention of changes in behaviour.

In insurance research, research gauging this theory is extremely rare. So far, one research, by Omar and Owusu-Frimpong (2007), explains the health insurance demand in Nigeria. However, they used the theory of reasoned action (TRA) instead of the TPB. Another study that was grounded in the TPB was that of Kurland (1995), who modified the theory by incorporating a measure of moral obligation into the prediction of insurance agents' ethical

intentions toward their clients.

In exploring the determinants of the intention to purchase health insurance, we introduce health value as a moderator. Health value can be described as a patient's health outcomes achieved per dollar spent (Porter, 2010). It is about how much an individual is willing to value their health as they consider health as one of their priority concerns. Previous literature shows that health value plays an important role in the demand for health insurance. For instance, Zelizer (1978) surmises that people tend to buy health insurance because of the value of death. This implies that the demand of health insurance might increase if people start being afraid for their life. This is in line with Nyman (1999) who addresses the value of health as the main motive for purchasing health insurance. Using the access theory, Nyman (1999) states that insurance is the means to achieve better health. Murphy and Topel (2005) arrive at a similar conclusion, which is that people will pay for such schemes in respect of valuing their life and increasing their longevity. This is also consistent with Hall and Jones (2007), and Baicker *et al.* (2012) who state that people have a tendency to spend their money on health just for the sake of extending life. We follow Nepomuceno and Porto (2010) who used health values as the bridge or moderator between attitude and intention. Hence, the health value is introduced as the moderator in this research, which can be estimated as follows:

$$\begin{aligned}
 INTENTION = & \alpha_1 + \beta_1 ATB_i + \beta_2 SN_i \\
 & + \beta_3 PBC_i + \beta_4 HEALTH_i \\
 & + \beta_5 ATB_i * HEALTH_i \\
 & + \varepsilon_i \quad (1)
 \end{aligned}$$

Another contribution of this research is the role of the perceived usefulness and perceived risk on the attitude of a person in terms of the intention to purchase health insurance. By definition, ATB in the TPB is the degree to which the performance of a given behavior is positively or negatively valued. This definition was likewise presented in other research papers, such as those of Omar and Owusu-Frimpong (2007), Olola, Narus, Nebeker, Poynton, Hales, Rowan, and Evans (2010), and Abbring, Chiappori, and Pinquet (2003). The seminal paper on the relationship between perceived usefulness and attitude is Ehrlich and Becker (1972) who surmise that the usefulness of information might influence the decision-making of a person. Additionally, the justification for adding perceived usefulness on the attitude towards purchasing life insurance is based on the suggestion of Tennyson (2011) who argues that financial literacy is the main factor in why people refuse to have insurance. Without financial literacy, people do not know the usefulness of insurance, and remain half-hearted in purchasing insurance. This might explain the attitudinal phenomenon found by Scwarcz (2010) in which people tend to purchase insurance when they should not and refuse to purchase when they are actually in need.

Additionally, there are factors that might influence the attitude towards purchasing health insurance in antecedent-outcome relationships, which are perceived usefulness and perceived risk. Perceived usefulness refers to the degree to which a person believes that optimizing a particular utility will enhance his/her attitude

towards a behavior (i.e., purchasing health insurance, in our context) (Ehrlich & Becker, 1972; Laroche *et al.*, 2004; Liebenberg *et al.* 2012a). Meanwhile, perceived future risk can be defined as the degree to which a person believes that optimizing a particular utility would protect them from risk. For instance, purchasing health insurance may cover the risk of falling sick.

Research on the TPB documented the significant influence of perceived usefulness on ATB. For instance, Brahmana and Brahmana (2013) documented that Perceived Usefulness is the mediating effect for jobs seekers in easy-to-use and enjoy feeling. Other empirical papers (e.g. Igbaria, Schiffman, & Wieckowski, 1994; Saadé and Bahli, 2005; Liaw and Huang, 2013) also reported a similar conclusion, in which perceived usefulness plays an important role in influencing the ATB of an individual. This implies that perceived usefulness is a factor of ATB.

Kaplan *et al.* (1974) show that perceived future risk has an important role in human psychology concerning the decision to purchase health insurance. This is in line with Berekson (1972) who addresses the role of anxiety in life on purchasing insurance. Other researchers, such as Laroche *et al.* (2004) and Liebenberg *et al.* (2012a), provided similar findings, which indicated that the attitude of a person toward purchasing health insurance depends on perceived risk. Based on the literature the function of ATB can be formulated as follows:

$$ATB = f(\text{Perceived Usefulness}, \text{Perceived Future Risk})$$

Meanwhile, the estimate of the function is as follows:

$$ATB = \beta_0 + \beta_1 USEFULNESS_i + \beta_2 RISK_i + \varepsilon_0 \quad (2)$$

Lastly, this research aims to investigate the role of internal and external influences on the subjective norms (SN). Both internal and external influences come from the social influences. The internal influences dimension covers family or spouse in influencing norms in decision-making, while the external influences cover media or friends or working environment or word-of-mouth in influencing judgment. Prior studies, such as Guagnano, Stern, and Dietz (1995), Cho (2011), and Celik (2011), documented the significant roles of internal and external influences on SN. Hence, the function of the subjective norms can be surmised as follows:

$$SN = f(\text{Internal Influences}, \text{External Influences})$$

Meanwhile, the estimate of the function is as follows:

$$SN = \beta_0 + \beta_1 Internal_i + \beta_2 External_i + \varepsilon_1 \quad (3)$$

RESEARCH METHOD

This research chooses Indonesia as the scope of study for three reasons. Firstly, as stated earlier, Indonesia provides an interesting background. Indonesia has rapid economic growth and one of the biggest economy in the world (rank 16). However, the number of people purchasing health insurance in Indonesia has continued to decrease. Second, Indonesia may become the proxy for emerging countries, especially, emerging countries in the Asian

region. The economic characteristics and consumer behaviour in Indonesia are similar with other emerging countries in Asia, especially in Eastern parts of Asia. This is not to mention the plan of other Asia countries such Malaysia, Philippines, Vietnam, and several South Asia countries to impose the healthcare system. Therefore, studying Indonesia may give generalization for an Asia context in planned behaviour of health insurance. Lastly, Indonesia offers an interesting institutional setting to examine the planned behaviour of health insurance.

This paper is a survey-based research in which the questionnaire is built by adopting and adapting similar previous research. The questionnaire was designed based on previous works on the theory of planned behaviour (refer to Table 3 for full list of adopt-adapt items). There are 35 items in the questionnaire. All the items were constructed by adopting-and-adapting previous research on a 5-point Likert scale. The items in the questionnaire were validated first before using it to test the research model and its hypotheses. A total of 2000 questionnaires were distributed in five big cities of Indonesia (Jakarta, Surabaya, Medan, Denpasar, and Bandung). However, only 311 questionnaires can be used for the research analysis.

This research employs pre-test before the main study was conducted. The purpose is to reveal whether there is systematic error in the survey design after adopting-adapting items from different institutional context (Zikmund *et al*, 2013). Moreover, the items were translated into Indonesia language, hence, it is important to conduct the

pre-test study.

The questionnaire was translated using back-to-back translation. First, it was translated into Bahasa Indonesia. After that, it was translated back into English and matched. Although minor differences were found during this two-way translation, they were ignored as the meaning of the questions remained the same. For confirmation, we consulted with two Professors (one from Psychology, and the other from Economics), and there is no objection from the group discussion. Note that the questionnaire was pre-tested using 30 postgraduate students who had experience in health insurance.

This study required respondents who have special requirements. The respondents already have any kind of health insurance and the respondent's income is more than the regional minimum wage for each region of the origin of respondents in order to meet the needs of insurance payments. Furthermore, mostly the respondent's education level is undergraduate level in this research.

This study used the partial least squares (PLS) and structural equation modeling (SEM) to examine factors influencing the intention in purchasing the insurance. Under SEM approach, the latent variables have been controlled, and it explicitly takes measurement error into the estimation model (Henseler *et al*, 2009). Gefen *et al* (2000) state that SEM is rigorous for business and management research because it validates the instruments, justify the linkages between constructs, and treat the latent variables as part of the estimation. This is the rationale for choos-

ing SEM in testing our model.

It is noteworthy that the SEM is run under PLS as the latent variable is run under variance-based technique. Albers (2009) states that PLS is best method of choice for studies in business and management. This due to the parameter of the PLS estimates reveal better the magnitude and direction of the relationship as it uses dispersion (variance) instead of mean or correlation, and this is good to avoid parameters estimation biases that commonly arises in regression analysis (Calantone *et al*, 1998).

RESULT AND DISCUSSION

Reliability

Preceding the data analysis, the validity and reliability of the goodness of measure were tested. Reliability tests how consistent an instrument measures its construct, whereas validity measures how well an instrument measures the particular concept it is intended to measure (Sekaran & Bougie, 2010).

Cronbach's alpha is the test to assess the reliability of the measures. As seen from Table 1, all the alpha values are higher than 0.6, as suggested by Nunnally and Bernstein (1994). It can be concluded that the items in the questionnaire are reliable for use in the survey. Similar to Cronbach's alpha for the reliability estimate of internal consistency, a composite reliability of 0.70 or greater is considered acceptable (Fornell and Larcker 1981). As such, we can conclude that the measurements are reliable.

Discriminant Validity

The discriminant validity is investi-

Table 1. Reliability test results

	AVE	Composite Reliability	Cronbach's Alpha
ATB	0.920	0.979	0.971
INTEN	0.924	0.973	0.959
INTERN	0.514	0.733	0.659
PBC	0.804	0.943	0.920
RISK	0.604	0.859	0.782
SN	0.847	0.943	0.910
USEFUL	0.861	0.961	0.946
EXTERN	0.756	0.925	0.907
ATB * HEALTH	0.859	0.986	0.985
HEALTH	0.687	0.868	0.772

Note: ATB is attitude towards behaviour; INTEN is intention to purchase health insurance; INTERN is internal influences; PBC is perceived behavioural control; RISK is perceived future risk; SN is subjective norms; USEFUL is perceived usefulness; EXTERN is external influences; HEALTH is health value.

Table 2. The discriminant results

	ATB *										
	ATB	HEALTH	INTEN	INTERN	PBC	RISK	SN	USEFUL	EXTERN	HEALTH	
ATB	0.920										
ATB * HEALTH	0.156	0.924									
INTEN	0.151	0.150	0.514								
INTERN	0.012	0.000	0.018	0.804							
PBC	0.054	0.086	0.077	0.021	0.604						
RISK	0.132	0.073	0.132	0.051	0.089	0.847					
SN	0.093	0.083	0.123	0.046	0.001	0.042	0.861				
USEFUL	0.186	0.041	0.113	0.023	0.019	0.065	0.041	0.756			
EXTERN	0.000	0.022	0.019	0.027	0.442	0.066	0.021	0.005	0.859		
HEALTH	0.043	0.046	0.103	0.004	0.002	0.054	0.070	0.154	0.002	0.687	

Note: ATB is attitude towards behaviour; INTEN is intention to purchase health insurance; INTERN is internal influences; PBC is perceived behavioural control; RISK is perceived future risk; SN is subjective norms; USEFUL is perceived usefulness; EXTERN is external influences; HEALTH is health value.

gated by examining the correlation between the measures of potentially overlapping constructs. Discriminant validity is a measure of the degree to which items differentiate among constructs or measure distinct concepts. Items should load more strongly on their own constructs in the model, and the AVE shared between each construct and its measures should be greater than the variance shared between the construct and other constructs (Compeau & Higgins, 1995).

Table 2 shows that the squared correlations for each construct are less than the average variance extracted by the indicators measuring that construct indicating adequate discriminant valid-

ity. The dimensions used in this study passed the threshold of discriminant validity. It can be remarked that there are no overlapping constructs among the dimensions.

Convergent Validity

We tested the convergent validity of the items in the constructs by finding what degree the multiple items measuring the same concept are in agreement. As suggested by Hair, Black, and Babin (2010), the factor loadings, composite reliability (CR), and average variance extracted (AVE) were retrieved to assess the convergent validity. The results are shown in Table 3.

Table 3. Validity test results

Dimension	Items	Factor Loadings	Adopted-Adapted from
ATB	I think that buying health insurance is a good choice (Att1)	0.983	Ryan (1982), Taylor and Todd (1995), Omar (2007), Omar and Owusu-Frimpong (2007), Ajzen (2008), Brahmana and Brahmana (2013)
	I like my decision in purchasing health insurance (Att2)	0.958	
	My general opinion of health insurance is negative (R, Att3)	0.956	
	Buying a health insurance is a good idea (Att4)	0.941	
INTEN	I intend to purchase health insurance in the future (BI1)	0.974	Ryan (1982), Taylor and Todd (1995), Omar (2007), Omar and Owusu-Frimpong (2007), Ajzen (2008), Brahmana and Brahmana (2013)
	I will buy health insurance in the future (BI2)	0.955	
	It is unlikely that I will purchase health insurance in the future (R, BI3)	0.955	
EXTERN	My friends/external parties think I should purchase health insurance (EI1)	0.877	Beck and Ajcen (1991), Hsu and Lu (2004), Lee (2004), Ajcen (2008)
	My friends/external parties share important ideas about purchasing health insurance (EI2)	0.799	
	There is no sufficient knowledge from My friends/external parties about health insurance (R, EI3)	0.86	
	My friends/external parties are good resources for health insurance purchase decision (EI4)	0.937	
INTERN	I always discuss about the benefit of purchasing health insurance with My family/ inner circle (II1)	0.782	Beck and Ajcen (1991), Hsu and Lu (2004), Lee (2004), Ajcen (2008)
	My family says purchasing health insurance is not worth it (R, II2)	0.692	
	My family/ inner circle thinks purchasing health insurance is a good idea (II3)	0.531	
	My family/ inner circle always talk the good concept of purchasing health insurance (II4)	0.533	
PBC	I have sufficient knowledge to purchase health insurance (PBC1)	0.917	Ryan (1982), Taylor and Todd (1995), Omar (2007), Omar and Owusu-Frimpong (2007), Ajzen (2008)
	I can buy health insurance without any help from anyone (PBC2)	0.911	
	I don't have any resourceful source about health insurance purchasing (R, PBC3)	0.874	
	I can buy health insurance reasonably well on my own (PBC4)	0.885	
RISK	Health insurance prevent financial hardship in case of death (PFR1)	0.762	Jacoby and Kaplan (1972), Omar (2007)
	I purchase health insurance to cater critical illness case (PFR2)	0.78	
	Health insurance provide same standard of living for dependents (PFR3)	0.771	
	Health insurance provide security in case of death (PFR4)	0.796	
USEFUL	Purchasing health insurance enables me to ease my future expenses (PU1)	0.927	Tsoukatos and Rand (2006), Omar and Owusu-Frimpong (2007), Ajzen (2008), Brahmana and Brahmana (2013)
	Purchasing health insurance improves my health benefits (PU2)	0.926	
	Purchasing health insurance makes my health benefits better (PU3)	0.932	
	Purchasing health insurance is not useful for my health benefit (PU4)	0.927	
SN	My environment thinks I should purchase health insurance (SN1)	0.912	Ryan (1982), Taylor and Todd (1995), Omar (2007), Omar and Owusu-Frimpong (2007), Ajzen (2008)
	People like, when I purchase health insurance (SN2)	0.939	
	Those who influence my behaviour think that I should buy Health Insurance (SN3)	0.91	
HEALTH	My health is good at present time (HV1)	0.591	Janz and Becker (1984), Rees (1986), Godin and Kok (1996) Conner and Norman (2005), and Omar and & Owusu-Frimpong (2007)
	If I examined my health regularly, I think there is unhealth symptoms in my body (R, HV2)	0.647	
	I believe I will have good result if I take medical check-up now (HV3)	0.555	

Note: ATB is attitude towards behaviour; INTEN is intention to purchase health insurance; INTERN is internal influences; PBC is perceived behavioural control; RISK is perceived future risk; SN is subjective norms; USEFUL is perceived usefulness; EXTERN is external influences; HEALTH is health value.

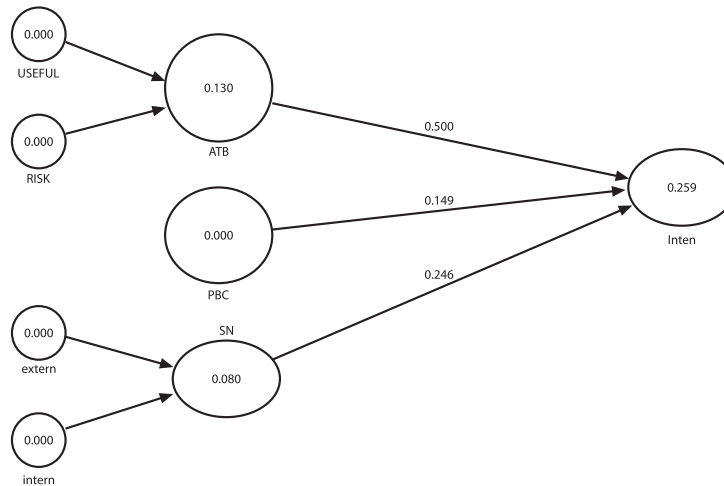


Figure 1. The Estimates of Planned Behaviour on Health Insurance

Note that to pass the validity test, the item loadings in the construct have to be higher than the threshold suggested by Hair *et al.* (2010), which is 0.5, or the average of all item loadings is higher than 0.5. Panel A shows that the loadings for all the items in the study exceeded the recommended value of 0.5. This implies that the items are valid for use in the study.

The CR values depict the degree to which the construct indicators indicate the latent variables of the model, which ranged from 0.733 to 0.986. This exceeded the suggested threshold value of 0.5 from Barclay, Higgins, and Thompson (1995). A similar conclusion can be made in terms of the AVE, in that the values ranged from 0.514 to 0.924. It should be noted that the AVE measures the variance captured by the indicators relative to the measurement errors, and it should be greater than 0.5 (Barclay *et al.*, 1995). Hence, we can conclude that the items used in the study are convergently valid.

In respect of factor loadings, Table 3 documented the items loading on

the whole set of constructs. For ATB, loadings ranged from 0.941 to 0.983, which exceeded the threshold of 0.5 for the factor loadings. The same conclusion also goes for the constructs for intention, external influence, internal influence, perceived behaviour control, perceived future risk, perceived usefulness, subjective norms and health value. The loadings of items were higher than 0.5. Hence, it can be concluded that the items are valid for use in respect of capturing the perception of planned behaviour.

Estimates of Planned Behaviour on Health Insurance

Figure 1 shows the model without a moderator. The R-Squared of the model is 0.659, which implies that 65.9% of the variance is explained by the model. Meanwhile, the antecedents of perceived usefulness (PU) and perceived future risk (PFR) can explain the outcome, which is attitude towards behaviour (ATB), 73%. The external influence and internal influence has a low prediction of their outcomes, which is subjective norms (SN), as the R-Squared was only 8%.

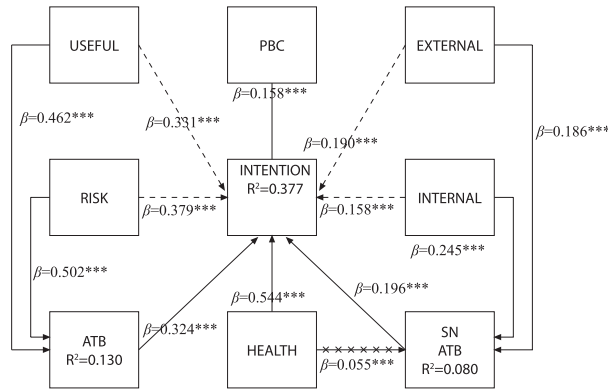


Figure 2. The Estimates of Research for Full Model

In terms of the magnitude of influence, the hierarchical model documented relatively high coefficient values. The PU and PFR influenced the ATB with 0.462 and 0.507, respectively. The external influence and internal influence affected the SN by 18.6% and 24.5% of magnitude, respectively. The intention was influenced by ATB, perceived behaviour control (PBC), and SN by 0.580, 0.149, and 0.246, respectively. It is noteworthy that our model is a hierarchical model. This means that it consists of indirect effect (please refer to Figure 2), whereby ATB and SN are the mediating variables for perceived usefulness, risk, external influences, and internal influences. In other words, the relationship between these four dimensions and intention to purchase is mediated by ATB and SN, or commonly known as indirect effect.

Next step, this research introduced the health value (HV) as the moderating effect. The hypothesis is that HV has a moderating effect on the hierarchical relationships of the planned behaviour in purchasing insurance. Figure 2 portrays the results.

The R-Squared improved to 0.337 after introducing the HV. This means that HV increases the predictor of the

model from 0.259 to 0.337. The magnitude of the influence of the determinants of behavioural intention also changed. The ATB power decreased to 32.4%. Meanwhile, the PBC and SN increased to 15.8% and 9.8%, respectively. Hence, the HV indicates an effect on the model.

The structural model shows that the intention in purchasing health insurance was driven by the ATB, PBC, and SN. It was significant at the 1% level. The HV also has a moderating effect on that relationship, in that it was significant at the 5% level. The PU and RISK were the antecedents for the ATB, as it was significant at the 1% level. In a hierarchical mode, the PU and RISK confer a role on behavioural intention as the structural model showed that these two variables also influenced the intention at the 1% level. Furthermore, a similar conclusion could be derived from the external influence and internal influence. It has significantly affected the SN at the 1% level. In relating this to the hierarchical model, these constructs (internal and external influences) also show their roles on behavioural intention as the structural model showed a significant level of relationship at the 1% level.

Table 4. The estimates of the model

	No Moderator	With Moderator
	T-Value	
ATB → INTENT	3.0555***	4.2454***
ATB * HEALTH → INTENT	-	1.9829**
HEALTH → INTENT	-	3.0234***
INTERN → SN → INTENT	2.6800***	2.3996**
INTERN → SN	3.2911***	3.7144***
PBC → INTENT	3.9638***	3.0361***
RISK → ATB	3.0543***	3.3012***
RISK → ATB → INTENT	3.6777***	3.3973***
SN → INTENT	3.3980***	2.7470***
USEFUL → ATB	3.8666***	3.4061***
USEFUL → ATB → INTENT	3.5159***	3.4787***
EXTERN → SN → INTENT	2.4262**	2.4937**
EXTERN → SN	3.6175***	4.6898***
	R-Squared	
	0.2593	0.3370

Note: ATB is attitude towards behaviour; INTEN is intention to purchase health insurance; INTERN is internal influences; PBC is perceived behavioural control; RISK is perceived future risk; SN is subjective norms; USEFUL is perceived usefulness; EXTERN is external influences; HEALTH is health value.

Analysis

Analysis of the role of attitudinal behaviour

Based on the results, it implies that psychology has a role on the intention to purchase health insurance. In respect of the role of attitudinal behaviour on the intention to purchase health insurance, it implies three main findings. First, it showed that the perceived usefulness of health insurance encourages people to buy health insurance. If one thinks that health insurance is useful for his/her own benefit, he/she intended to purchase the health insurance. One thinks that health insurance is able to protect the uncertainty of their health, or to reduce uncertain health costs in the future. In perceiving the benefits of the health insurance, one has extra motivation to buy the insurance, which drives the intention to purchase health insurance through the attitudinal behaviour. This is consistent with previous research, such as Omar and Owusu-Frimpong (2007),

Olola *et al.* (2010), and Abbring *et al.* (2003).

Perceived future risk also documented a significant role on the intention to purchase health insurance through attitudinal behaviour. The worry about health in the future encourages people to buy health insurance. Other things, such as uncertainties about the cost of healthcare and their future health have motivated people to have health insurance. This tallies with prior research by Laroche *et al.* (2004), and Outreville (2013).

Lastly, the two perceived variables contribute significantly to the attitude towards purchasing health insurance, and attitude plays an important role concerning the intention to purchase health insurance. This implies that to induce the intention to purchase health insurance, government or insurance companies have to influence the attitude of people, so that they will think that purchasing health insurance is a

good idea and a necessary thing. This is consistent with previous research, such as Omar and Owusu-Frimpong (2007) who show the importance of attitude in respect of the intention to purchase insurance.

Analysis of the behavioural control associated with the intention to purchase health insurance

Our two estimates also show the significant contribution of perceived behaviour control to the purchase of health insurance. The findings indicate that there are external factors and internal factors that play important roles. For instance, the thoughts about financial ability might influence the intention to purchase health insurance. This is consistent with Beck and Webb (2003) and Lee *et al.* (2010) who found that price and financial ability is the main factor in terms of health insurance demand. The intention to purchase health insurance is also driven by other behavioural controls, such as perceived complexity, insurance information, and regulation literacy. This means that insurance companies have to educate people about health insurance, and make the product information and procedure simpler. Because, by doing this, it will increase the intention of people to purchase health insurance. This is supported by Tennyson (2011), Liebenberg *et al.* (2012b), and Kwon (2013).

Analysis of the subjective norms concerning the intention

The findings also show that subjective norms significantly influence the intention to purchase health insurance. This means that the behaviour to purchase health insurance is influenced by oth-

ers, such as family, relatives, friends, colleagues, or other important people to them. The opinion of others creates a subjective norm forcing them to purchase health insurance. This is in line with Liebenberg *et al.* (2012a). Insurance companies might do three things based on this information in terms of inducing the intention to purchase health insurance. First, insurance companies might make a family package that covers a whole family, and give bonuses or other promotions if one can persuade others to have health insurance. Second, insurance companies might use an influential person, such as celebrities, athletes, famous politicians, or other influential people as a role model for health insurance campaigns. Lastly, insurance companies might influence or cooperate with government to educate the public about the importance of health insurance.

Analysis of the moderating effect of health value

Health value is the main variable in this research. Our findings show that health value moderates the relationship between attitude and the intention to purchase health insurance. This means that when people value their health intensely, the attitude towards intention to purchase health insurance will be stronger. For example, those who perceive that health is everything will have the intention to purchase health insurance. There are also people who will give everything just for their health, and they have a strong intention to purchase health insurance. Insurance companies should campaign about the importance of health in regards of increasing the demand for health insurance. This is consistent with prior research, such as Hall and

Jones (2007), Nyman (1999), Baicker *et al.* (2012), and Coelho and de Mazza (2012).

CONCLUSION

There are three main conclusions from this research. Firstly, the theory of planned behaviour (TPB) can explain the psychological drivers of the intention to purchase health insurance. The demand for health insurance is driven by the attitude towards purchasing, subjective norms (the environment and society influence), and the perceived behavioural control. Second, this research found that perceived usefulness and perceived risk play an important role in determining the attitude towards purchasing health insurance. When analysing the perceived usefulness, it implies that more people perceive the usefulness of health insurance, the higher the intention to purchase insurance. Indeed, this perceived usefulness is closely related to financial literacy, as suggested by Lusardi and Mitchell (2007), and Tennyson (2011). This will be the challenge for government and also for insurance companies to educate people regarding the need for insurance. Meanwhile, the significant contribution of perceived risk to attitude towards purchasing health insurance indicates that the more people know about their uncertainty in the future, the higher the intention to purchase insurance. This is related not only to the financial literacy, but also to the information dissemination of the insurance product. Insurance companies should promote the uncertainty of the future to have more demand for health insurance. The last main conclusion of

this research is that health value plays an important role as moderator on the TPB model. If one values their health more, there will be an intention to purchase life insurance.

This research contributes significant findings to health insurance studies. Different to previous studies, this research successfully introduces the role of psychology to induce the intention to purchase health insurance. The findings show that to have a greater number of people purchasing health insurance, there should be a planned behaviour approach, instead of an economics-based theory. This also explains the anomalies in Indonesia, where the economy is going well, but the health insurance demand is very low. Government and insurance companies, together, should consider the psychological role, such as perceived usefulness, perceived risk, health value, subjective norms, and behavioural control to increase the number of people purchasing health insurance. This could be through education, promotion or other channels.

Future research might relook at other psychological aspects that are not covered in this research, for instance, the role of knowledge or social norms on the intention to purchase health insurance. Theories, such as the knowledge exchange theory or social exchange theory can be used to explore the psychological role on the intention to purchase health insurance. Future research can also fill the gap in the methodology by conducting an experimental study in this area.

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