Applicability of Theory of Planned Behavior and Protection Motivation Theory in Predicting Intention to Purchase Health Insurance

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Abstract

In the era of increasing healthcare cost, private medical and health insurance ownership substantially reduces out of pocket expenses for medical care. The main objective of this paper is to apply theory of planned behavior and (TPB) model and protection motivation theory (PMT) in predicting intention to purchase health and medical insurance among graduating students. A cross-sectional survey was performed for data collection. A total of 443 questionnaires were completed and valid for data analysis purposes. Findings showed that there was statistically significant correlation between attitudes and subjective norm with the intention to purchase medical insurance. Severity, vulnerability and self-efficacy correlate negatively, while response efficacy demonstrates a positive correlation. Despite of the negative perception over private insurance, it significantly reduces out of pocket expenditures for medical care. Thus, there is a need of a further study examining the factors affecting the demand and individual's decision purchasing private insurance in Malaysia

Keywords: Intention to purchase, health insurance, graduating student, Theory of Planned Behavior and Protection Motivation Theory

1. Introduction

Malaysia is one of the developing countries in the Southeast Asia which gained its independence from the British Crown on 1957 inheriting most of the colonial system including healthcare system. A dual healthcare system which started to boom from early 1990s has caused the emergence of both public and private healthcare center nationwide. Public contribution on the overall health expenditure is about 53% and the remaining 47% is contributed by the private healthcare system (Mohamed Aljunid, 2014). Private healthcare services are mainly funded through out of pocket money and private insurance (BMI Research, 2012; Leng, 2008; Merican & bin Yon, 2002). Out-of-pocket expenditures for medical care are remain the major source of health care financing in many developing countries. Such spending has potential to escalate the burden of poverty. Approximately, 150 million people who fall into poverty due to catastrophic health care expenditures every year (McIntyre et al., 2006).

As PHI is known as one of the effective mechanism to fund individual's healthcare expenses when required, it is imperative to grasp individual decision-making pattern and knowledge of health insurance(Abu Bakar et al., 2012). Additionally, with the remaining 48% of the population seeking the healthcare services from private sector, it is important for the insurance companies to identify the strength and opportunities to attract people to subscribe their

insurance coverage. Studies on the factors affecting health insurance consumption have been well documented across the world. However, such studies in Malaysia context have yielded very little understanding, both conceptually and empirically. Only a limited number of published and unpublished materials were discovered in this subject. To date, little is known about the integration of these theories in predicting intention to purchase health and medical insurance. Hence, the study is aimed to determine the factors influencing as well as the integration of these two-model ability to better predict the intention to purchase medical insurance among graduating students at the Universiti Teknologi MARA, Cawangan Selangor, Puncak Alam Campus.

2. Literature Review

2.1 Private Health Insurance

Private health insurance (PHI) is a major source of financing for private health care sector. PHI is generally defined as a mechanism to protect people from the potentially extreme financial costs of medical care due to medical problems. PHI also ensure higher accessibility to health care when people need it. The PHI ownership is relevant in these days as healthcare services are expensive due to advance medical innovation and increasing prevalence of chronic diseases. PHI pools the risk of high health care costs across a great number of people, allowing them (or employers on their behalf) to pay a premium based on the average cost of medical care for the group of people. This risk pooling mechanism helps make the cost of health care services rationally affordable for most people (The Henry J. Kaiser Family Foundation, 2017) (Acharya et al., 2013)

PHI is among the oldest and popular financial products in Malaysia. There are thirty (30) insurance companies in Malaysia (Jaafar et al., 2012). Generally, PHI plan is classified as medical and health insurance and life insurance. Medical insurance policy covers costs related to the treatments and hospitalization due to illnesses, whereas life insurance plan typically covers permanent disability, or provide financial assistance to the buyer's dependents upon death. The benefit of life insurance subscription is well perceived by consumers in the developed countries, however the demand for life insurance in the developing countries such as Malaysia remains low (Beck, 2003). Among the selected Asian countries, Taiwan has the highest insurance penetration proportion (15.48%) whereas the insurance subscription rate in Malaysia is only at 3.04%. Medical and life insurance contributes only 2.9% from gross domestic product (GDP) in year 2011 (Loke & Goh, 2013). The Malaysian government fully supports PHI enrollment in particular for life insurance. This will be done by increases contribution to GDP to 4% with 75% of the population insured by 2020 which in line with initiatives to steer the nation towards becoming a high-income economy.

PHI possession has been linked to the lower out of pocket payments. As evident by (Simmons et al., 2019), out of pocket expenditures substantially reduced by the adoption of the private insurance. Likewise, Zhang et al., (2017) found insurance ownership reduced out of pocket spending on medications for inpatient care. In terms of accessibility, compelling evidences found a strong relationship between health insurance coverage and access to primary and preventive care, treatment of acute and chronic illness. Furthermore, insurance coverage is also essentially important to achieve better health care and health outcomes (Hoffman & Paradise, 2008). Prior literature has postulated that the demand for health insurance is reliant on on the quality of healthcare (Criel & Waelkens, 2003; Dong et al., 2009). Meanwhile, Costa-Font & García, (2003) found that quality gap between private and public health care is an important predictor.

2.2 Theory Planned Behavioural Model

Theory of planned behavior (TPB) developed by Ajzen, 1991 has been extensively applied to examine cognitive factors of consumers. The principle of TPB model suggests that behavior is determined by a combination of an individual's intentions to engage in a certain behavior (Ajzen, 1991). The dimensions of TPB includes behavioral intention, affected by three main aspects: perceived behavioral control, attitude and subjective norms. Attitude refers to the individual's assessment of an action which can either be positive or negative (Huang & Hsu, 2013). Subjective norm is well defined as perceived social pressure to perform targeted behavior (Huda et al., 2012). Perceived behavioral control refers to the perceived ease or difficulty in performing behavior and it is presumed to be related with past experience, anticipated weaknesses and challenges (Ajzen, 1991). Many previous studies were

conducted investigating the intention to take the recommended actions or behaviors. Dzulkipli et al., (2017) found that attitude and perceived benefits dimensions were the main factors influencing the behavioral intention towards medical insurance. However, Brahmana et al., (2018) found that perceived risk and perceived usefulness play important roles in the attitude towards the intention to purchase health insurance.

2.3 Protection Motivation Theory

Protection Motivation Theory (PMT) is developed to describe the effects of fear on attitudes and behaviors. Fear arousing communications have a significant impact on the selection of behaviors of an individual (Floyd et al., 2000). The dimension of PMT includes threat and coping appraisals, making it useful to explain unhealthy behavior's engagement, such as smoking, despite the well-known health risks (MacDonell, 2013). Threat is a situation when a person has exposed to any harm or danger. Threat appraisal evaluates person's perception of the threat of certain behaviors or diseases (Xiao et al., 2014). Perceived severity is an individual evaluation of the seriousness of the problem and it has strong influence on behavioral intention and motivation. An extreme fear of threat produces greater motivation to adopt protection behavior (Dabbs & Leventhal, 1966). Vulnerability refers to the chances of people experience harm or risky behavior (Salleh et al., 2013). Coping appraisal is defined by the individual's evaluation of the response efficacy of the recommended behavior as well as one's perceived self-efficacy in carrying out the recommended actions (Ling et al., 2019). Response efficacy generally defined as the efficacy of the recommended preventive behavior. Self-efficacy is the belief whether an individual can successfully perform the recommended behavior. In a recent study, improving the sense of self-efficacy able to help increase the likelihood of pro-environmental behaviour in community (Shafiei & Maleksaeidi, 2020). In conclusion, both components are related to the belief that the recommended behavior will be effective in reducing the threat (response efficacy) and the belief that one is capable of performing the recommended behavior (self-efficacy) increase the probability of an adaptive response (Thomson et al., 2013). Similarly, Taheri-Kharameh et al., (2020) revealed that protection motivation, coping appraisals and reasonable fear are considered as the strongest predictors of fall protective behaviors. A study investigating intention to perform breast-self-examination (BSE) found that perceived threat appraisal is the predictor of the behavioural intention and concluded that the design of educational programs based on the protection motivation theory can increase the regular of BSE behavior (Bashirian et al., 2019).

3. Methodology

3.1 Design and Participant

A cross sectional study design was conducted at the Universiti Teknologi MARA Selangor, Puncak Alam Campus. Participants involved were graduating students (final semester students) from eight (8) faculties at Puncak Alam Campus, which were Faculty of Business and Management, Faculty of Hotel and Tourism, Faculty of Health Sciences, Faculty of Pharmacy, Faculty of Education, Faculty of Accounting, Faculty of Architecture, Planning and Surveying and Faculty of Art and Design.

3.2 Instrument

A survey instrument was employed for data collection in this study. A total of 38-items self-administered questionnaire were adapted from previous studies (Ajzen, 1991; Rogers, 1983). The instrument comprised of four (4) sections; including Section A asked about demographic information, Section B assessing theory of planned behavior domain; which are attitudes, subjective norms and perceived behavioral control, Section C focusing on the components of protection motivation theory that postulates threat appraisal (perceived severity and perceived susceptibility) and coping appraisal (response efficacy and self-efficacy)and the final section is Section D assessing behavioral intention of the respondents to purchase and medical health insurance. Students were asked to rate their perception on the 7-likert scale (1=strongly disagree, 2=disagree, 3=somewhat disagree, 4=neither disagree nor agree, 5=somewhat agree, 6=agree, 7=strongly agree).

3.3 Data analysis

Both descriptive and inferential statistics were applied. Simple frequencies were performed to study characteristics of the respondents. A multiple linear regression analysis was performed to

determine the predictor of the intention to purchase health and medical insurance. Statistical package for social science software (IBM SPSS version 21.0) was used to analysed all the obtained data.

4. Results

Demographic Profile
A descriptive analysis was conducted to describe the demographic characteristics of respondents. A total of 433 respondents was valid for data analysis. The data findings showed that more than half of the respondents were at the age range of 23 – 24 years (n=259; 59.8%) and the remaining respondents were over 25 years old (n=25; 5.8%) and between age 21 to 22 (n=149; 34.4%). Almost 74% of respondents were male (n=320) and 26.1% were female students (n=113). Each faculty represent between 12 to 12.7%. Respondents from eight faculties were agreed to participate in this study. The faculties were Faculty of Education, Faculty of Health Science, Faculty of Accounting, Faculty of Pharmacy and Faculty of Architecture, Planning and Surveying, Faculty of Business and Management and Faculty of Hotel & Tourism. Details of the demographic profile are shown in Table 1.

Table1: Demographic profile of the respondents (n=433)

Characteristic	n	%
Age (years)		
21-22	149	34.4
23 – 24	259	59.8
>25	25	5.8
Gender		
Male	320	73.9
Female	113	26.1
Faculty		
Education	55	12.7
Art & Design	53	12.2
Business & Management	52	12.0
Health Sciences	55	12.7
Accounting	55	12.7
Architecture, Planning and Surveying	55	12.7
Pharmacy	55	12.7
Hotel & Tourism	53	12.2

Correlation analysis
Pearson's correlation coefficient was carried out to measure the strength linear relationship between the dimensions of TPB model and PMT towards intention to purchase health insurance. To interpret a correlation coefficient, the eyeball method guidelines is perfectly to be employed and illustrated in Table 2.

Table 2. Rule of Thumb for Interpreting the Size of a Correlation Coefficient

Size of the correlation	Coefficient General Interpretation
±0.8 to ±1.0	Very strong relationship
±0.6 to ±0.8	Strong relationship
±0.4 to ±0.6	Moderate relationship
±0.2 to ±0.4	Weak relationship
±0.0 to ±0.2	Weak or no relationship

Source: (Mukaka, 2012)

The correlation Pearson analysis results is described in Table 3 and Table 4. The findings report that attitudes (r=0.505, P<0.001) and subjective norm (r=0.447, P<0.001) have a statistically significant moderate correlation with

intention to purchase health insurance. However, perceived behavioural control was not significantly correlated with the intention to purchase health insurance (r=0.084, P>0.05)

Table 3. Correlation between TPB model domains and intention to purchase health insurance

	ATT	SN	PBC
INT	0.505*	0.477**	0.084

*Correlation is significant at P<0.01, INT=intention, ATT=attitudes, SN=subjective norms, PBC=perceived behavioral control

All components of theory protection motivation shown to have weak to moderate correlation with the intention to purchase behaviour. Severity, vulnerability and self-efficacy correlated negatively (r=-0.238, r=-0.262, r=-0.067 respectively, P<0.001). Meanwhile response efficacy demonstrated positive moderate correlation (r=0.458, P<0.001).

Table 4: Correlation between PMT domains and intention to purchase health insurance

	SEV	VUL	RE	SE
INT	-0.238**	-0.262**	0.458**	-0.067**

**Correlation is significant at P<0.01; SEV=severity, VUL=vulnerability, RE=response efficacy, SE=self-efficacy

Regression analysis

A multiple linear regression analysis was used to test the dimensions from TPB model and PMT that influence the purchase intentions of health and medical insurance among graduating students. Table 5 demonstrates that 39% of the variance in the dependent variable is explained by the independent variables in the model which indicates that the five predictors studied has a moderate influence on the intention to purchase medical insurance among graduating students.

Table 5 demonstrates the standard regression output indicating the effects of individual predictor variables on the dependent variables. The unstandardized coefficients for attitudes, subjective norm, perceived behavioral control score and response efficacy are 0.331, 0.091, 0.011 and 0.199; respectively. This indicates for each percentage rise in attitudes, subjective norm, perceived behavioral control score and response efficacy, the intention to purchase insurance will increase by 33.1%, 9.1%, 1.1% and 19.9% respectively. However, for each increase in percentage severity, vulnerability and self-efficacy scores, the intention to purchase medical insurance reduced by 5.8%, 8.8% and 9.9% respectively.

Table 5: Linear Regression Analysis

Model	Unstandardized coefficient		t	Sig
	B	SE		
Constant	2.096	.361	5.805	.000
Attitude	.331	.048	6.860	.000
Subjective Norm	.091	.021	4.244	.000
Perceived Behavioural Control	.011	.042	.267	.789
Severity	-.058	.052	-1.101	.271
Vulnerability	-.088	.042	-2.077	.038
Response efficacy	.199	.046	4.294	.000
Self-efficacy	-.099	.049	-2.024	.044
R		0.633		
R^2		0.400		
Adjusted R^2		0.390		
Standard error of estimates		0.775		

5. Discussion

Over the years, insurance industry has grown up steadily as the society becomes more educated and has a better insight about the importance of medical and health insurance. Yet, the insurance subscription rate in Malaysia is relatively low compared to other Asian countries (Loke & Goh, 2013). Therefore, this study aims to apply TPB and PMT models to predict the intention to purchase medical and health insurance among graduating students. As this population is next to the working group in near future, it is vital that their initial intention to purchase insurance to be investigated to provide an insight of their readiness to the medical and health insurance consumption. This therefore allows the existing insurance companies and third-party organization to prepare suitable insurance plan for this potential customer.

Several studies have applied TPB and PMT to determine behavioral intention (Dzulkipli et al., 2017; López-Mosquera, 2016; Xiao et al., 2014). In insurance industry, TPB can be used to predict insurance purchasing behaviors and inconsistencies in insurance demand (Brahmana et al., 2018). Findings show attitudes is the strongest influence towards the intention to buy insurance. Attitude is defined as an individual perceived behavior to be either negative or positive of certain behavioral intention. The attitude may be developed based on the individual previous experience of the same behavioral episode (Dzulkipli et al., 2017). A possible explanation may be due to the perceived usefulness of health insurance. This is because when people thinks that health insurance is useful for his/her own benefit, he/she has higher intention to purchase the health insurance (Abbring et al., 2003; Brahmana et al., 2018; Olola et al., 2011; Omar & Owusu-Frimpong, 2007). As evident by Abu Bakar et al., (2012), non-salaried individuals, the factors that affected the decision to purchase health insurance were race-religion, education level, marital status and out-of-pocket (OOP) health expenditures. Attitudes is also appearing to be a significant factor in other behaviors (Ledesma et al., 2018; Z. Zhang et al., 2018).

Finding also suggests subjective norm has a significant correlation with intention to buy medical insurance. Subjective norm is interpreted as an individual's view on any given issue based to the family and friends' recommendations (Montano & Kasprzyk, 2014). Results indicate behavior to purchase medical insurance is influenced by others, such as family, relatives, friends or another important person to them. Other's view makes a subjective norm compelling them to purchase health insurance particularly in a situation on the vulnerability such as sudden death of the family's breadwinner (Mahdzan & Peter Victorian, 2013). Additionally, most of Malaysian's decisions or views are largely shaped by those closest to the individual.

PMT has been used to describe human behavior in individuals, families, and the parent-child unit (Westcott et al., 2017). PMT is widely applied to predict many behaviors (Bai et al., 2018; Xiao et al., 2014; Yan et al., 2014). The use of PMT in this study is relevant as an individual is prone to purchase the medical and insurance if they possess the right motivation (looking forward of whom should fund the healthcare expenses and effort to reduce the financial burden when the medical needs arise) as well as the ability (good income and access) to medical and health insurance plan.

Regression analysis suggests the intention to purchase health insurance is not predicted by perceived severity and perceived vulnerability. This might be due to the respondents are young age students, therefore perception of risk of getting a disease is lower, thus they do not feel the need to have a health insurance. In contrast, self-response and self-efficacy appear to be the predictors for intention to buy medical insurance. Response efficacy is defined as the extent people believe a recommended response effectively deters or alleviates a threat (Witte, 1992). This is especially true as the respondents in this study are university students which is generally aware or have a good knowledge about the benefit of the health insurance. This is supported by Walsh et al., (2011) who has found that passive or no-choice option results perhaps from inadequate knowledge or understanding of the situation. Furthermore, Abu Bakar et al., (2012) found that education level is one of the factors that affects non-salaried individual's decision to purchase health insurance.

6. Conclusion

While out of pocket spending for the medical care are increasing, medical and health insurance has always had a negative perception among community. This justifies the need of further research examining the demand of this type of insurance in Malaysia. Moreover, the target of population may need to be extended to working adults. Findings have suggested that intention to purchase medical insurance can be predicted by TPB and PMT models in which attitudes, subjective norms, response efficacy and self-efficacy appear to be the predictor for behavioral intention thus contribute to the insurance ownership.

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