

AN EMPIRICAL STUDY ON THE CONSUMERS' WILLINGNESS TO INSURE ONLINE

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Abstract: This study used TAM as a theoretical basis to explore the public's attitude towards online insurance products. This study used the people in Taiwan as the research subject and distributed 628 questionnaires on the Internet by means of convenient sampling. After eliminating 88 invalid questionnaires, 540 valid questionnaires, the effective recovery rate was 85.99%. The findings of this study are as follows: 1. In the pension financial planning model, perceived usefulness, trust, and product involvement have a significant positive impact on attitude; perceived risk has a significant negative impact on attitude; attitude and subjective norm have a significant positive impact on behavioral intention. 2. In the travel insurance model, perceived usefulness, perceived ease of use, trust and product involvement have a significant positive impact on attitudes; attitudes and subjective norms have a significant positive impact on behavioral intentions. Finally, this study concludes that insurance belongs to high amount and long-term products, it may not be suitable for people to buy through the Internet; the other hand, if insurance belongs to one-time and low-priced products that can be solved conveniently, quickly and efficiently demand is the primary consideration of the people.

Key words: TAM, trust, perceived risk, product involvement, pension financial, travel insurance

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Introduction

With the rapid development of technology, many companies have adopted the Self-Service Technology (SST) model to reduce the cost of labors, allowing people to complete their own transactions. Self-service technology is a service process that does not require service personnel to participate in the transaction process. In recent years, SST has been widely used in various industries, such as self-checkout, online banking, self-service check-in kiosks, online insurance, etc. (Chen, 2012).

Although the insurance industry has combined some products with self-service, is it true that all insurance products are suitable for online insurance? According to Holzheu et al. (2000), online insurance is not applicable to all insurance products, only some insurance products with simple and easy-to-understand policies, such as travel insurance and compulsory motor locomotive liability insurance, which are generally familiar and acceptable, are more suitable for online insurance. However,

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insurance products that are relatively complex and require detailed time-consuming introduction, such as pension financial planning, life insurance, medical insurance, etc., still require a special explanation service to help the public learn more about the contents of insurance products.

Rossanty et al. (2018) mentioned that consumer knowledge of products contributes to the retrieval of information and affects the decision-making process and willingness to purchase, mainly because consumers' purchasing behavior depends on evaluating and integrating various product information or a systematic process of buying leads. When people buy policy products that are related to their retirement quality of life, the degree of involvement should be higher than travel insurance. Different levels of product involvement will influence consumer decision-making, and the relevance of products to consumers and the importance they attach to products will result in different levels of attention, leading to different decision-making behaviors (De Meyer and Petzer, 2014). In order to carry out the pension financial planning, the participation of the public in such products and the amount of information on the search information should be different from the travel insurance, whether this difference will affect people's attitude towards online purchase of pension financing products, and even further affecting people's willingness to purchase online, is the subject of this research.

Although online insurance can save people's time and cost, its premise must be built in a secure electronic environment (Yang, 2015), as long as there are some uncertainties and potential losses, the public may stop because of the risks, and perceived risk is probably one of the key factors that determine whether the people are willing to carry out online insurance. In addition, trust is also seen as one of the important factors influencing the success of online businesses, e-commerce, and social software (Beldad et al., 2010). Trust is very important in trading if there is a lack of trust, the perceived risk of the public will increase, which will lead to the failure of the entire transaction (Hansen et al., 2018).

Even though online insurance has been implemented for a while, when facing some new insurance products, the public still has a lot of uneasiness and uncertainty about it. In order to reduce the doubts caused by these uncertain factors, public tends to seek information and opinions about the products from trusted people (such as elders, peers and friends), which are likely to affect the final decision of the people, that is, the subjective norms that originate from the relatives and friends around them are likely to affect the purchase behavior of the people (Hasbullah et al., 2016).

Travel insurance is an extremely simple insurance product, and pension financial planning is a relatively complex insurance product that affects people's future retirement. When these two insurance products are introduced into the concept of self-service technology, that is, when the people self-help insured the two products online, the factors affecting the online insurance attitude and behavioral intentions of the people must be different. This study is based on technology acceptance model, according to the research purpose, modify and added the perceived risk,

trust, product involvement and subjective norm to the original theory, to understand the the willingness to insure online when people face different types of insurance products.

Literature Review

Online insurance is a self-service technology; people can check any information about various policies on the network system at any time. Therefore, the difficulty of operation, interface fluency, and message integrity of the insurance system maybe the key factors that affect people for willingness to conduct online insurance. The technology acceptance model (TAM) is a set of theoretical models used to explore user acceptance of new technology products or systems (Davis et al., 1989), which has been used in many studies to explore networks, banks, electronic technology, online insurance, etc.

Technology Acceptance Model (TAM), Product Involvement, Perceived Risk and Trust

With the advance of science and technology, more and more industries are shifting their products from physical channels to virtual channels, that is, to complete transactions through the Internet. This can not only reduce costs, but also improve efficiency, and subsequently convert data into big data. In the study of the use behavior of information technology, the Technology Acceptance Model (TAM) is a mature and explanatory theoretical model. The technology acceptance model was proposed by Davis et al. in 1989. The model is mainly based on the theory of rational action (TRA). The technology acceptance model uses perceived usefulness and perceived ease of use to form an attitude towards technology then explains or predicts an individual's decision-making pattern. Although TAM inherits the basic beliefs of TRA, the TAM model does not include the aspect of subjective norms. Instead, it asserts that attitude will affect users' behavioral intentions, and then affect actual behavior (Alambaigi and Ahangari, 2016).

Gebert-Persson, Gidhagen, Sallis, and Lundberg (2019) found that trust has a significant positive impact on attitudes; in addition, perceived usefulness and perceived ease of use have a positive impact on attitudes. And, trust and attitude have a significant positive impact on the willingness to use online insurance. Rose et al. (2016), when discussing the behavioral intentions of apparel brands, found that perceived risk will negatively affect attitudes. Jihan et al. (2016) research finds that users' product involvement will positively affect their attitudes towards products. Hasbullah et al. (2016) explored the behavioral intentions of online shopping users and found that user attitudes and subjective norms will positively affect their behavioral intentions. Based on the results of the previous studies, this study proposes the following hypotheses:

H1: Perceived usefulness has significant relationship with attitude.

H2: Perceived ease of use has significant relationship with attitude.

H3: Trust has significant relationship with attitude.

H4: Perceived risk of use has significant relationship with attitude.

H5: Product involvement has significant relationship with attitude.

H6: Attitude has significant relationship with behavioral intention.

H7: Subjective norm has significant relationship with behavioral intention.

Methodology

This study takes the people in Taiwan as the research subject. After considering the autonomy of the respondents, they choose to use the people over the age of 20 as the research scope and ask them the view and purchase intention to purchase insurance products online (pension financial planning, travel insurance). This study used convenient sampling method, and through Google Forms as a way of online questionnaire, the research subjects voluntarily filled out the online questionnaire. The questionnaire of this study was distributed from October 1, 2018, to November 30, 2018. A total of 628 copies were collected, and 540 copies valid questionnaire and the effective rate was 85.99%.

Reliability and Validity Analysis

According to Hair et al. (1997), the criterion for C.R. is above 0.7 and, AVE value had to be above 0.5. Overall the C.R. and AVE of this study have all reached the standard, indicating that the overall scale of the online pension financial planning and online travel insurance has good reliability and validity.

Online Pension Financial Planning

In overall scale of online pension financial planning, the factor loading of “perceived usefulness” is between 0.91 to 0.95, C.R. is 0.95, AVE is 0.87; “perceived ease of use” is between 0.84 to 0.92, C.R. is 0.91, AVE is 0.76; “trust” is between 0.80 to 0.98, C.R. is 0.93, AVE is 0.82; “perceived risk” is between 0.92 to 0.94, C.R. is 0.95, AVE is 0.86; “product involvement” is between 0.93 to 0.95, C.R. is 0.96, AVE is 0.88; “attitude” is between 0.92 to 0.97, C.R. 0.98, AVE, 0.91; “subjective norm” is between 0.96 to 0.98, C.R. is 0.98, AVE is 0.93 and “behavioral intention” is between 0.92 to 0.97, C.R. is 0.96, AVE is 0.90.

Online Travel Insurance

In overall scale of online travel insurance, the factor loading of “perceived usefulness” is between 0.91 to 0.95, C.R. is 0.97, AVE is 0.92; “perceived ease of use” is between 0.88 to 0.96, C.R. is 0.94, AVE is 0.85; “trust” is between 0.63 to 0.98, C.R. is 0.90, AVE is 0.75; “perceived risk” is between 0.89 to 0.93, C.R. is 0.93, AVE is 0.82; “product involvement” is between 0.94 to 0.96, C.R. is 0.96, AVE is 0.90; “attitude” is between 0.96 to 0.97, C.R. 0.98, AVE, 0.94; “subjective norm” is between 0.95 to 0.99, C.R. is 0.98, AVE is 0.95 and “behavioral intention” is between 0.93 to 0.98, C.R. is 0.98, AVE is 0.93.

Data Analysis

In this study, SPSS 21.0 and AMOS 21.0 were used to analyzed the data by descriptive statistics, confirmatory factor analysis and structural equation modeling.

Research Analysis

In this study women were slightly more (54.1%), mainly aged 31-40 years old (41.7%), mainly work in business (34.8%) and service industry (33.5%), family income of NTD 710,000- NTD 1.2 million (35.0%), Taiwan central region (57.0%), married and children still attending school (52.6%).

Confirmatory Factor Analysis of the Apple Watch User behaviour model

Normality Test

Accoding to West et al. (1995), in accordance with normality distribution, the skewness coefficient should less than 2; kurtosis coefficient shouldn't more than 7. From the results, the skewness coefficient was between -1.34 to 0.17, kurtosis coefficient between -1.15 to 1.36, indicating that the sample of this study was qualified with the normality test.

Structural Equation Model Analysis of the behaviour model of Apple Watch User

Although the sample data of this study were qualified with the normality test but the c.r. of Multivariate kurtosis is 236.579, failure to meet multivariate normal distribution, therefore Bollen and Stine (1992) Bootstrap was used to modify the overall model. In the overall model fit analysis, all values have reached the standard, pension financial planning behavior model are RMSEA=.03, GFI=.98, AGFI=.97, NFI=.98, RFI=.98, CFI=.99, CN=349.842, $\chi^2/DF=1.546$; Travel insurance model fitted are RMSEA=.03, GFI=.98, AGFI=.98, NFI=.98, RFI=.98, CFI=.99, CN=349.842, $\chi^2/DF=1.613$.

From the results of figure 1, it's found that perceived usefulness, trust and product involvement have positive influence on attitudes, perceived risk has negative influence on attitude, in which the trust has the greatest influence on attitude (.56), followed by perceived usefulness (.42) and product involvement (.42), but perceived ease of use has no significant influence on attitude, indicating that trust, product involvement and perceived usefulness are important factors to form attitude of pension financial planning, and perceived ease of use is not the main consideration. Attitude has the greatest influence on behavior intention (.86), while subjective norm has positive influence on behavior intention (.20).

According to the path analysis results of the pension financial planning behavior model, the explanatory power of perceived usefulness, perceived ease of use, trust, perceived risk and product involvement to attitude is 67%, the explanatory power of attitude and subjective norm to behavior intention is 78%.

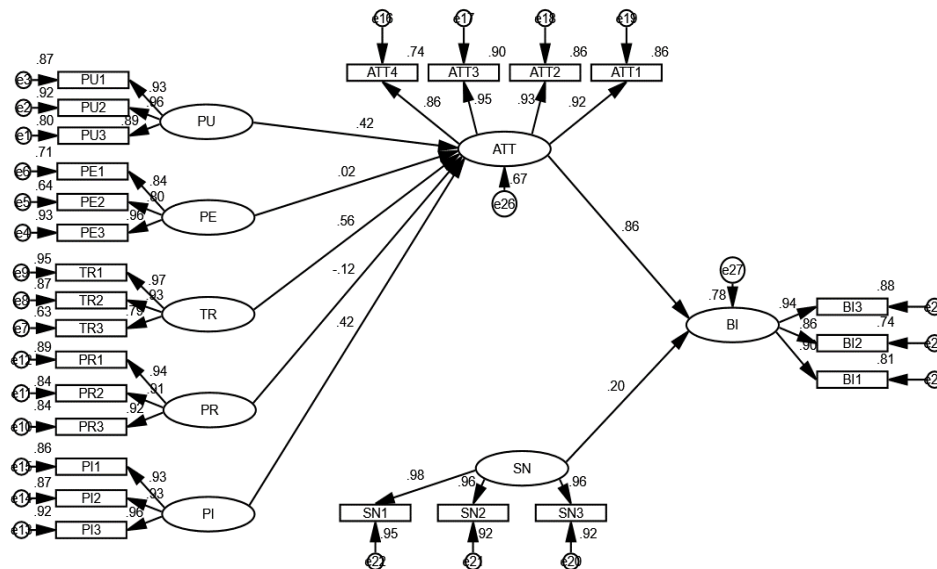


Figure 1: Path analysis of pension financial planning behavior model

Noted: PU=Perceived usefulness, PE= Perceived ease of use, TR= Trust, PR= Perceived risk, PI= Product involvement, ATT=Attitude, SN= Subjective norm, BI= Behavioral intention

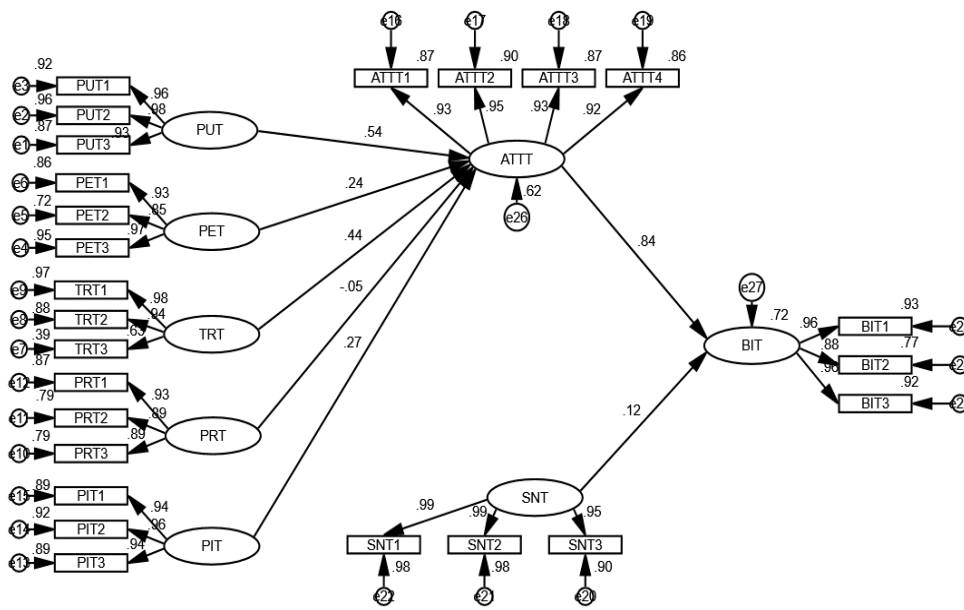


Figure 2. Path analysis of travel insurance behavior model

Noted: PUT=Perceived usefulness, PET= Perceived ease of use, TRT= Trust, PRT= Perceived risk, PIT= Product involvement, ATTT=Attitude, SNT= Subjective norm, BIT= Behavioral intention

From the results of Figure 2, it's found that perceived usefulness, perceived ease of use, trust and product involvement have positive influence on attitudes, in which the perceived usefulness has the greatest influence on attitude (.54), followed by trust (.44), but perceived risk have no significant influence on attitude, indicating that perceived usefulness and trust are important factor to form attitude of travel insurance, and perceived risk is not the main consideration. Attitude has the greatest influence on behavior intention (.84), while subjective norm has positive influence on behavior intention (.12).

According to the path analysis results of the travel insurance behavior model, the explanatory power of perceived usefulness, perceived ease of use, trust, perceived risk and product involvement to attitude is 62%, the explanatory power of attitude and subjective norm to behavior intention is 72%.

Discussion

In previous study, most scholars argue that perceived ease of use affects consumer attitudes. However, for the two insurance products discussed in this research, it is found that no matter how convenient the internet becomes, if the insurance amount is high and the insurance products are long-term, such as pension financial planning, it may not be suitable for the public to purchase them online.

Kim and Shin (2015) believed that attitude will positively affect behavioral intentions. According to the theory of consumer attitudes, there is "consistency" between attitudes and behavioral intentions, that is, attitudes will positively affect consumers' behavioral intentions. Although there are several risks in online, online shopping is indeed a major trend for modern people. If the general public has a positive attitude towards the "online purchase" insurance product model, it will eventually affect their purchases intentions. Kim et al. (2011) pointed out that trust is a key factor in consumers' decision to purchase products through the Internet. Therefore, while people pay attention to insurance products, they will know more clearly the characteristics of each insurance product, which will affect their attitude towards online purchase of insurance products. However, for those one-time, low-priced insurance products, people will have low level of risk perception which leads to insignificant relationship to perceived risk. Subjective norms represent a decisive role in the performance of certain people's social behavior (including purchases and consumer behavior), whether by friends, family members, peers, or other important individuals (Méndez-Aparicio et al., 2017). The convenience and efficient of online insurance create positive response and urge the people to be willing to take this action.

Carrier Management McGavick said that advances in technology have provided new solutions to old problems in the past (Howard, 2019). It can be seen that in the current era of Internet development, insure insurance products online has brought many conveniences and efficient benefits to the public. In the future, if the potential problems can be overcome, perhaps people will gradually accept this purchase method.

Conclusion

In pension financial planning behavior model, it can be found that personal security is the most important factor for the people at present especially when people buy insurance products through the internet, they will involve a lot of private personal information. If the insurance industry can ensure that the people's personal resources will never be leaked, perhaps the public will gradually accept online purchases for this purchase model. Furthermore, pension financing planning is a prudent investment and financial management for the future. People's doubts and risk considerations are relatively high. Under such circumstances, the simpler operation of the insurance system may not bring better opinions to the public attitude. Based on the above results, insurance products with high policy amounts and long-term types, it may not be suitable for people to buy through the Internet.

In the travel insurance behavior model, it can be found that the characteristic of travel insurance, the risk that the public feels about this product is lower, mainly because the product is a short-term policy, even if it is not ideal afterward, it will not be caused serious affection on attitude. On the contrary, just because travel insurance is a one-time, low-priced insurance product, therefore people pay more attention to the maximum benefit of the product, and it is convenient, fast and efficient to solve the needs of the people are the primary consideration when purchasing travel insurance.

Implication of Management

Since the length of time and amount involved in the pension financial planning insurance is much higher than that of travel insurance, when people facing insurance products with higher time and cost, the willingness to insure through the internet is lower. It can be seen that the relative service content required for different policy products will be different. Therefore, this study suggests that in the case of insurance products with high policy value and long-term insurance products, they should still be provided with professional services by the insurance representative. The inner doubts and uneasiness of people, after all, the relationship between people is temperature, these temperatures are cannot be done by the machine.

Trust is one of the important factors that contribute to the success of online insurance. According to the feedback, respondents do not trust the technical capabilities provided by various insurance companies. Therefore, it is recommended that each insurance company should strengthen its technical capabilities and improve the professionalism of the insurance representative; this will enable the public to have sufficient confidence in the insurance system but also strengthens the deeper confidence of the people through the trust created by the insurance representative. When the public feels perfected secure, even there is a problem in the system, the insurance representative of insurance company can also quickly deal with problems in the first place.

Limitation

This study explored pension financial planning and travel insurance and learned that the public is mostly opposed to online willingness to apply for pension financial planning. However, there are many types of insurance products, including investment-type, savings-type, and medical-type products. For different types of insurance products, the public's willingness to insure through the Internet should also be different. Therefore, it is recommended that future researchers can target various insurance products. Make a classification to explore whether there is any difference in the public's willingness to insure for different insurance products.

References

- Alambaigi, A., Ahangari, I. (2016). Technology Acceptance Model (TAM) As a Predictor Model for Explaining Agricultural Experts Behavior in Acceptance of ICT. *International Journal of Agricultural Management and Development (IJAMAD)*, 6, 235-247.
- Beldad, A., De Jong, M. & Steehouder, M. (2010). How shall I trust the faceless and the intangible? A literature review on the antecedents of online trust. *Computers in human behavior*, 26(5), 857-869.
- Bollen, K.A., Stine, R.A. (1992). Bootstrapping goodness-of-fit measures in structural equation models. *Sociological Methods and Research*, 21(2), 205-229.
- Chen, Z.-R. (2012). *User adopts self-service technology preparation model - taking self-service boarding booth as an example*. Retrieved from <http://oplab.im.ntu.edu.tw/csimweb/system/application/views/files/ICIM/20120120> (2017/08/20).
- Davis, F.D., Bagozzi, R.P. & Warshaw, P.R., 1989, User acceptance of computer technology: a comparison of two theoretical models. *Management science*, 35(8), 982-1003.
- De Meyer, C., Petzer, D. 2013. Product Involvement and Online Word-of-Mouth in The South African Fast Food Industry. *READINGS BOOK*, 205.
- Gebert-Persson, S., Gidhagen, M., Sallis, J.E., & Lundberg, H. (2019). Online insurance claims: when more than trust matters. *International Journal of Bank Marketing*, 37(2), 579-594.
- Hair Jr, J.F., Anderson, R.E., Tatham, R.L., & Black, W.C. (1997). *Multivariate Data Analysis with Readings*. 4th edn New Jersey.
- Hansen, J.M., Saridakis, G., & Benson, V. (2018). Risk, trust, and the interaction of perceived ease of use and behavioral control in predicting consumers' use of social media for transactions. *Computers in Human Behavior*, 80, 197-206.
- Hasbullah, N.A., Osman, A., Abdullah, S., Salahuddin, S.N., Ramlee, N.F. & Soha, H.M., 2016, The relationship of attitude, subjective norm and website usability on consumer intention to purchase online: An evidence of Malaysian youth. *Procedia Economics and Finance*, 35, 493-502.
- Holzheu, T., Trauth, T. & Birkmaier, U. (2000). Sigma: e-Business on the Insurance Industry. *Pressure to Adapt-Chance to Reinvent*. Swiss Re, Zürich.
- Hong, I-B. (2015). Understanding the consumer's online merchant selection process: The roles of product involvement, perceived risk, and trust expectation. *International Journal of Information Management*, 35(3), 322-336.

- Howard L.S. (2019/03/21). AXA XL's McGavick Looks ahead to 'The Golden Age of Insurance'. *Insurance Journal*. Retrieved from <https://www.insurancejournal.com/news/international/2019/03/21/521268.htm>
- Jihan, A., Musa, R., & Hassan, F. (2016). Factorial validation predictors of attitude among user and nonuser of halal skin care product. *Procedia Economics and Finance*, 37, 239-244.
- Kim, J., Hong, S., Min, J., & Lee, H. (2011). Antecedents of application service continuance: A synthesis of satisfaction and trust. *Expert Systems with Applications*, 38(8), 9530-9542.
- Kim, K.J., Shin, D.H. (2015). An acceptance model for smart watches: implications for the adoption of future wearable technology. *Internet Research*, 25(4), 527-541.
- Méndez-Aparicio, M.D., Izquierdo-Yusta, A., & Jiménez-Zarco, A.I. (2017). Consumer expectations of online services in the insurance industry: An exploratory study of drivers and outcomes. *Frontiers in psychology*, 8, 1254.
- Rose, J., Cho, E., & Smith, K.R. (2016). Female Consumers' Attitudes and Purchase Intentions toward Intimate Apparel Brands. *Fashion, Industry and Education*, 14(2), 35-46.
- Rossanty, Y., Nasution, P., & Tuah, M.D. (2018). Information Search and Intentions to Purchase: The Role of Country of Origin Image, Product Knowledge, and Product Involvement. *Journal of Theoretical and Applied Information Technology*, 96(10).
- West, S.G., Finch, J.F., & Curran, P.J. (1995). *Structural equation models with nonnormal variables: Problems and remedies*.
- Yang, A. S., 2015, Measuring self-service technology latent difficulties: insurance decisions on utilitarian and hedonic influences. *Asia-Pacific Journal of Risk and Insurance*, 9(1), 1-33.

BADANIE EMPIRYCZNE DOTYCZĄCE WOLNOŚCI KONSUMENTÓW DO UBEZPIECZENIA ONLINE

Streszczenie: W artykule przedstawiono teoretyczną podstawę do badania postaw społeczeństwa wobec internetowych produktów ubezpieczeniowych. W badaniu wykorzystano mieszkańców Tajwanu, jako przedmiot badań i przeprowadzono 628 kwestionariuszy w Internecie. Po wyeliminowaniu 88 nieprawidłowych kwestionariuszy i 540 ważnych kwestionariuszy efektywny wskaźnik odzysku wyniósł 85,99%. Wyniki tego badania są następujące: 1) W modelu planowania finansów emerytalnych postrzegana użyteczność, zaufanie i zaangażowanie produktu mają znaczący pozytywny wpływ na nastawienie; postrzegane ryzyko ma znaczący negatywny wpływ na nastawienie; postawa i subiektywna norma mają znaczący pozytywny wpływ na intencje behawioralne. 2) W modelu ubezpieczenia podróznego postrzegana użyteczność, postrzegana łatwość użytkowania, zaufanie i zaangażowanie produktu mają znaczący pozytywny wpływ na postawy; postawy i subiektywne normy mają znaczący pozytywny wpływ na intencje behawioralne. W badaniu stwierdzono, że ubezpieczenie należy do produktów o dużej wartości i do produktów długoterminowych, może nie być odpowiednie dla osób kupujących przez Internet; z drugiej strony, jeśli ubezpieczenie należy do jednorazowych i tanich produktów, które można rozwiązać wygodnie, szybko i skutecznie, popyt jest najważniejszym czynnikiem, który ludzie biorą pod uwagę.

Słowa kluczowe: TAM, zaufanie, postrzegane ryzyko, zaangażowanie produktu, emerytura finansowa, ubezpieczenie podrózne

消费者对在线保险意愿的实证研究

摘要:本研究以TAM为理论基础,探讨了公众对在线保险产品的态度。本研究以台湾人为研究对象,通过方便抽样的方式在互联网上分发了628份问卷。剔除88份无效问卷,540份有效问卷后,有效回收率为85.99%。这项研究的结果如下:1.在养老金财务计划模型中,感知的有用性,信任和产品参与度对态度有显著的积极影响;感知风险会对态度产生重大负面影响;态度和主观规范对行为意图有显著的积极影响
2.在旅行保险模型中,感知的有用性,感知的易用性,信任和产品参与度对态度有重大的积极影响;态度和主观规范对行为意图具有显著的积极影响。最后,本研究得出的结论是,保险属于高额且长期的产品,可能不适合人们通过互联网购买。另一方面,如果保险属于可以方便,快速,有效地解决的一次性低价产品,则是人们的首要考虑。

关键字:TAM, 信任, 感知风险, 产品参与, 养老金财务, 旅行保险。