# Factors Influencing Purchase Intention of Life Insurance among Engineering Students

Patrick Tan Beng Keat[1], *Wan Normeza Wan Zakaria[2], Raihana Mohdali[3]

[1,2,3] *Razak Faculty of Technology and Informatics, Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia*
[1]*patrick_tanbk@yahoo.com*, [2]*normeza.kl@utm.my*, [3]*raihana.kl@utm.my*

## Abstract

*This paper discusses the factors that will influence the purchase intention of life insurance. The main objective of this research is to identify the influence of product knowledge, risk aversion and social influences on the intention to purchase life insurance among engineering students. With the increase in death toll and life-threatening disease in Malaysia, the importance of life insurance is turning into a necessity for protection purpose. Past researches revealed that students in a non-finance course, such as engineering course, tend to have low insurance awareness compared to those taking finance courses. This research employed a survey questionnaire for a total of 183 engineering students in a public university in Malaysia. Using multiple linear regression analysis, the findings revealed that social influences and risk aversion significantly influence the intention to purchase life insurance among engineering students. However, product knowledge does not influence life insurance purchase intention. The findings from this research will assist Malaysian life insurance agencies in developing an effective way to communicate with engineering students as an effort to promote good awareness and knowledge on life insurance.*

*Keywords: Life insurance, engineering students, purchase intention*

## 1. Introduction

Life insurance is insurance coverage that safeguards a person against financial loss caused by cases such as death, permanently disable and contracting a chronic disease. It is also one of the essential pillars of the financial system. Many countries, including Malaysia, strive to improve the functioning of the insurance system to help enhance the financial system. These days, with the growing number of fatality and life-threatening diseases recorded in Malaysia, the importance of life insurance is becoming a necessity for protection purpose. Cases such as ischaemic heart diseases, pneumonia, cerebrovascular diseases, transport accidents and malignant neoplasm of trachea, bronchus and lung are among the principal causes of death among Malaysian [1] ("Statistics on Causes of Death", 2017). However, there are still many Malaysian failed to purchase life insurance as a preventive measure [2] ("2012 Underinsurance Study in Malaysia", 2013).

The previous survey by Life Insurance Association Malaysia (LIAM) discovered that demand of life insurance among young consumers is not encouraging considering the premium paid is relatively low for this age group [2] ("2012 Underinsurance Study in Malaysia",2013). Engineering students, as a young consumer group, are among those to have a high possibility of not

_____

*\* Corresponding author. normeza.kl@utm.my*

purchasing life insurance. In engineering courses, the insurance-related topic is not something that can be learned as it is not part of the major undertaken by engineering students. This situation explained for the low insurance awareness observed among students in the non-finance course compared to those taking finance courses [3](Dalkilic and Kirkbesoglu, 2015). As a result, engineering students are more vulnerable toward financial risk in future when any mishap happens to them. As an effort to promote good awareness and encouragement on life insurance purchase, this paper seeks to identify factors that influence purchase intention of life insurance among engineering students. Based on the study of [4]Loke and Goh (2012), there are five determinants of life insurance purchase, namely product knowledge, risk aversion, social influences, income level and income protection. However, this paper focuses only on three variables which are product knowledge, risk version and social influences since the selected respondents are undergraduate engineering students who have yet to earn any income or salary.

## 2. Literature Review

## 2.1 Overview of Malaysian Life Insurance Industry

Over the years, the life insurance industry in Malaysia has shown rapid growth. In 2016, Malaysia recorded an increase of 27.2% in the sum assured from RM1.02 trillion in 2012 to RM1.3 trillion. The premium expenditure per capita also increased by 17.4% from RM845 in 2012 to RM992. On top of that, an additional 36,534 new policies were recorded that year compared the previous years where there is a significant decrease observed between 2012 until 2015. Table 1 shows the development of the life insurance industry in Malaysia.

**Table 1: Development of Malaysian life insurance industry from 2012 to 2016**

| YEAR | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Sum Assured | RM1.02trill | RM1.09trill | RM1.17trill | RM1.24trill | RM1.3trill |
| Expenditure Per Capita | RM845 | RM882 | RM936 | RM958 | RM992 |
| New Policies | 1,488,799 | 1,363,743 | 1,367,856 | 1,364,668 | 1,401,202 |

Source: Life Insurance Association of Malaysia, Annual Report 2014 - 2017

Despite the positive growth, Malaysia is lagging behind other the Asian countries in term of the insurance penetration and density rate. In 2016, Malaysia recorded an insurance penetration rate of 3.1% while the density rate is at USD290, which positioned Malaysia as among Asian countries with the lowest insurance penetration and density rate. In comparison to Singapore and Thailand, each recorded a higher figure with China led with the highest penetration rate at 16.2% and a density rate of USD7,050. Figure 1 and Figure 2 shows the penetration and density rate of the life insurance industry for Asian countries in 2016.
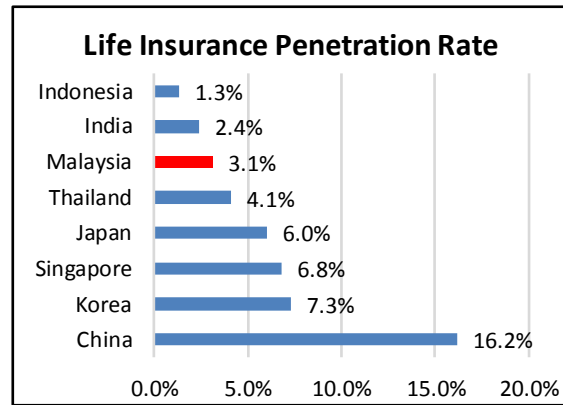
**Figure 1. Life insurance penetration rate in 2016 for Asian countries**
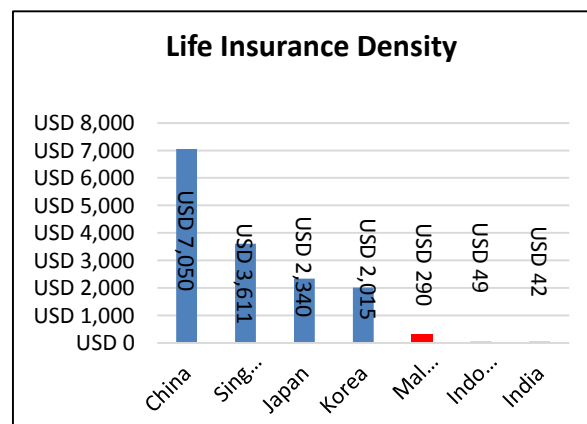**Source: OECD. Insurance Indicator**



**Figure 2. Life insurance density in 2016 for Asian countries**
**Source: OECD. Insurance Indicator**

## 2.2 Product Knowledge

Product knowledge is a level of understanding and awareness of a person regarding the product's information such as brand, quality or cost [5] (Brucks, 1985). Beatty and Smith (1987) [6] define product knowledge as a person's view on a product which includes previous experience with the product. Park et al. [7] and Lessig (1981)[8] come out with two way to measure the product knowledge, namely subjective knowledge and objective knowledge. Subjective knowledge is 'how much a person knows about the product'. Meanwhile, objective knowledge is 'how much a person thinks they know about a product'. Brucks (1985) [5] suggests that another way to measure product knowledge is based on usage experience or prior experience an individual has with that product.

When making a purchase, an individual will depend on their personal experience and understanding about the product inside and out. This way, they can make the right purchase and choose the product that benefits them. In the consumer group, Lin (2007)[9] proposed that they can be divided into expert or novice. The expert consumer tends to have a better understanding and knowledge about a product. They usually could differentiate the brands and determine the

characteristics of a product. However, novice consumer prefers to widen their field of knowledge about a product by seeking advice from others due to lack of product knowledge. This research attempts to identify the influence of product knowledge on the intention to purchase life insurance among engineering students.

## 2.3 Risk Aversion

Risk aversion is a person's behaviour when they are exposed to an uncertain situation [10] (Sanvik, 2011). Guiso and Paiella (2004) [11] claimed that risk aversion in a person differences based on their choice of occupation, the way they dispense the collected assets, amount of insurance to be purchased in the market and also self-insurance. Mahdevi and Abed (2015) [12] suggested that if it is to assume that a person with low-risk is sufficiently risk-averse, buying or owning insurance even with a higher cost than the actual fair rates is something that worthwhile. This show on how much they value the insurance. In other words, it means the willingness of a person to pay for insurance in order to avoid a risky situation in their life.

In past literature, there is a significant difference observed in a person risk aversion. For instance, Chattopadhya and Dasgupta (2015) [13] found that in term of gender differences, females tend to have a lower tolerance level toward risk compared to the male who made them highly risk-averse. In another literature, Sadiq and Ishaq (2014) [14] found that age, investment, education and income level have a significant effect on the risk tolerance level create a significant impact on an individual risk-averse. However, gender, marital status and occupation found to have no effect on the risk tolerance level. This research has included risk aversion in order to understand whether it will influence the intention to purchase life insurance among engineering students.

## 2.4 Social Influences

Social influence is defined as the influence of external social factors on a person's behaviour from a social psychology point of view [15] (Fang et al., 2017). Social influence can be categorized into normative and informational. Normative social influence is 'an influence to conform with the positive expectations of another'. Meanwhile, an Informational social influence is 'influence to accept information obtained from another as evidence about reality'. In other words, normative social influence happens when a person obey or follow others' expectation in order to obtain a reward or to avoid punishment while informational social influence happens when a person value the opinion or experience of others which they feel credible as evidence toward certain thing [16] (Lord et al., 2001).

Studies on social influences have been performed extensively within the concept of 'Theory of Reasoned Action' developed by Fishbein and Ajzen, which is represented by subjective norm [17] (White et al. 2009). The theory helps to predict and provide an explanation on a person's behaviour based on their intention, attitude and subjective norm. A person's intention to purchase does not just exist naturally but influenced by various potential sources. Past researches suggest that the source of social influence may come from friends, family, employers, educators, professional colleagues, experts, agent and the media [18]

(Maram and Kongsompong, 2007) & [19] (Klobas and Clyde, 2001). In this research, social influence is included in determining its role in influencing engineering students into the purchase of life insurance.

## 2.5 Purchase Intention

Purchase intention is defined as a person's desire to make a purchase on a product or service in future [20] (Wang and Tsai, 2014) & [21] Malik et al., 2013). It is considered as one of the components of behaviour characteristic in consumption attitude. Engel et al. (2006) [21] proposed that a person's purchase intention consists of identifying the problem, search for information, assess for alternatives, actual purchase and post-purchase behaviour. Purchase intention can be divided into three types of purchase behaviour, namely unplanned, partially planned and planned purchase. An unplanned purchase is when an individual decides to purchase a product or brand category in the store. On the other hand, a partially planned purchase is when a person decides to purchase a product but have not decided on the brand of choice until the person shop at the store. Meanwhile, a planned purchase is when a person already decides on the type of product, brand and specification that they will be buying later at the store.

Purchase intention is also closely related to the probability of the actual purchase. Higher probability in a purchase is when an individual has a high desire to buy a product or service. However, purchase intention does not necessarily mean that an individual will make the actual purchase. Kotler stated that an unpredictable situation and personal attitude could affect a person's purchase intention [23] (Kotler and Amstrong,2010) & [24] (Kotler and Keller, 2013). Jaafar et al. (2012) [25] suggested that obstacles from internal impulse and external environment during the purchasing process may hinder an individual purchase intention. When making a purchase, every individual will have a different preference in term of the price, brand, quality and specification of the product or service. This research has included three variables, namely product knowledge, risk aversion, and social influences, to identify its influence on the purchase intention of life insurance among engineering students.
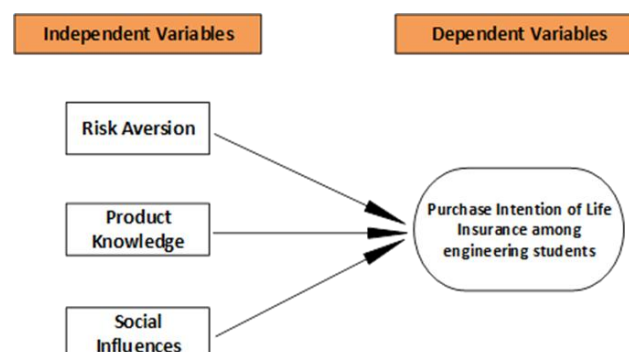
## 3. Conceptual Framework



**Figure 3. Conceptual Framework**

Figure 3 shows the conceptual framework for this research. The concept is adopted from a previous researcher, Loke and Goh (2012) [4]. The independent variables consist of product knowledge, risk aversion and social influences, and the dependent variable is the purchase intention of life insurance.

## 4. Methodology

A quantitative method was employed for this study to collect useful information and data from the respondents because this method provides accurate and reliable finding that can be generalized to a larger population [26] (Sekaran and Bougie, 2013). Data from this study was collected from engineering students in a public university in Malaysia. The survey questionnaires were distributed online to the respondents via a google form. During this process, the respondents were given two weeks to one month with several follow-ups to complete the questionnaires and submit their responses online.

The questionnaire consists of three sections with Section A that focused on the demographics and socioeconomic characteristic of the respondents such as their race, ethnicity, gender, age, education level and future career preference. In section B, respondents were asked about general information on awareness, basic understanding and ownership of life insurance. For section C, respondents were asked on statements related to product knowledge, risk aversion, social influence and their intention to purchase life insurance. A five-point Likert style scale was employed for the respondents to state their level of agreement for each question. The scale of 1 means strongly disagree while the scale of 5 means strongly agree.

Descriptive analysis was carried to understand the demographic of the respondents. The validity and reliability test were adopted to measure the accuracy of the assessment. The normality of data and correlation between the independent variables were also determined to ensure that data met the requirement for the subsequent analyses. Multiple regression analyses were adopted for this study to understand the relationships between the variables. In order to be considered as a significant variable, the value of variable significance should be less than 0.05 ($\rho$-value < 0.05) while T-statistic should be larger than the value in T-table (TStatistic>TTable).

## 5. Results and Discussions

### 5.1 Background of Respondents

A total of 70 responses were received from the survey distributed. More than half of the respondents were male (55%), while the remaining were female respondents. In terms of the locality, 61% of the respondents were from urban areas, while 39% were from rural areas. For the ethnicity, 63% were Malay, followed by Chinese with 27%, Indian at 7% and the remaining 3% were unknown. As for religion, 66% were Muslim, while 16% were Buddhist, 8% were Christian, and 7% were Hindu. Out of the total respondents, those preferred to work for the private sector were 54%, for government sector were 21%, while 16% preferred to be self-employed and the remaining 9% have another career preference. On the other hand, for life insurance ownership, only 27% of the

respondents were insured, and the balance was not insured. As for preference on insurance feature, 32.9% preferred high-risk coverage, 31.4% preferred low premium, 20% preferred money-back guarantee while the remaining 11.4% preferred reputation of the insurance agency and 4.3% chosen easy access to insurance agents. Finally, in term of an insurance agency, the majority of the respondents preferred Prudential (27.1%) and Takaful (22%).

## 5.2 Multiple Linear Regression Analysis

Data in Table 2 reveals the standard regression output indicating the effects of individual predictor variables on the dependent variables. For product knowledge, the coefficient regression value is equal to 0.175, which indicates that for each percentage rise in mean product knowledge, the intention to purchase life insurance will increase by 17.5%. While for risk aversion and social influences, the coefficient regression value is equal to 0.452 and 0.315, respectively. These results mean that for each percentage rise in risk aversion and social influences, the intention to purchase life insurance will increase by 45.2% and 31.5% respectively.

**Table 2.** Coefficients of the Dependent and the Independent Variables

| Variable | $\beta$ | $T_{statistic}$ | Sig. |
|---|---|---|---|
| Product Knowledge | 0.175 | 1.808 | 0.075 |
| Risk Aversion | 0.452 | 4.503 | 0.000 |
| Social Influences | 0.315 | 3.519 | 0.001 |

In order to determine the significant variable, the $\rho$-value should be less than 0.05 ($\rho$-value$<$0.05) while T-statistic should be larger than the value of 1.9966 (TStatistic$>$1.9966). Referring to Table 2, the T-statistic for risk aversion and social influences is equal to 4.503 and 3.519, respectively, which are larger than the value in T-table. Meanwhile, product knowledge has a smaller value than the T-table at 1.808. On top of that, risk aversion and social influences also obtained $\rho$-value that less than 0.05, while the $\rho$-value for product knowledge is larger than 0.05. Therefore, it can be concluded that risk aversion and social influences positively and significantly influence the purchase intention of life insurance among the engineering students in that university. This result is in line with the study by Buzatu (2013) [27]. On the other hand, no significant correlation is found between product knowledge and life insurance purchase intention. This finding supports the study by Ramchander (2016) [28], where he found that many insurance buyers have entered into life insurance contracts with a somewhat limited understanding of product features.

The correlation coefficient (R) represents the strength of the linear correlation between the independent variables, namely product knowledge, risk aversion and social influence toward the dependent variable. As observed, the correlation coefficient (R) is at 0.740, which indicates there is a great of variance shared between the dependent and independent variables. On the other hand, the model's R-square ($R^2$) represents the coefficient of determination or in other words, the predictive ability. Based on the result, the model's R-square is equal to 0.548 which indicates that 54.8% of the variance in purchase intention of life insurance

among engineering students is explained by product knowledge, risk aversion and social influence. Hence, this means that the independent variables chosen for this research have a positive influence on the dependent variables. The details of this model are presented in Table 3.

**Table 3. Model Summary Regression between Intention to Purchase Life Insurance and the Independent Variables**

| R | R-squared | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|
| 0.740 | 0.548 | 0.527 | 0.433429 |

## 6.0 Conclusion

This paper presents the result of the influence between product knowledge, risk aversion and product knowledge with the purchase intention of life insurance. The results revealed that risk aversion and social influences significantly influence the intention to purchase life insurance among engineering students. However, no correlation is found between product knowledge and life insurance purchase intention.

Based on the findings, there are a few improvements that insurance agencies should take note. Insurance marketers should put their initial efforts into organizing more campaign and awareness program in the educational institution. These efforts will help to promote good awareness and understanding of life insurance among the students. Besides that, insurance agencies could also introduce a special insurance scheme that will require a lower initial premium in return for high coverage. Since the majority of the respondents highly agreed that they would only purchase insurance once they are financially stable, they should be given flexibility in term of the amount of premium they paid. Last but not least, using popular reference groups such as celebrities or other influential people for promotion strategies could potentially help to expedite a person's perception of social pressure toward purchasing life insurance. Thus, it will encourage them to purchase life insurance.

## References

[1]     Statistics on Causes of Death, Malaysia, (2017), Department of Statistics Malaysia, Retrieved from https://www.dosm.gov.my/v1/index.php?r=column/pdfPrev&id=Y3psYUI2VjU0ZzRhZU1kcVFMMThGUT09

[2]     2012 Underinsurance Study in Malaysia,(2013), Life Insurance Association of Malaysia (LIAM), Retrieved from http://www.liam.org.my/pdf/gapreport-draft.pdf

[3]     Dalkilic, N. and Kirkbesoglu, E. (2015), The Role of Financial Literacy on the Development of Insurance Awareness, International Journal of Economics and Finance, Vol. 7 (8), 272-280.

[4]     Loke, Y.J. and Goh, Y.Y., (2012), Purchase Decision of Life Insurance Policies among Malaysians, International Journal of Social Science and Humanity, Vol.2(5), 415-420.

[5]     Brucks, M., (1985), The Effects of Product Class Knowledge on Information Search Behavior, Journal of Consumer Research, Vol.12 (1), 1-16.

[6]     Beatty, S.E. and Smith, S.M. (1987), External Search Effort: An Investigation Across Several Product Categories, Journal of Consumer Research, Vol.14 (1), 83-95.

[7]     Park, C. W. and Fang,W. T., Ng, E., Wang, C.M and Hsu, M.L. (2017), Normative Beliefs, Attitudes, and Social Norms: People Reduce Waste as an Index of Social Relationships When Spending Leisure Time, Sustainability, Vol.9 (1696), 1-18.

[8]     Lessig, V.P., (1981), Familiarity and Its Impact on Consumer Decision Biases and Heuristics, Journal of Consumer Research, Vol.8 (2), 223–230.

[9]     Lin, N. H. (2007), The Effect of Brand Image and Product Knowledge on Purchase Intention Moderated by Price Discount, Journal of International Management Studies, 121-132.

[10]    Sandvik, L. (2011), Gender Differences in Risk Aversion, Master's Diss. University of Oslo.

[11]    Guiso, L. and Paiella, M. (2004), The Role of Risk Aversion in Predicting Individual Behaviors, CEPR Discussion Paper No.4591, 39.

[12]    Mahdevi,G. and Abed, M. (2015), The Effect of Risk Aversion on Lapsation in Iran Life Insurance Market, Iranian Journal of Risk and Insurance, Vol. 1(1), 65 – 83.

[13]    Chattopadhyay, Sandip and Dasgupta,R., (2015, Demographic and Socioeconomic Impact on Risk Attitudes of The Indian Investors – An Emperical Study, Asian Economic and Financial Review, Vol. 5(4),601-623.

[14]    Sadiq, M. N. and Ishaq, H.M.,  (2014), The Effect of Demographic Factors on the Behavior of Investors during the Choice of Investment: Evidence from Twin Cities of Pakistan, Global Journal of Management and Business Research: C Finance, Vol.14 (3).

[15]    Fang,W. T., Ng, E., Wang, C.M and Hsu, M.L. (2017), Normative Beliefs, Attitudes, and Social Norms: People Reduce Waste as an Index of Social Relationships When Spending Leisure Time, Sustainability, Vol.9 (1696), 1-18.

[16]    Lord, K. R., Lee, M.S. and Choong, P. (2001), Differences in Normative and Informational Social Influence, Advances in Consumer Research,  Vol 28, 280-285.

[17]    White, K.M., Smith, J.R., Terry,D.J., Greenslade, J.H and McKimmie, B.M., (2009), Social influence in the theory of planned behaviour: The role of descriptive, injunctive, and in-group norms, British Journal of Social Psychology, Vol.48, 135–158.

[18]    Maram, H.K. and Kongsompong, K. (2007), The power of social influence: East-West comparison on purchasing behavior, International Marketing Conference on Marketing & Society,649 – 655.

[19]    Klobas, J. E. and Clyde, L.A., (2001), Social influence and Internet use, Library Management, Vol. 22 (1),61-68.

[20]  Wang, Y.H. and Tsai, C.F. (2014), The Relationship between Brand Image and Purchase Intention: Evidence from Award Winning Mutual Funds, The International Journal of Business and Finance Research, Vol. 8 (2), 27- 40.

[21]    Malik, M. E., Ghafoor, M.M., Iqbal, H.K., Riaz, U., Hassan, N., Mustafa, M. and Shahbaz, S. (2013), Importance of Brand Awareness and Brand Loyalty in assessing Purchase Intentions of Consumer, International Journal of Business and Social Science. Vol.4 (5), 167-171.

[22]    Engel, J.F., Blackwell, R.D.  and Miniard, P.W. (2006), Consumer behavior, 10th ed., Mason, OH: Thomson South-Western.

[23]    Kotler, P. and Armstrong, G., (2010), Principles of Marketing, 13th Ed. New Jersey: Prentice Hall.

[24]     Kotler, P. and Keller, K.L., (2013), Marketing Management, 14th Ed., New Jersey: Prentice-Hall.

[25]    Jaafar, S.N., Lalp, P.E. and Mohamed@Naba, M., (2012), Consumers' Perceptions, Attitudes and Purchase Intention towards Private Label Food Products in Malaysia, Asian Journal of Business and Management Sciences, Vol.2 (8), 73-90.

[26]    Sekaran, U. And Bougie, R., (2013), Research Methods for Business,6th Ed., United Kingdom: John Wiley & Sons.

[27]    Buzatu, C., (2013), The Influence of Behavioral Factors on Insurance Decision a Romanian Approach, Procedia Economics and Finance, Vol.6, 31- 40.

[28]    Ramchander, M., (2016), Measuring consumer knowledge of life insurance products in South Africa, South African Journal of Business Management, Vol.47(2), 67-74.