The Effects of Incentive Package Travel with Sales Agents on Add-on Buying: Evidence from China's Life Insurance Industry

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Customer relationship management (CRM) methods provided by insurance companies for their products' competitiveness have a crucial impact on customer add-on buying, given the difficulty of highlighting functional differences between intangible insurance products. This study examines a CRM method—participation in incentive package travel with and without insurance sales agents, to accelerate additional purchases, through companionship and one-to-one services—widely used by developing countries. It divides customers into two groups: those traveling with an insurance sales agent and those without, and used the hazard model to analyze each group's purchasing behavior. It found that traveling with sales agents significantly accelerated existing customers' add-on buying, particularly among young female customers as well as customers who have a purchase record past year. This study's practical implications could induce insurance sales agents to participate in travel promotions by accompanying customers, as well as provide marketers with valuable insights for creating effective CRM insurance plans.

Keywords: Add-on Buying, Customer Relationship Management (CRM), Incentive Package Travel, Hazard Model

I. Introduction

During the past 30 years, due to the enhanced competition in the market, more and more enterprises have focused on relationship marketing, that benefits not only the company, but also meets customers' needs of finding a company that provides continuous or regular personalized, thoughtful, and high-quality service making them "relationship customers" (Berry 1995). Customer relationship management (CRM), as a branch of relationship marketing, has been an interesting area for debate among most organizations and marketers from various industries (Rahimi and Kozak 2017). Some scholars have noted that in today's competitive economy becoming more customer-centric is important. Since CRM has been defined as a customer-focused business strategy that aims to increase customer satisfaction and loyalty by providing each customer with more timely and personalized services(Croteau and Li 2003), its implementation is the foundation of improving customer loyalty (Schierholz, Kolbe, and Brenner 2007).

Some industries like truck leasing, banking, and insurance provide regular high-involvement services to customers, but the intangibility of their products makes it difficult for customers to evaluate before

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purchasing. The heterogeneity of labor-intensive services will promote customer loyalty, when experiencing excellent personalized service (Parasuraman, Berry, and Zeithaml 1991). Not only do companies want to find loyal customers to establish long-term customer relationships, but customers also want to find companies that can be regarded as dependable(Berry 1995; Siddiqui and Sharma 2010). As scholars mention, the insurance industry, which contains intangible products, relies on using CRM methods to establish long-term trust and high loyalty relationships with customers (Zablah, Bellenger, and Johnston 2004). According to Crosby, Evans, and Cowles(1990), many CRM approaches are currently being used by the insurance industry. They also find a significant effect of life insurance sales agents using CRM approaches like frequent greetings, gifts, etc., to deepen their relationship with customers, make customers more loyal to them, as well as more satisfied with their services, thereby retaining customers and developing new customers. Such CRM methods are widely used in developing countries, especially China.

Other researchers, who have studied CRM approaches find that they can improve customer loyalty and reduce the rate of customers jumping to other companies. Berry(1995) proposes three types of relationship programs. Type I: using price incentives to develop customer relationships; Type II: deepening social bonds with customers by providing them with more personalized and professional services, such as being in regular, personal touch, and getting them to participate in entertainment activities or seminars; Type Ⅲ: providing customers with structured problem solutions that are not readily available with other companies. Thus, even if the service provider leaves the company, the customers can solve the problem by themselves, and will not switch easily.

Previous studies have shown that the use of loyalty programs and rewards for participating in such programs will positively affect customer retention, increase customers' switching costs, and ensure that they rarely switch to other companies(Roehm, Pullins, and Roehm 2002; Verhoef 2003). If the company's aim is to promote its customer retention rate, the use of price incentives is sufficient to achieve good results. However, insurance products are intangible, and different companies' products are too similar to compare. In other words, the company that gives better price policies and the most favorable coverage plans will eventually prevail If the company pursues its current interests, Type I is a better choice, but according to Berry(1995), using social programs(Type II), will deepen the bond between customers and the company and bring long-term effects. Although these studies have shown that CRM approaches can improve customer retention and loyalty, it is too simplified and conceptualized to measure loyalty programs, such as using the membership mechanism─cash rewards based on annual membership points(Type I) (Verhoef 2003). The loyalty scheme used by Rahimi and Kozak(2017) was to register accumulative points for customers, who had stayed in hotels, to study the impact of CRM on Budget Hotel Chains(Type I). However, there is a lack of practical research on Type II, as well as limited comparisons and studies of CRM methods that are actively used in the market.

In developing countries, such as China, CRM

methods are widely used to strengthen customer relationships and increase sales. China occupied almost 50% of the global insurance market, on an average, in 2016, and life insurance accounted for 73% of its total annual insurance share in 2019(Source: China Banking and Insurance Regulatory Commission from http://www.circ.gov.cn/web/site0/). Among insurance companies, in the past 20 years, those dealing with life insurance have practically applied many CRM methods, such as providing seasonal price discounts and rewarding customers with dinner vouchers at high-class hotels to maintain long-term relationships with them. Over and above this, providing customers with free travel packages has been used widely for decades, and has accounted for the largest quarterly budgets of companies. Some data shows that regional life insurance companies will invest about 60,000 US dollars in a quarter on travel programs, and will also put forward schemes, such as discounts or free memberships for agents to choose from.

Taking into account the company's budget the difficulty of providing all sales agents and customers with free travel opportunities, the makers of their plans give a certain number of sales agents a chance for free travel with customers. The travel destinations, as well as the number of customers, who can travel free, are based on sales agents' own performance in the last quarter(domestic or foreign travel packages are officially provided by insurance companies, whose service quality depends on the brand guarantee of their respective companies). Further, sales agents can choose either to accompany important customers on their travels, or to just give them free travel opportunities, without accompanying them. The purpose of this CRM approach is to promote additional purchases by customers after their travel.

Add-on buying or cross-buying is defined as an additional purchase of products or services from the same service provider, which is equivalent to signing up for a long-term, deep relationship with the company(Verhoef, Franses, and Hoekstra 2001). The reason why companies are committed to allocating substantial budgets to "give back" to customers is because selling multiple products and services to existing customers is the company's best choice for reducing their costs and time to acquire new customers and for increasing pricing advantages (Reichheld and Sasser 1990). Reinartz and Kumar (2003)'s research results show that the behavior of add-on buying positively affects customer lifetime duration profitability, which means that more the products and services bought from the same company, the higher is the customer loyalty and greater is the lifetime value of the customer to the company. Other than existing customers, sales agents can also include potential customers, who have not yet purchased their company's insurance, to travel together, so as to convert them into customers. Since there are many internal factors of potential customers we cannot observe or analyze, in this study, we mainly focus on the existing customers of the company.

This method has been used for more than 20 years, but with societal developments and the continuous progress of ideas, it is not favored by many new entrants to the insurance industry. We interviewed nearly 40 insurance sales agents, aged 20 to 60 years, and found that except for some old employees, who praised this activity, most of the others were not

preferred, which could be attributed to the unstable tourism environment(it can encounter bad weather), dissatisfying accommodation, customers' unstable moods, etc., which they cannot control. The high investments and low returns make most agents resist this method, but since a substantial budget is still allocated for this purpose in every quarter, we wish to examine: whether such travel-CRM programs really affect add-on buying and also which attributes of customers, sales agents, or travel incentives, have the greatest impact on add-on buying.

This study's main purpose is to analyze the impact of incentive agent-accompanied package travel on existing customer's add-on buying, which is widely used as a common CRM method by insurance companies(Type II). Based on the analysis of the development of the insurance industry in developing countries, this study finally puts forward some guiding suggestions for the management of CRM methods and plans.

II. Theoretical Background and Hypotheses Development

1. Effect of Travel as well as Travel with Agents

Travel is a unique experience that requires investing of a lot of time and will remain in memory for a long time. In contrast, gift relationships focus more on the item itself, because the process is short and easy to forget. Investing time is more valuable and impressive than gifting money or goods(Cheal

1987). It is said that travel rewards are easier than cash rewards because of the discussions on social prohibition of cash(Webley and Wilson 1989). Larsen and Urry(2016) argue that travel and communication networks are essential to promote participation in social networks. Through a series of interviews, many organizational studies found that companies have used incentive travel for decades, and consider it as an effective incentive for both employees and sales because the travel effect can foster closer interpersonal relationships and build morale(Fenich et al. 2015). Travel also provides physical items, such as travel-related photos and souvenirs, which strengthen the relationship with the company(Jeffrey, Nummelin, and Silbert 2007). That is to say, after participating in incentive travel, customers will not only deepen their relationship with peers, but also recall memories of their travel and the insurance company, through the souvenirs they buy, which can have a positive effect on CRM.

The company not only arranges for customers to travel, but also encourages insurance sales agents to travel with their respective customers. For fragile customer relationships, improving customer satisfaction is very important. In marketing, building trust with customers plays an important role in building long-term relationships(Agnihotri et al. 2017; Garbarino and Johnson 1999). Unlike other sales industries, the life insurance industry has a special agent-client relationship, which is said to play an important role in building customer relations (Liechty and Churchill 1979). When sales agents use any form of strategy to invest in relationships, they can impress customers(Hart and Johnson 1999). Research shows that the social efforts of sales agents

have a great impact on the establishment of strong social relations, such as sincere and enthusiastic reception of customers, dining together, and participating in activities, which deepen social ties and forge strong loyalties(Evans and Laskin 1994; Shi et al. 2016; Watson, Akselsen, and Pitt 1998). These investments are considered to be effective strategies for service providers to express their friendship and consideration for customer needs. Shi et al.(2016) surveyed 354 Chinese insurance sales agents and customers through questionnaires, and confirmed that their social efforts could actively deepen the perceived relationship investment for enhancing the emotional attachment of customers and agents. If the customer has a strong emotional attachment to the sales agent or his company, then the customer is more loyal, and hence, their relationship is relatively strong(Shi et al. 2009). To sum up, while cultivating customer relationships through incentive travel mechanisms, the companionship of insurance sales agents could deepen the depth of relationships and emotional attachments between the two parties, help them to better understand customer needs, and ultimately affect purchases. Such emotional attachments will make customers believe that the products recommended by the agents meet their own needs as well as make them feel assured to buy from the agents, thus promoting add-on buying.

In the real world, the faster the purchase after travel, the better is the CRM effect regarded. To observe differences between travel with agents and travel without agents, this study uses the purchase interval to measure customers who responded first since this can estimate whether travel with agent attracts customers, and also determines how it affects users' purchase decisions(Meyer-Waarden and Benavent 2009; Zhao et al. 2012). Meyer-Waarden and Benavent(2009), who studied a loyalty program for existing customers in the grocery market found that customers who participated in the loyalty program early purchased more frequently, whereas customers who joined the loyalty program later, did not repurchase actively. If customers accept some additional services or loyalty programs, there will emerge "points pressure" which will initiate a purchase in a shorter period of time, and the response time will be very fast. Although the insurance industry does not award points, customers know that the faster and more they buy, the higher will be the performance achieved by their agents within the specified time, and better will be the service that they, themselves will accept. We expect that travel with sales agents can shorten the purchase interval. In this study, we consider that sales agents can provide companionship and advanced services while traveling. Therefore, the first hypothesis is proposed:

H1: Travel with sales agents can i) positively affect the add-on buying probability and ii) negatively affect the purchase interval.

2. Prior Purchase History

Jermyn(2000) distinguishes high-value and low-value consumers based on their prior purchase behaviors, and provides different prices and merchandise coupons for different levels of customers. According to customers' purchase history, firms can recommend their products and target their

offerings to different customer segmentations, because customers in different segments have different consumption levels as well as views. Since many previous studies predict purchase intentions based on consumers' consumption history, it is desirable to draw on the importance of customers' historical purchase data for sales.

It is noted that the first product chosen for establishing a customer relationship has a significant impact on its future development since additional purchases are affected by the first purchase (Kumar et al. 2008). As drivers of add-on buying, Kumar and Rajan(2009) identified customer characteristics, including number of customer purchase categories and profitable returns. The larger the purchase amount, the more is the likelihood of believing that the customer is beneficial to the company. It is stated that the amount per order positively affects add-on buying(Kumar and Rajan 2009). However, in this study, since the classification of insurance products is relatively vague, and the different prices of products produce different benefits, its price difference is greater than the product category itself. Therefore, we think that the price of the first purchase policy will have an important influence on customers' subsequent purchase behaviors. In this study, while testing the purchase records for the first time, we used the customers' first insurance policy amount to represent their purchase intentions and segmentation. Since customers' initial purchase amounts reflect their economic level and demand for insurance, we expect customers who purchased larger amounts of the first policy to quickly decide on add-on buying after incentive travel. This study, therefore, develops the following hypothesis:

H2: A large first contract amount can i) positively affect the add-on buying probability and ii) negatively affect the purchase interval.

To evaluate the effect of CRM, Bult and Wansbeek (1995) propose the RFM model, where "R" represents Recency: time since the last purchase; "F" Frequency: number of purchases in a specific period; and "M" Monetary: amount spent during a certain period. Frequent purchases indicate that the company should focus more on the customer. Based on this principle, we suppose that the past year's purchase records could affect purchase intentions. Since frequent purchases in a given period of time reflect a deep trust in the company and a stronger demand for insurance, the purchase interval is supposed to be short. This leads to the following hypothesis:

H3: The past year's purchase record can i) positively affect the add-on buying probability and ii) negatively affect the purchase interval.

III. Data and Variable Operationalization

1. Study Content

This study's purpose is to estimate the impact of the CRM method (Type II) that companies actually apply on customers. CRM methods are widely used in the life insurance industry, especially Type II, which has rarely been studied in previous studies. Therefore, we chose to study customers' data from a life insurance company, as well as a special CRM method, in which customers and their sales agents participate in incentive travel together(a Type II method).

To analyze the impact of CRM on customer add-on buying, this study only takes into account customers' long-term insurance(longer than one year). Life insurance products, which include life, health, and accidental injury insurance, as well as other insurance services that take the life and body of persons as the insurance subject, are divided into long-term insurance(term insurances longer than one year, such as cancer insurance, annuity insurance, investment-linked insurance, and dividend life insurance) and short-term insurance(a short-term guarantee period of a few months, but less than one year, such as traffic accident insurance, aviation accident insurance, etc.) (Source: China Banking and Insurance Regulatory Commission from: http://www.cbirc.gov.cn/cn/view/pages/tongjishuju/tongjishuju.html). Since short-term insurance is inadequate to reflect the effectiveness of the relationship between the customer and the company, this study chose long-term data for its analysis.

2. Data

Our data includes 1,055 customers, which were collected from a life insurance company in a second-tier city in China during January 2016 to October 2019. Figure 1 shows the distributions of sample data, including the number of customers who participated in the package travel, while those who had not participated were grouped as existing and potential customers. To cite an example, customers who had participated in package travel organized by the company, consisted of 673 existing and 214 potential customers.
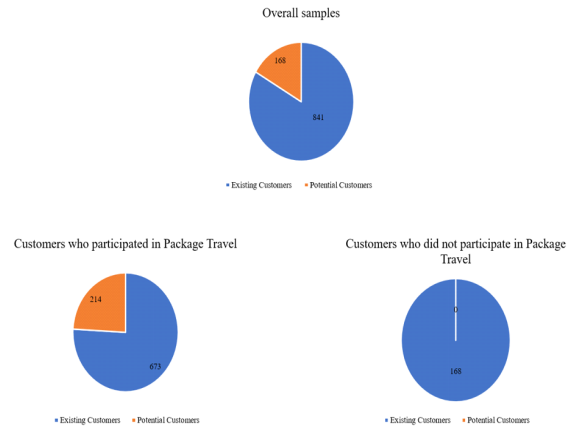
<Figure 1> Sample Size

Figure 2 describes the time and process of collecting data for existing customers. This study collected the amount of the policy from the start of the relationship(customers' first long-term insurance policy amount); T_{-1}: the year before travel(customers' past year purchase record of add-on buying); T_0: travel; T_1: first purchase after travel(time and amount of the first add-on policy); T_2: 2019(annual add-on buying policy amount in 2019). The time spent from T_0 to T_1 is defined as the purchase interval.
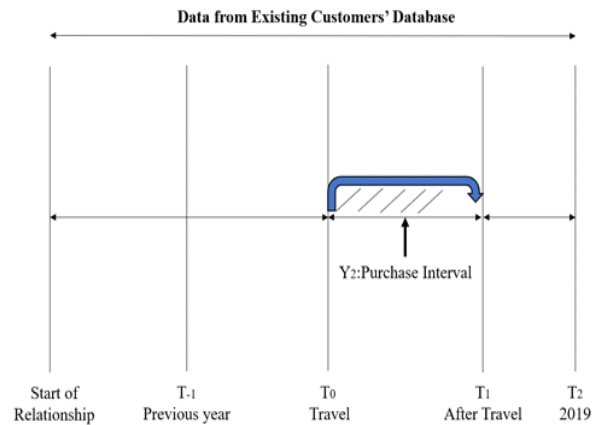
<Figure 2> Data Collection for Existing Customers

3. Variables Definitions and Descriptions

Table 1 shows the variables definitions and descriptions. The dependent variables of this study, viz., Purchase(*PUR*), which indicates if there was add-on buying or not, as a binary variable(existing customers' additional purchases are considered). Purchase(*PUR*) is coded as 1 if customer purchase a new insurance policy after travel, and 0 otherwise. Purchase Interval(*PUR.INTERVAL*), measures the interval from the end of the travel to the additional purchase, using each month as the calculation standard(i.e., *PUR.INTERVAL*=10 represents that the customer purchased a long-term insurance in the 10th month after the travel). Since the data period covers from year of 2016 to year of 2019, and it is not possible to obtain the information for the interval of customers who did not purchase after 2019, we set the maximum observation period as 36 months (i.e., right-censored).

The independent variables: Travel with Agent (*TRA.AGENT*) represents whether to participate in a package travel with a sales agent or not. *TRA.AGENT*=1 represents traveling with the sales agent. First Purchase Amount(*PUR.AMOUNT.FIRST*) is the policy amount of the customers' first long-term contract, since the collection is marked with RMB, to prevent the calculation's objectivity from being affected by an excessive amount of money, and to facilitate calculation in the data processing, we use a natural logarithm by *ln(PUR.AMOUNT.FIRST)*; and Past Year Purchase Record(*PUR.PAST*) refers to whether the customer added a new policy in the past year(one year before participating in the package travel). These variables of customers' perspective can be seen as customers' prior behavior.

<Table 1> Variable Definitions

Variables	Definitions	Measures
Dependent variables		
PUR	Whether purchase a new policy within 3 years after travel	Yes=1, No=0
PUR.INTERVAL	The interval from the end of the travel to the time spent on the new purchase	Count by month
Independent variables		
TRA.AGENT	Whether customers traveled with their sales agents	Yes=1, No=0
PUR.AMOUNT.FIRST	The policy amount of customers' first contract (base e logarithms)	The actual amount (base e logarithms)
PUR.PAST	Whether the customer added a policy in the past year (one year before participating in the package travel).	Yes=1, No=0
Control variables		
DES	Travel destination Domestic travel (Shandong/Panjin/Xian) Foreign travel (South Korea/Vietnam/Russia)	Domestic travel=0, Foreign travel=1
AGE	Customers' age	Actual age
GENDER	Gender of the customers	Male=0, Female=1
AGENT.CLASS	Class of the agents	General agent=1, Manager=2, Executive=3

The control variables are as follows. Travel Destination(**DES**) is decided on the basis of whether the travel location is domestic or foreign. Its secondary part comprises the level of customers: Customer Age(**AGE**), only adults are counted in this study; Customer Gender(**GENDER**); Agent Class (**AGENT.CLASS**), to measure the impact on add-on buying of the sales agents' different ranks.

Table 2 provides the descriptive statistics and correlations for all the datasets of customers. According to Figure 1, our sample consisted of 887 customers who had participated in incentive package travel-CRM programs during 2016 to 2019, and 168 who had never participated in such a program in 2017, i.e., a total of 1,055 observations.

<Table 2> Descriptive Statistics and Correlations

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9
1. *PUR*	.51	.50	-								
2. *PUR.INTERVAL*	12.38	14.74	-.72**	-							
3. *TRA.AGENT*	.58	.49	.24**	-.28**	-						
4. *ln(PUR.AMOUNT.FIRST)*	8.25	1.38	-.06	.06	-.06	-					
5. *PUR.PAST*	.64	.48	.18**	-.24**	.30**	-.09*	-				
6. *DES*	.62	.49	-.03	.10**	-.19**	.02	-.12**	-			
7. *AGE*	46.84	10.67	-.22**	.19**	-.15**	-.12*	-.13**	.13**	-		
8. *GENDER*	.77	.42	.06	-.10**	-.02	-.01	.02	.04	.09*	-	
9. *AGENT.CLASS*	1.69	.81	.07	-.03	.10*	.15**	.08*	-.07	-.07	-.04	-

*p<.05; **p<.01; ***p<.001

IV. Models

1. Hazard Model

This study uses the hazard model that is a dynamic, non-linear statistical model. It is used to estimate the effect of features by the length of time on the occurrence of events(Raymon et al. 1993). In this study, the Cox proportional hazards model is used because censoring is included as the observation period was up to 36 months(Jain and Vilcassim, 1991). Cox proportional hazards model is proposed by Cox(1972), and the measure of effect is the hazard rate, which is the risk or probability of buffering the event of interest(as displayed in **equation (1)**). The purpose of the hazard model is to observe the curve of the risk rate between 0 and 1 as the survival time changes. In the original model, it represents the risk rate while the abscissa represents the survival time. The results show that the longer the survival time, the lower the risk. In fact, it is to study the change of the probability of an event(risk) as time goes by. The correlation between hazard rate and time means that, with the passage of time, the event will not occur, and the probability of occurrence will change. Some marketing researches use the hazard model to predict purchase probability, for example Raymond et al. (1993) use the hazard model to observe the

consumer's durable good replacement decision, and Jain and Vilcassim(1991) use the model to estimate the probability distribution of household purchase influenced by marketing factors underlying the interpurchase time. On this basis, my model is modified slightly to calculate the change of the probability of purchasing products(events) after travel over time. Here, the abscissa represents interval between travel start time and time of add-on buying after traveling. If there is no purchase, the maximum abscissa is 36(our observation time is only 36 months after travel, right censored). Here $h(t)$ in **equation (2)** means probability of add on buying in time t(which is a multivariate Cox regression analysis) , t values represents **_PUR.INTERVAL_**.

$$h(t, \ X_i) = h_0(t) \times \exp(X_i \beta) \qquad (1)$$

$$
\begin{aligned}
h(t) = h_0(t) \times \ \exp(&\theta_1 TRA.AGENT + \\
&\theta_2 \ln(CUS.AMOUNT.FIRST) \\
&+ \theta_3 PUR.PAST + \theta_4 DES + \theta_5 AGE + \\
&\theta_6 GENDER + \theta_7 AGENT.CLASS)
\end{aligned} \qquad (2)
$$

Here the $\exp(\theta_i)$ are called hazard ratios(HR). A value of θ_i greater than zero, or equivalently a hazard ratio greater than one, indicates that as the value of the i-th covariate increases, the event hazard increases. Note that the hazard ratio depends on the covariates but not on time t, which means that the covariate in the model are time independent variables.
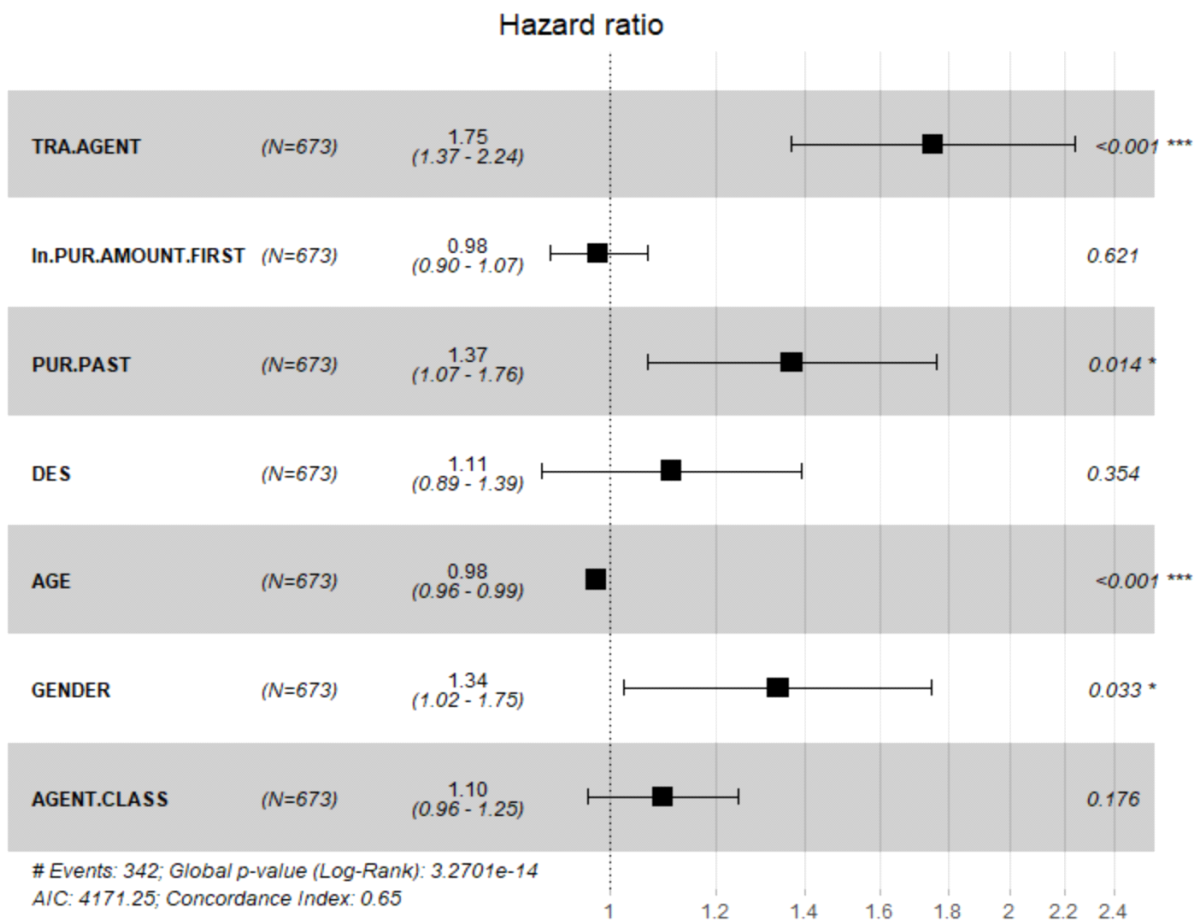
2. Kaplan-Meier Survival Estimate Method

The survival probability refers to an individual's survival from the time starting points to the specified future time. The multivariate cox regression analysis is used to observe the influence of multiple variables on the occurrence of events, so we use the Kaplan-Meier survival estimate method(KM model) (Kaplan and Meier 1958) to observe the relationship between single variable, event occurrence and time, while ignoring the influence of other variables. In this article, we choose to use Python's own package lifeline to perform KM model calculations. While the KM survival curve is a graph which can show KM survival probability against time. It provides useful estimate measurement value(such as median survival time).

V. Results

In this research, we focus on analyzing 673 existing customers who have participated in package travel. As shown in Table 3, we have calculated the hazard ratio using 673 customers. Here the event represents the event of add-on buying after travel, and the bigger the hazard, the more probability that the customers choose to add-on buying. If any covariate reduces the hazard, it means that the covariate may decrease the add-on buying probability. From the results in Table 3, the *p*-value for all three overall tests(Likelihood, Wald, and Log-Rank) are statistically significant, indicating a significant model. These tests evaluate the omnibus

null hypothesis that all of the θ_i are 0. In the results from Table 3, the test statistics are in close agreement, and the omnibus null hypothesis is soundly rejected. In the multivariate Cox analysis, the covariates ***TRA.AGENT*** and ***PUR.PAST*** remain significant($p<0.05$). However, the covariate ***ln(CUS.AMOUNT.FIRST)*** fails to be significant. The p-value for ***TRA.AGENT*** is 0.000009, with a hazard ratio HR = exp(coef) = 1.75, indicating a strong relationship between the ***TRA.AGENT*** and increased "risk" of add-on buying(it can accelerate the

probability of add-on buying). That is to say, holding the other variables constant, travel with sales agents (***TRA.AGENT*** = 1) increases the hazard by a factor of 1.75. Also, the p-value for ***PUR.PAST*** is 0.014, with a hazard ratio as 0.97, indicating a strong relationship between the ***PUR.PAST*** value and increased "risk" of add-on buying. We conclude that, travel with sales agents and having a past year'spurchase record can positively affect the add-on buying probability. **H1-i** and **H3-i** are supported.

<Figure 3> Hazard Ratio of Add-on Buying over Time

The examination of the control variables shows that *AGE* and *GENDER* are important for add-on buying and especially for *AGE*, which decreases the hazard by a factor of 0.03, referring that the younger the customer is, the more likely they are going to buy after travel.

Figure 3 shows a visualizing result of Table 3. If the hazard ratio of each independent variable is larger than 1, then it means that a positive correlation exists with add-on buying; and if the hazard ratio equals to 1, then it represents no effect on add-on buying; and the hazard ratio smaller than 1 on behalf of having a negative correlation with add-on buying. As we can see from the Figure 3, *TRA.AGENT*, *PUR.PAST*, and *GENDER* have positive effects on add-on buying probability while *AGE* has a negative effect on add-on buying probability.

\<Table 3\> Multivariate Cox Regression Analysis of Purchase Interval on Add-on Buying

Variables	coef	exp(coef)	se(coef)	*p*-value	
TRA.AGENT	0.56	1.75	0.13	0.00	***
ln(PUR.AMOUNT.FIRST)	-0.02	0.98	0.05	0.62	
PUR.PAST	0.32	1.37	0.13	0.01	*
DES	0.11	1.11	0.12	0.35	
AGE	-0.03	0.98	0.01	0.00	***
GENDER	0.29	1.34	0.14	0.03	*
AGENT.CLASS	0.09	1.10	0.07	0.18	

Concordance = 0.65 (se = 0.02)

Likelihood ratio test = 78.16 on 7 df, *p*=3e-14

Wald test = 71.96 on 7 df, *p*=6e-13

Score(Log-Rank) test = 74.39 on 8 df, *p*=2e-13

*$p<.05$; **$p<.01$; ***$p<.001$

In order to clearly see the relationship between each significant variables and add-on buying probability changing by purchase time(*PUR.INTERVAL*), the visual graphs are displayed below to show the differences apparently. Figure 4 visualizing the KM curve using the package lifeline in Python (Davidson-Pilon 2016). The traditional KM model is mainly used to show the survival curve in medical research, such as showing the effect of a surgery on the survival rate of cancer patients. In previous KM models, the y-axis usually represents the survival probability, that is, the probability of events not occurring(event: death), and the abscissa represents the survival time and the survival curve identifies the change graph patients' survival probability by time. However, in this study, the add-on buying is regarded as the event, as a result, the y-axis represents the probability that such event does not occur(event: add-on buying), that is, the probability of no add-on buying.
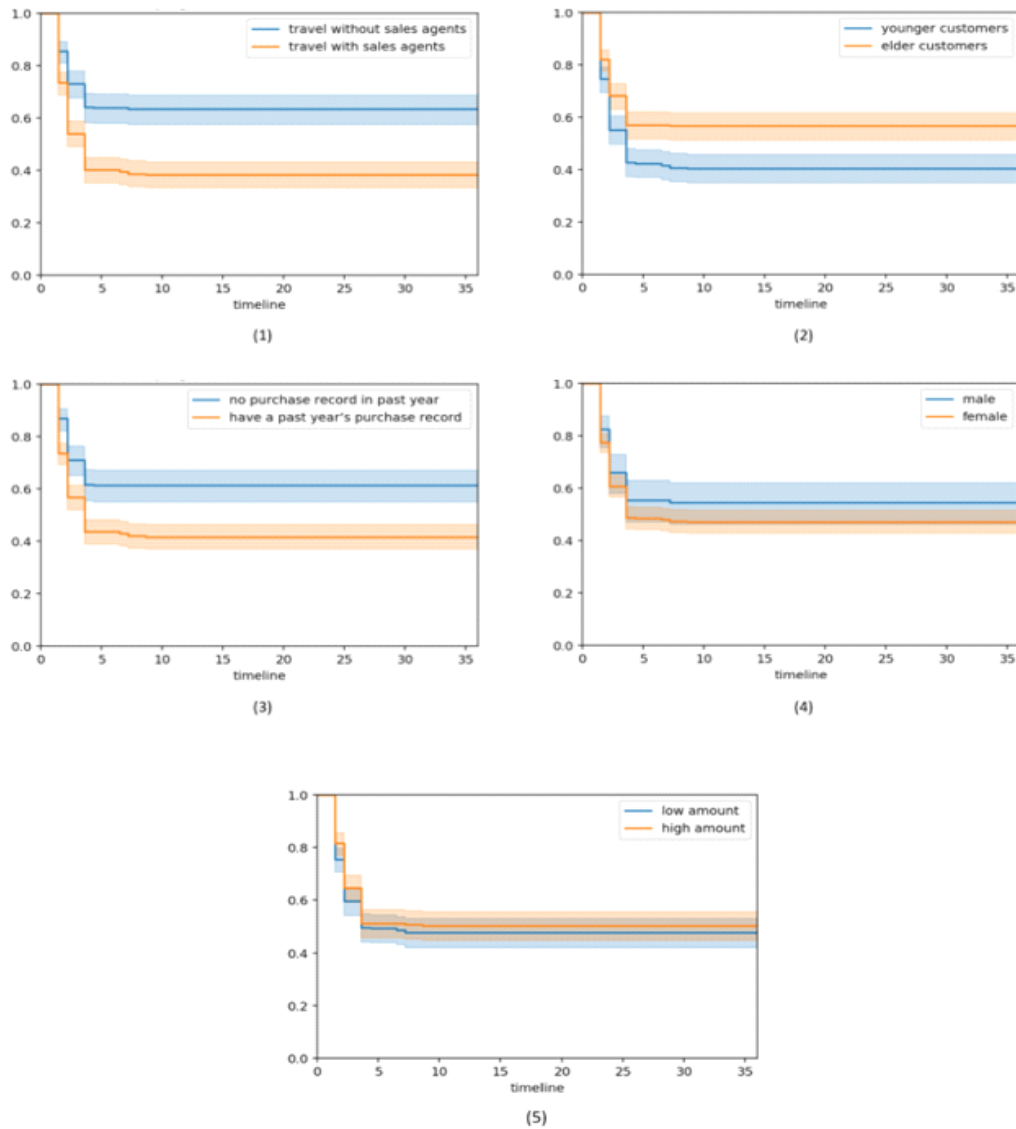
As shown in Figure 4 part (1), the blue line represents having a travel with accompany of a sales agent, and the orange line represents that there is no sales agent around. It can be seen that the slope of travel with agent curve in the first 5 months is sharper, which is equivalent to that the group of traveling with sales agents is more sensitive and easier to buy products. Under the same(no) add-on buying probability, the group of traveling with sales agents takes a shorter time. In addition, from the result it can be indicated that after 5 months, the probabilities of no add-on buying among the two groups does not change over time, and the group of traveling with sales agents has a lower probability of no add-on buying. Secondly, it can be seen that when the probability of add-on buying is about 75%, it takes about 3 months for customers who travel with sales agents and 5 months for customers who travel alone. In addition, when Clark et al.(2003) explained the time effect of KM curve, they take a look for the medium survival times that compare the different times at the same(50%) probability of event occurrence. However, in our study we chose 80% probability as the baseline, and the result shows us that the hypothesis **H1** holds.

We do median splits for **AGE**(the median of **AGE** is 47, above and below the median figures are coded as "high" and "low" respectively) as well as(the median of it is 8.25, above and below the median figures are coded as "high" and "low" respectively). Figure 5 part(2) displays the age effect on the probability of no add-on buying as time goes by and from the result, we can see that younger customer have quicker response and are more probably to buy. Similarly, Figures 5 part(3), part(4) and part(5) show that customers have a purchase record past year as well as female customers are more likely to accelerate add-on buying while the first contract amount shows a weak effect. The , and **AGE**'s Log Rank p-value are statistically significant($p<0.05$), indicating that the hypothesis **H1-ii, H3-ii** hold.

<Table 4> Summary of Hypotheses Testing

H		Results
H1	i) Travel with sales agents can positively affect the add-on buying probability.	**Supported**
	ii) Travel with sales agents can negatively affect the purchase interval.	**Supported**
H2	i) A large first contract amount can positively affect the add-on buying probability.	Not Supported
	ii) A large first contract amount can negatively affect the purchase interval.	Not Supported
H3	i) The past year's purchase record can positively affect the add-on buying probability.	**Supported**
	ii) The past year's purchase record can negatively affect the purchase interval.	**Supported**

<Figure 4> Probability of no add-on Buying Affected by Five Variables

VI. Discussion

The research results show that when studying loyalty programs, consumers' characteristics should to be taken into account, and value creation of consumers in the marketing process needs to be explained(Ono et al. 1999). The result shows that when using travel as an incentive to customers, traveling with sales agents plays an important role of promoting add-on buying. Although CRM program of companies will have many people who are reluctant to participate, the research results show that travelling with their customers will indeed accelerate customers' purchases. If sales agents wish to stimulate purchases as soon as possible, it is much

better for them to travel with customers.

This study also finds that customers aged between 20 and 30 years old will actively purchase additional products. It also fulfills what was confirmed by Kumar, George, and Pancras(2008), since in China, women in this age group are at the stage of career mobility, and with changes in the family structure, they may face problems such as unemployment, promotions, marriage, and childbirth. Thus, as compared with older segments, the target group for a travel-CRM approach should be young women.

The theoretical implication is that this paper uses the Cox proportional hazards model and Kaplan-Meier survival estimate method to verify the effect of independent variables on the add-on buying probability and repurchase time. These two models are mainly used in analyzing the survival probability in medical researches or studied the customer retention rate in marketing researches. In previous researches, the events that occur are defined as negative events(e.g., death or stop subscription). However, in this research, we use those two models in the analysis of a positive event — the add-on buying probability as the hazard rate, which extends the application of these models. The hazard model is used to study the effects of independent variables on the repurchase probability, and the Kaplan-Meier survival estimation method is used to verify the influence of independent variables on the reduction of repurchase time.

The managerial implications of this research is that insurance sales agents should not avoid risks, but to encourage participation in such travel-CRM activities. Although travelling with customers appears troublesome due to high investments and low

returns, it could, in fact, achieve results in the short term. Similar to life insurance industry or other service-oriented industries when providing type II CRM to customers, although salespersons may need to pay a certain amount of time and energy, there will be a positive effect on the repurchase rate in the short term. Short-term purchases can meet sales agents' satisfaction and achievements on their task because the indicators for each quarter of the year need to be completed as soon as possible, but the insurance companies prefer inspiring the sales agents selling higher-priced insurance policies rather than decreasing the reaction time of the purchase. Future research can focus on either a faster response time of customers' purchase, or a larger amount of customers' purchase is more important. Further research can investigate and provide suggestions for insurance companies' long-term planning, as well as suitable performance evaluations for sales agents.

Although this study contributes to the knowledge on customer's add-on buying after participating in the travel-CRM activities arranged by the insurance company, it has some limitations. First, this study only analyzes the data of a single insurance company in one of China's second-tier cities, without the corresponding data of other insurance companies in the life insurance industry, which lacks generality. Second, considering that during the data collection period, only a couple of types of CRM was compared and analyzed after controlling time and other variables. Future research can compare different types of CRM programs to highlight the importance of type II CRM programs. Third, we focus on the positive effect of the sales agents into account and do not consider the negative attributes such as over

promotion. Investigating the customer satisfaction about the trip as well as the sales agents after the package travel can reinforce our results. At the same time, the factors that affect the add-on buying may also contain the sales agents' personal ability, the way of communication, and so on. Future research might try to add a survey to investigate customer satisfaction and other potential factors to analyze the impact. Fourth, we only consider the short-term effects of sales agents' participation, without measuring the long-term effects on customer's lifetime value. Last, since our data contains censoring point, we choose the hazard model. It assumes that the hazard ratio of a variable is always constant regardless of time change. Since there is no individual-specific purchase time data, it is not possible to verify the time fixed effect or the individual fixed effect. Future research can consider other time-dependent models to measure the changes in variables over time on add-on buying and also consider the unobserved heterogeneity.

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보험 판매원과 함께 하는 무료 여행 보상이 보험상품 추가 구매에 미치는 영향: 중국 보험 산업을 중심으로

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ABSTRACT

보험상품의 기능이나 혜택의 차이를 설명하기 힘든 상황에서 보험 회사가 자사 보험상품의 경쟁력을 높이기 위해 제공하는 고객관리 기법은 고객의 추가 구매에 매우 큰 영향을 준다. 본 연구는 고객과 보험판매원 간의 친밀감을 높여주는 1대1의 관계로 보험상품을 설명할 기회가 많은 보험 판매원과 함께 패키지여행을 보내주는 보상 프로그램인 고객관리 기법이 추가 보험상품 구매에 어떤 영향을 주는지를 연구한다. 본 연구에 다루는 고객관리 기법은 중국 현지 생명보험 업계가 실제로 사용하고 있는 프로모션 방법으로 수십 년 동안 활용해왔다. 이를 통해, 보험 판매원과 고객 간의 관계를 심화시키고 추가 보험상품의 구매를 유도한다. 그러나 고객과 함께 여행이 과정과 성과면에서 불확실한 요소가 많고 시간과 노력이 필요하므로 일부의 보험 판매원은 동반 여행을 선호하지 않고 고객만 혼자 무료 패키지여행을 선물하기도 한다.

해당 무료 패키지여행 보상 프로그램을 분석하기 위해 2016년에서 2019년까지의 중국의 한 생명보험 회사의 실제 데이터를 이용하여 고객을 보험 판매원과 함께 여행을 간 그룹과 판매원의 동행 없이 여행 보상만 경험한 그룹으로 구분한다. 해저드 모형(hazard model)을 활용하여 각 고객 그룹의 구매행태를 추정해 각 고객 그룹의 추가 보험상품의 구매 확률을 분석하며, 마지막으로 카플란-마이어 생존분석으로 해저드 모형의 결과를 재검증하면서 각 독립변수와 재구매까지 걸리는 시간 간의 관계를 분석한다.

무료 패키지여행 보상 프로모션에 참가했던 673 명의 고객 구매기록을 사용하여 해저드 모형으로 분석한 결과, <표 1>에서 볼 수 있듯이 보험 판매원과 함께 여행을 다녀온 고객 집단에서 추가 보험상품 구매가 유의하게 촉진된 것을 확인하였다. 또한, 카플란-마이어 생존분석 결과 보험 판매원과 함께 여행을 다녀온 고객 집단은 보험 판매원의 동행 없이 혼자 여행 보상만 경험한 집단보다 재구매까지 소요하는 시간이 더 짧은 것으로 나타났다(<그림 1> 참조). 더불어 <표 1>과 <그림 1>의 결과에서 확인할 수 있듯이 지난해 보험상품을 구매한 이력이 있는 고객도 최근 1년 동안 보험상품 구매 경험이 없는 고객보다 보상 여행 후 재구매 확률이 높은 동시에 재구매까지 소요한 시간은 짧은 것이다. 특별히 연령 및 성별 변수에서 유의미한 결과를 도출되며 젊은 고객 그룹과 여성 고객 그룹의 재구매 확률이 높은 편이고 소요시간이 짧은 것으로 확인하였다.

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\<표 1\> 고객 추가 상품구매 확률

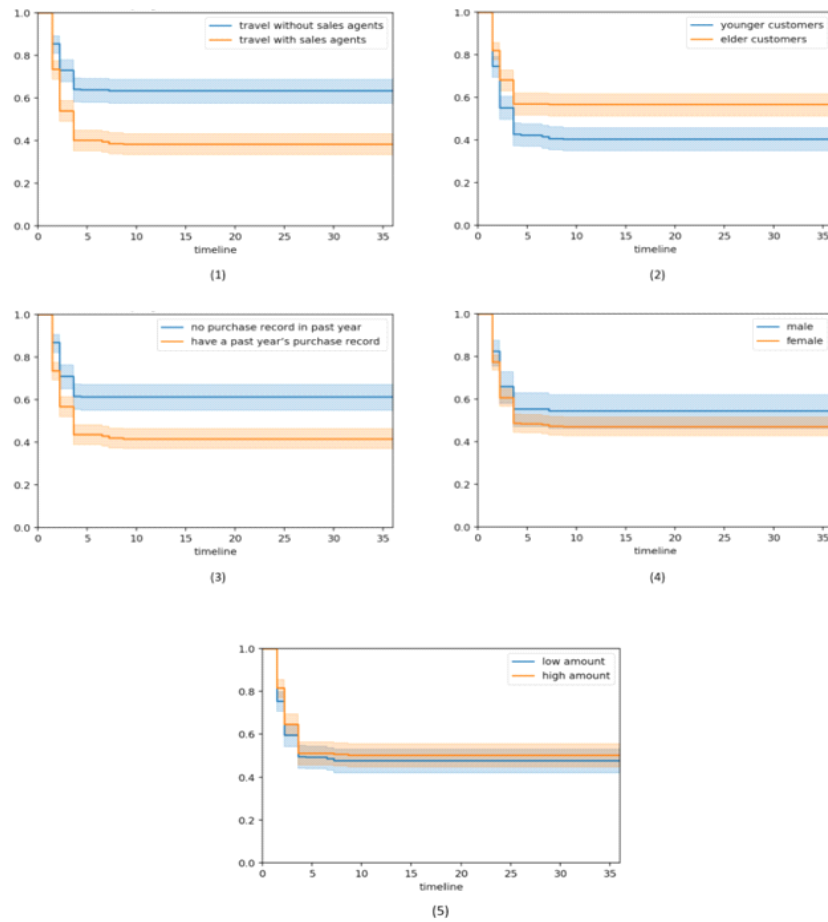| 변수	coef	exp(coef)	se(coef)	*p*-값	
TRA.AGENT	0.56	1.75	0.13	0.00	***
ln(PUR.AMOUNT.FIRST)	-0.02	0.98	0.05	0.62	
PUR.PAST	0.32	1.37	0.13	0.01	*
DES	0.11	1.11	0.12	0.35	
AGE	-0.03	0.98	0.01	0.00	***
GENDER	0.29	1.34	0.14	0.03	*
AGENT.CLASS	0.09	1.10	0.07	0.18	

Concordance = 0.65 (se = 0.02)

Likelihood ratio test = 78.16 on 7 df, *p*=3e-14

Wald test = 71.96 on 7 df, *p*=6e-13

Score(Log-Rank) test = 74.39 on 8 df, *p*=2e-13

*p<.05; **p<.01; ***p<.001

\<그림 1\> 시간 경과에 따른 재구매 하지 않은 확률에 대한 영향

　본 연구의 이론적 시사점은 의학 연구에서 많이 사용하는 기법인 해저드 모형과 카플란-마이어 생존분석 방법을 이용하여 마케팅 분야의 고객 추가 상품구매 확률과 재구매까지 소유된 시간을 분석한 것이다. 실무적 시사점으로는 젊은 층 여성 고객, 최근 1년 이내에 구매 이력이 있는 고객에 대한 무료 패키지여행 프로모션을 제공하는 것이 더 효과적이고, 보험 판매원에게 고객과 함께하는 무료 패키지여행 보상에 더욱 적극적으로 참여를 독려하는 것이 보험 회사의 이윤추구에 도움이 된다는 것이다.

　향후 연구에서는 추가 보험상품의 구매에 영향을 미치는 요인으로 보험 판매원의 개인적인 능력, 고객과 커뮤니케이션 하는 방식 등 잠재적인 요인을 추가로 검토하면 좋을 것이다. 또한, 보험 판매원과 함께하는 패키지여행의 부정적인 요인을 분석하는 것이 의미가 있을 듯하다. 이러한 고객관리 기법이 고객에게 장기적인 영향을 미치는지 추가로 분석하는 것도 좋을 듯하다.