

Issues in Insurance Expenses among the Lowest Income Households in Malaysia: Validity and Reliability Analyses

Norimah Binti Rambeli @Ramli, Emilda Binti Hashim, Maryam Mahdinezhad, Norasibah Binti Abdul Jalil, Asmawi Hashim & Syazwani Binti Mohd. Bakri

Faculty of Management and Economics, Universiti Pendidikan Sultan Idris, 35900, Tanjong Malim, Perak, Malaysia

To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v8-i10/5305>

DOI:10.6007/IJARBSS/v8-i10/5305

Published Date: 10 November 2018

Abstract

The purpose of this pilot study is to identify the questionnaire items that should be used in the actual study, regarding insurance expenditures among households with the lowest income group (B40). This study used 30 respondents in answering this questionnaire set. Two statistical tests were done under this study, namely, validity and reliability tests. The validity test was conducted to measure the validity of a questionnaire items using Confirmatory Factor Analysis (CFA). On the other hand, the reliability test was performed to assess the reliability of a coefficient or variable in the questionnaire using Cronbach's Alpha Analysis. Data analysis process was done to obtain Cronbach Alpha value and correlation index between items and overall score. Items with an alpha value of less than 0.65 would be removed from the study tool, due to their low reliability. The result of the test found that the KMO test and Bartlett's test were greater than 0.5. Consequently, the data suggested no serious multicollinearity problem. Therefore, it was deemed appropriate to undergo factor analysis after dropping some items. Additionally, the assessment revealed that all variables had favorable Alpha Coefficient value of more than 0.7. Overall, based on the analyses, 40 items were retained while 20 items were abolished to improve KMO values. In conclusion, this instrument, with some improvements, can surely be used for future field studies.

Keywords: Insurance Expenses, Validity and Reliability Analyses, Pilot Study, B40 Households, Malaysia

Introduction

Insurance is defined as an agreement between an individual (insurer) and another individual (insured party) by paying a certain amount of money or premium as an assurance that all accidents incurred by the insured party may be compensated by the insurer (Kansra and Gill, 2016). Therefore, expenses on insurance such as life insurance, medical and health insurance are due to economic mechanisms in providing economic security to individuals and

contributing to national development. Moreover, insurance is one of the protection schemes that should be emphasized by each group, since it is a personal risk management mechanism that can guarantee the quality of an individual's life. Hence, this situation will impact the quality of risk management among society, especially those with low incomes. This is because expensive medical costs will certainly be a burden to society, especially for those with low and middle income (Lee and Noriza, 2014).

The Malaysian government has categorized 3 groups of households according to their income, namely, lowest income group, middle income group and high income group. The lowest income group of 40 percent (B40) of households in this category earns RM 3860 and below. Meanwhile, the 40 percent middle income group (M40) receives monthly income ranging from RM 3861 to RM 8300. In addition, 20 percent of households who get above the figure are considered as high income group (H20). The purpose of Malaysian government to group its citizens according to their income is to ensure that every citizen is entitled to his or her rights. The underlying belief of B40 group regarding insurance protection is that, they deem the protection as insignificant and unprofitable. Furthermore, they also consider that insurance protection is only suitable for middle and high income groups. In fact, this particular B40 group requires financial assistance and support from insurance companies, should they face any inevitable risk of losses or circumstances occur. In this study, the perceptual factors, such as the services of insurance companies, knowledge and awareness about the importance of insurance and lifestyle of nutrition, are taken as identified factors that affect insurance expenditure among the lowest income group B40 in Malaysia.

Research objective

This pilot study is conducted to test the questionnaire instrument that will be used in the actual study of insurance expenditure among the lowest income group (B40) in Malaysia. Questions in the questionnaire are adapted from previous studies according to the objectives of the study and have gone through experts' opinion. This study examines three factors or constructs that are important in explaining insurance expenses among lowest income group (B40) in Malaysia, namely, the perceptions of the services of insurance companies (Lee & Noriza, 2014), knowledge and awareness on the importance of purchasing insurance and nutrition lifestyle (Anuradha, 2013; Sarwar & Qureshi, 2013; Kansra and Pathania, 2012).

Literature Review

Theory

The theories used in the study were aimed to determine the relationship between the concept of the study and to further clarify and explain the idea of the study (Chua, 2006). This study employed two theories: Theory of Planned Behavior (TPB) and Theory of Reasoned Action (TRA). This particular study adopted Model of Reasoned Treatment Theory (TPB) by Ajren and Fishben (1980) in its conceptual framework as the primary basis of guidance and reference. This theory is based on the assumption that humans are often rational and use the information they receive systematically. They believe that human behavior is not governed by unconscious motive or overpowering desire or without thinking. Their primary goal is to predict and understand the behavior of individuals. The first step taken to achieve that goal is to identify and measure individual behavior toward his or her interest. When behavior is identified, then, it is possible to identify what factors determine behavior. Distinctively, there are two unique factors that contribute to behavioral behavior in TPB called attitudes towards

behavior and subjective norm. It is necessary to look at the beliefs that individuals hold on themselves and the environment for deeper understanding about factors that affect behavior (Ajzen & Fishben, 1980). Hence, individual and family beliefs are exhibited as individual attitudes and subjective norms in which it determines desires and behavior. According to TPB, individual desires are determined by two determinants namely, personal in nature and social influence. An individual's assessment of positive or negative behavior totally depends on the individual's choice and it encourages the conduct of the behavior.

Meanwhile, reasoning theory is a theory that describes human behavior. This is due to the fact that each individual has different behavior. According to Fishbein and Ajzen (1975), a framework has been developed for the purpose of addressing behavioral behaviors, known as the Theory of Reasoned Action (TRA). This theory has derived from improvement done to the previous TPB theory by Ajzen (1985). As such, the TRA model is developed by adding additional variables i.e. perceived behavior control. In addition, TRA theory is also an advanced theory developed from Theory Acceptance Model (TAM) (Ajzen & Fishbein, 1980). TRA theory is one of the theories that investigate the relationship between trust, attitude, and treatment for the purpose of developing models, which is related to the attitude structure. The point being, it can be clarified, through this attitude structure that an individual will behave after considering all the information received rationally by considering the implications of their actions. Therefore, TRA theory also explains that human behavior is a decision-making process based on clear and justified information. It also states that the human behavior is based on the treatment decision, which is best to predict the intention. This intention refers to subjective attitude and norms.

Factors affecting Insurance Expenses

Selection of factors in building a questionnaire is based on past studies conducted by previous researchers, regarding factors affecting the demand and purchase of insurance. According to Negi and Singh (2012), they find that brand factors and product quality have an impact on the purchase of insurance. Customers' perceptions on the financial stability and good performance of a company will propel customers to buy products being offered by the insurance company. In addition, Kansra and Pathania (2012) prove that only 11.5 percent of Punjab residents have had health insurance. According to them, there are several factors that make it difficult for them to buy insurance such as the problem of formality legality, agent problems, coverage issues, awareness and negative feedback. Nonetheless, Gupta and Sharma (2015) reveal that marketing factors are the main reasons why the residents of Punjab and Haryana are interested in buying health insurance. The marketing factors like brand and insurance agents as well as the influence of friends and family prompt the purchase of health insurance in their study. Contrastingly, Lee and Noriza (2014) discover that the main factor influencing Malaysian society to purchase insurance is due to the service offered by specific insurance companies.

Razak (2014) noticed that perception of life insurance is a driving force for increased insurance purchases. among Malays in Malaysia. The Malay community agrees that life *takaful (Islamic insurance)* is regarded as a protection scheme for family members and the fact that the purpose of purchasing insurance is to ease the burden of family members. Similarly, studies by and Yadav and Tiwari (2012) ascertain that customers' perception of insurance companies as well as economic factors affect the purchase of insurance in Malaysia and Jabalpur. Moreover, insurance companies' service factor, stable company reputation, effective service

quality, customer-friendly and various insurance packages affect consumers to purchase health insurance policies in the Amritsar, Ludhiana and Chandigarh districts (Chaudhary, 2016).

Furthermore, Lee and Noriza (2014) emphasize that the level of knowledge on life insurance and health insurance affect the ownership of insurance among the people in Terengganu, Malaysia. Other than that, Bawa and Ruchita (2011) insist that low levels of awareness on the importance of insurance ownership are affected by low income, no exposure from insurance agents, unsatisfactory insurance services and unclear insurance policy information. Besides, Anuradha (2013), internet access influences the purchase of insurance in India as they have more internet access to knowledge and awareness about the importance of insurance. Sarwar and Qureishi (2013) add that the low level of knowledge on public health insurance in Pakistan was low which led to insufficient insurance ownership. This is because there is a significant relationship between education and insurance demand as discovered by Kansra and Gill (2016).

Methodology And Finding

Data Analysis

In measuring the significant study through the questionnaire provided, the data are analyzed using the inferential statistics using SPSS software. Upon completion of the collection process, the data obtained are processed according to some procedures. The first procedure requires all items in the questionnaire are pre-coded with names that are readily understood and referenced. After that, the questionnaire is transferred to encode attachments (coding sheets) to facilitate analysis using the software. The data entered is thoroughly checked to ensure zero error that may occur during the data entry process. This step is important to avoid any problems during the data analysis process. After all data are recorded and gone through the review process, the validity test for measuring validity of a questionnaire is done. A questionnaire is valid provided that the question or question item is able to describe something that will be measured by the questionnaire. This study uses the Confirmatory Factor Analysis (CFA) test to measure the validity of the three variables by looking at KMO values and Bartlett's test of Sphericity. Next procedure involves carrying out Cronbach Alpha's confidence analysis to further measure the reliability of a coefficient or variable (Ramlee, 2014) on all three variables covering all 60 items questionnaire. This measurement is based on the average the correlation of the items used in a single test performed if the items are standardized. The Cronbach's alpha can be interpreted as a coefficient correlation, with a range value of zero (0) to one (1).

Factor Analysis

Factor analysis is an important procedure for identifying, mitigating and re-arranging questionnaires based on the strength of correlation between items into certain constructs under reviewed variables (Chua, 2014). It is important to ensure that inappropriate and unsuitable items of questionnaires are removed and items are organized in accordance to their constructs.

Apart from organizing items into specific constructs, factor analysis is also a technique of reducing data for items that overlap with each other. This method allows the researchers to

identify whether the items used only measure the variables represented either alone or redundant (Hair, 2010). This method is also known as data reduction technique.

Initially, there are 60 items being used in this study. Testing of factor analysis is performed separately in the context of the constructs of the insurer's services, knowledge and awareness of the importance of purchasing insurance and the lifestyle of the diet. The findings of factor analysis refer to Keiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity tests to determine the suitability of the overall factor. The KMO test exhibits multicollinearity while the Bartlett's test off Sphericity test identifies whether the correlation between items are sufficient to do factor analysis. If the same correlation values exist between two or more items, the items are said to measure the same aspect. This test assists researchers to identify whether or not the items are appropriate for factor analysis. Tables 1 and 2 simplify the tests results;

Table 1

KMO and Bartlett's Test Result before Omitted Variables

Test	Perception	Knowledge and Awareness	Nutrition and Lifestyle
Kaiser-Mayer-Olkin (KMO)	0.454	0.698	0.471
Bartlett's Test Of Sphericity test			
<i>Approx chi-square</i>	476.376	606.868	339.818
<i>df</i>	190	190	190
<i>Sig.</i>	.000	.000	.000

Table 2

KMO and Bartlett's Test Result after Omitted Variables

Test	Perception	Knowledge and Awareness	Nutrition and Lifestyle
Kaiser-Mayer-Olkin (KMO)	0.752	0.769	0.620
Bartlett's Test Of Sphericity test			
<i>Approx chi-square</i>	306.899	437.456	125.080
<i>df</i>	105	105	45
<i>Sig.</i>	.000	.000	.000

Based on table 1, the KMO test results are not significant where the KMO values are smaller than 0.5 as an indication of serious multicollinearity problem, whereby they are not suitable for factor analysis. On the other hand, Table 2 gives contrasting result. The value of KMO are significant, whereby the values of KMO are greater than 0.5, designate that the data has no serious multicollinearity problem and is ideal to undergo factor analysis after dropping some items from the three constructs.

Reliability of Instrument of Study

Generally, the reliability of a research instrument refers to the consistency of an instrument in measuring an idea or variable to be measured in a study conducted. This process is called construct validity (Chua, 2006). To measure the validity of the questionnaire constructs, the reliability of the instrument should be analyzed. Instrument reliability is assessed through statistical approach using Cronbach Alpha coefficient. These statistics provide an average correlation indication among all items that make up the scale. Range values starting from 0 to 1 with higher values indicate higher reliability. Although Chua (2011) recommends a minimum value of 0.7, however, the value of 0.6 is acceptable should the number of items used are less than 10 (Zainudin, 2014). If the value is lesser than that 0.6, an item needs to be dropped because it measures something else. The assessment can also be made based on the output obtained from the analysis of the Cronbach's alpha coefficient, i.e. the item contained in the Corrected Item-Total Correlation (Julie, 2011). The reliability assessment results for this study can be seen in table 3 below. The table shows the Alpha Coefficient values for all variables in the pilot study.

Table 3
Alpha Cronbach Value of Pilot Test

Test	Perception	Knowledge and Awareness	Nutrition and Lifestyle
<i>Cronbach's Alpha</i>	0.912	0.954	0.839
<i>Cronbach's Alpha Based on Standardized Items</i>	0.916	0.955	0.844
<i>N of Items</i>	15	15	10

Conclusion

In conclusion, all items in the questionnaire set are acceptable since all variables have favorable Alpha Coefficient value of more than 0.7, as suggested by Nunnally (1978) and Hair, et al. (2010). Based on the analysis, 40 items were retained in order to improve KMO values. Nevertheless, 20 items were dropped from the category of perception of insurance company services, 5 items were dropped under knowledge and awareness on the importance of insurance purchases category, and 10 items were dropped under nutrition lifestyle variables, respectively. Hence, with some adjustments, this instrument can be used for future field studies. For further study, this study will conduct research procedure proposed by Emilda, Norimah, Maryam & Normala (2016).

Acknowledgement

We wish to extend our appreciation to the Minister of Higher Education and the Sultan Idris Education University for sponsoring this research grant (Research code: 2016-0215-106-41). We would also like to thank the other parties involved, including the respondents' cooperation, assistance and support in the completion of this pilot study.

Corresponding Author

Norimah Binti Rambeli @Ramli,
Faculty of Management and Economics,

Universiti Pendidikan Sultan Idris
35900, Tanjong Malim, Perak, Malaysia
Email: norimah@fpe.upsi.edu.my

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