CORRELATION BETWEEN MARKETING COST AND NUMBER OF AGENTS AND THE INCREASE NUMBER OF NEW CUSTOMERS AND ACQUISITION COST OF PT. X

By

Ignatia Hanny

011200800037

A Thesis presented to the

Faculty of Economics President University

In partial fulfillment of the requirements for

Bachelor Degree in Economics Major in Management

President University

Cikarang Baru – Bekasi

Indonesia

January 2012

PANEL OF EXAMINERS
APPROVAL SHEET

The Panel of Examiners declare that the thesis entitled "The Correlation between Marketing Cost and Number of Agents and the Increase Number of New Customers and Acquisition Cost of PT. X" that was submitted by Ignatia Hanny majoring in Management from the faculty of Economics was assessed and approved to have passed the Oral Examinations on February 15, 2012.

Maria Jacinta Arquisola, MHRM

Chair - Panel of Examiner

Miftah Zikri, M. Sc

Examiner 1

Irfan Habsjah, MBA, CMA.

Examiner 2

THESIS ADVISER
RECOMMENDATION LETTER

This thesis entitled **"The Correlation between Marketing Cost and Number of Agents and the Increase Number of New Customers and Acquisition Cost of PT. X"** prepared and submitted by Ignatia Hanny in partial fulfillment of the requirements for Bachelor Degree in Economics – Major in Management, has been reviewed and found to have satisfied the requirements for a thesis fit to be examined. I therefore recommend this thesis for Oral Defense.

Cikarang, Indonesia, January 19, 2012

Acknowledged by,   Recommended by,

Irfan Habsjah, MBA, CMA.   **Ir. B.M.A.S. Anaconda B., MT., MSM**

Head, Management Study Program   **Advisor**

DECLARATION OF ORIGINALITY

I declare that this thesis, entitled **"The Correlation between Marketing Cost and Number of Agents and the Increase Number of New Customers and Acquisition Cost of PT. X"** is, to the best of my knowledge and belief, an original piece of work that has not been submitted, either in whole or in part, to another university to obtain a degree.

Cikarang, Indonesia, January 19, 2012

Researcher,

Ignatia Hanny
011200800037

ABSTRACT

This research's purpose is to find out the correlation between marketing costs and number of agents and the increase number of new customers and acquisition cost within one of insurance companies in Indonesia, PT. X. The researcher chooses this particular topic because it is one way to confirm that all variables are closely related and impacted one another.

The research used quantitative method and also used canonical correlation by using SPSS as the statistic tools, which the researcher believes that it represents the best correlation result. In addition, even though this research uses quantitative method but instead of questionnaire it only uses secondary data in certain period from March 2009 until October 2011.

The final result of this research is the correlation number of marketing cost and number of agents toward the increase number of new customers and acquisition cost. Based on the result, marketing cost obviously has significant correlation with the increase number of new customers and acquisition cost while on the other hand number of agents has no significant correlation with them. These results are not completely in line with research questions since the number of agents, based on the result, is not considerably correlated with the last two variables.

Based on the result, the research proposes several recommendations for the research object, PT. X. The researcher recommends the company to allocate more marketing cost and to prioritize the active agents. In addition, the researcher also proposes the company to find out the specific dominant marketing cost variable in order to make the research more complete. Last but not least, the researcher would like to recommend looking at other variables like customer management activities to dig deeper into understanding how significantly correlate is to marketing cost and acquisition cost.

Key words: marketing cost, number of agents, increase number of new customers, acquisition cost.

ACKNOWLEDGMENT

During this thesis process, the writer feels so many blessings because there are so lots of supports from many parties. I greatly appreciate the valuable contributions of several people who helped make this thesis possible. Therefore, firstly, I would like to devote my biggest thank to God Almighty for His blessing and guidance through my life especially this thesis writing process. I thank You for every single thing You have given to me.

I also extend my gratefulness to my beloved family, especially my deceased parents, the best and sweetest gifts from Him. My thankfulness and my feelings for both of you are indescribable. Many thanks to you for giving your best as parents and now it is my turn to give you my best as a daughter. This thesis is dedicated to both of you. Many thanks to my big brother for always stay beside me, for his endless support, for his unseen love for me. Thank you for all your effort through this hard time. I believe we can face these things together.

Yet, I especially wish to express my sincere thanks to President University, Head of Management Study Program all at once my main Advisor, Mr. Irfan Habsjah and my second Advisor Mr. Anaconda. Thank you so much for your guidance, for all your critics, advices and support and for making this thesis possible.

I sincerely thank PT. X, the company where I have done my research especially to Mr. Alexander Christian, Mr. Riyadi Agung and Mr. Bayu Rakasiwi for their help,

guidance, advices and support through this research process. I have learned a lot from all of you and I wish you a successful career and life. See you soon.

Besides, I should express my thankfulness to my second family in this university, PUCATSO, particularly all members batch 2008. All the memories I have about you guys will never be replaced. I really appreciate the experience, knowledge, all things that we have done together. Keep growing together in love.

Not to forget, I thank my college friends especially my dorm mate, D5, for their support for the last four years. Thank you for being such good friends for me. Well, I will not forget all laughter, sadness, silly things, all activities that we have done together. I wish all of you best of luck and success after we graduate.

Last but not least, many thanks to Gregorius Mahesa, the one who always believes in me and who always stays beside me within my hard time. There is no other word but thank you.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER I

INTRODUCTION

1.1   Background of Study

Insurance industry, which is part of financial institutions, has been existed for a long time in business world and it becomes a very interesting part to be explored. The existence of insurance industry is frequently beaten by other institutions' existence, such as banks or securities firms. It may because of the unawareness of special benefits offered by insurance industry. While the majority of financial institutions offer only investment, insurance also provides another important thing that others do not give, which is protection.

However, people awareness and interest to have any kind of insurance types is very low; it can be seen from the insurance density and insurance penetration, particularly in Indonesia. From insurance penetration (GDP/population of the country) it is able to see that even though the penetration is very low but it showed positive growth for the last 5 years, from 2006 until 2010 (Bapepam LK Annual Report 2010, 2011). At least, people awareness of the existence of insurance industry has increased, therefore, hopefully the consideration to protect themselves by having insurance also increasing.

Table 1 Year to Year Growth

Key Parameter	2006	2007	2008	2009	2010
GDP (bio Rp)	3,339,479	3,957,403	4,954,000	5,581,900	6,422,900
GWP (bio Rp)	46,309.85	67,696.69	76,466.11	90,535.34	112,336.26
Population (mio)	223	226	229	231	238
Penetration	1.42%	1.71%	1.54%	1.62%	1.75%
Density (Rp)	212,151.79	299,542.88	333,913.14	391,927.88	472,001.09

Source: (Bapepam LK Annual Report 2010, 2011)

By looking at current economic condition, insurance industry has become one of major financial industries that experienced significant growth for the past 5 years. Due to the daily risks that people are possible to face each and every day, insurance sector could be footing step or mainstay to cover their risks. For the country such as Indonesia, with its huge number of population, it is no wonder that Indonesia marked as a potential market for insurance industry alongside with other huge population countries like China or India.

Furthermore, insurance companies gain their assets from two ways, either by selling insurance policies and/or annuities (Kirk, 2007). Regarding this fact, the company runs few strategies in order to gain the customers and build relationship with them, for example through customer relationship management (CRM). Although it consists of three main activities but the most popular are acquiring new customers and retaining existing customers.

These two strategies almost certainly run by insurance companies, even not the whole companies have it. In some cases, it has been found that the companies only run the acquiring strategy even though they sometimes offer special retention programs also. Both strategies, however, have their own advantages and disadvantages for companies, also it depends on their current condition whether they want to run one of them or mix between them.

Customer acquisition is always the most important goal during new product launches and with new business start-ups (Buttle F. , 2009). It can be said that having a customer is really most precious value. Companies really concern about their upcoming customers as it is the potential condition for them to grow their profit. Therefore, they commonly offer several programs, which suitable with current market trends in order to attract their future customers.

Besides, acquiring new customers is not a new thing for industries; especially those who exist because of customers such as bank, insurance companies, and any other financial industries. The companies need to prepare the strategy very carefully in order to acquire the most profitable customers for the companies. The company needs budget or cost, which commonly called acquisition cost, to run the strategies. Basically, this cost is no longer incurred once the customer is acquired, but several cases depict that some variables of this cost are still calculated, particularly insurance company.

The increasing number of new customers will not be determined only by the acquisition cost, indeed, but it is no doubt that marketing cost, cost they spend for marketing and promoting program, is also really affecting this. If the company prepared it very carefully and the whole strategies are compatible with customers needs then it will attract their attention easily. That is why an analysis before the companies start to acquire new customers is a must to do list.

Table 2 Acquisition Management

Key Focus	Targets and Their Product Experience	Customer Segmentation	Customer Communication
Acquisition management **Encompasses all the efforts directed at attracting high-value prospects and turning them into first-time buyers.**	Prospects: these potential customers lack experience with your product or service.	Segmentation is based mainly on externally acquired data.	Mainly directed one way, toward the prospect.

Source: (Griffin & Lowenstein, 2001)

1.2   Company Profile

PT. X started its operations in Indonesia with a representative office in 1981. In 1989, PT. X established PT. XY, a general insurance company. Furthermore, PT. X entered the Indonesian life insurance market by opening PT. X in 1996. In 2006, PT. XY and PT. X Life Indonesia started sharia insurance business.

In 2007, PT. X Indonesia introduces PT. X Center as One Stop Solutions concept, where customer and agent of PT. X get insurance services in one premise. PT. X Center has operated in Jakarta, Surabaya, Bandung and Denpasar.

Now, PT. X Indonesia presents in 44 cities with 80 service centers, supported by more than 14,000 agents with more than 1,000 employees and solid banking partners to serve our customer. PT. X Indonesia gives you insurance solution from A to Z.

In 2010, both PT. X in Indonesia; PT. XY and PT. X reached total premium income Gross Written Premium (GWP) at IDR 5.6 trillion.

Today, PT. X in Indonesia is one of the leading insurance groups in the market who has been trusted to serve more than 1.8 million policyholders consisting of individual and corporate customers.

1.3   Problems Identified

At the moment, insurance industries still represent not really popular image for some people; it was proven by the low density and penetration rate depicted by Bapepam-LK within their 2010 annual report. These rates indicate consumption rate to buy insurance product and people's ability to buy the insurance. There are several possible reasons why people are not interested with insurance products, such as lack of expert or skilled agents, their incertitude of protection covers by insurance, fear of losing their money or investment, and so on.

Those possible reasons may be the challenges for insurance industries to develop successful acquisition and marketing strategy in order to raise the number of their new customers. But not to forget the costs spent by company for both strategies must be calculated carefully. It is extremely important if every cost is worth to be used up for gaining new customers.

The increasing number of new customers or number of policy holders (INPH) is surely the main goal of each insurance company; hence, the number is highly expected to increase each month, each year. The research identified that in some cases, the number of new customers is not increase steadily; even the worst is negatively decreasing. On the other hand, marketing cost that spent by the company for marketing strategy has a tendency to increase each month. This condition is somehow connected with the growth of new customers because one of marketing strategies' purpose is to gain more customers.

Actually, number of agents within an insurance company generally speaking is quite high and it surely affects the amount of acquisition cost itself as it contains of commissions paid to agents. These insurance agents used by the company as one of the acquisition strategies in order to gain new customers. Therefore, it is able to say that the increase number of new customers or policy holders (PH) and the acquisition cost are somehow affected by the marketing cost and number of agents and in fact the correlations amongst them are occurred insensibly.

Therefore, in order to find out much clearer about the correlation between marketing costs and number of agents toward the increase number of policy holders and acquisition cost the researcher will try to start deeper research about it.

1.4 Statement of the Problem

This research is about finding out the correlation between the marketing costs and number of agents and the increase number of new customers also acquisition cost. Thus, in order to determine the relation and the contribution among four major things insurance industry, the statement of the problem can be compiled along these lines:

1. Is there any correlation between the marketing costs and the increase number of new customers (INPH) and acquisition cost?

2. Is there any correlation between the number of agents (NoA) and the increase number of new customers (INPH) and acquisition cost?

1.5 Research Objectives

In line with the problem identified and the problem statement as mentioned in previous point, there are numbers of objectives, which hopefully useful for the company involved and the researcher.

For the researcher:

1. To find out the correlation of the marketing cost and number of agents with the increase of new customers and acquisition cost.

2. To find out the contribution of the marketing cost and number of agents towards increase number of new customers and acquisition cost.

For the company:

1. To determine the best approach in order to boost up the number of new customers.

2. To classify the correlation of acquisition cost and marketing cost in turn to maximize the company's growth of new customers.

1.6 Significance of the Study

This research is estimated to bring affirmative impact particularly to the insurance company involved, PT. X and/or to other parties that experience the same, as well as to the university itself. The research is expected to be little guideline for them when this common problem occurred within the insurance companies.

Correlation and contribution's numbers of marketing cost and number of agents to the developing number of new customers and acquisition cost is the expected major point to be fulfilled within this research. As if the numbers appear then PT.X can analyze further for its next step whenever it faces this kind of circumstance. The researcher really desires this point of research can be fulfilled especially for the company involved.

1.7 Scope and Limitations of the Study

As the research is talking about life insurance, thus, all data gathered from PT. X will be life insurance's data. It will not cover general and health insurance customers or costs. Besides, this research will only cover variables within customer acquisition and will not discuss about the rest of customer management activities (customer retention and customer penetration).

The researcher decided to represent monthly data to make it much easier to analyze the data. Thus, in order to fulfill the expectation of data availability, the researcher limits to gather the data from March 2009 up to October 2011, with the consideration that the data are taken and reviewed monthly. The data itself will consist of the increase number of policy holders, acquisition cost, marketing cost and number of agents.

For cost variables which are acquisition cost and marketing cost, the scope will be based on the annual financial statement published by insurance company involved, PT. X. As people know, the definition of these costs will be different among insurance companies, even mostly part are the same. It surely depends on each company how they divide each element and contribution of acquisition cost. Both acquisition and marketing costs will not be break down to the more details variables and will only use the total costs.

1.8   Theoretical Framework

The theoretical framework based on the Customer Relationship Management (CRM), which included in three steps of marketing process. CRM is probably the most important step especially to build the relationship with profitable customer. However, CRM is closely related and done through three aspects, customer acquisition, and customer retention as well as customer penetration.

This particular research emphasizes more into customer acquisition as it covers several variables, which also used within this research. Acquisition cost, the increase number of new customers, number of agents and marketing cost are variables within customer acquisition and correlate one another.
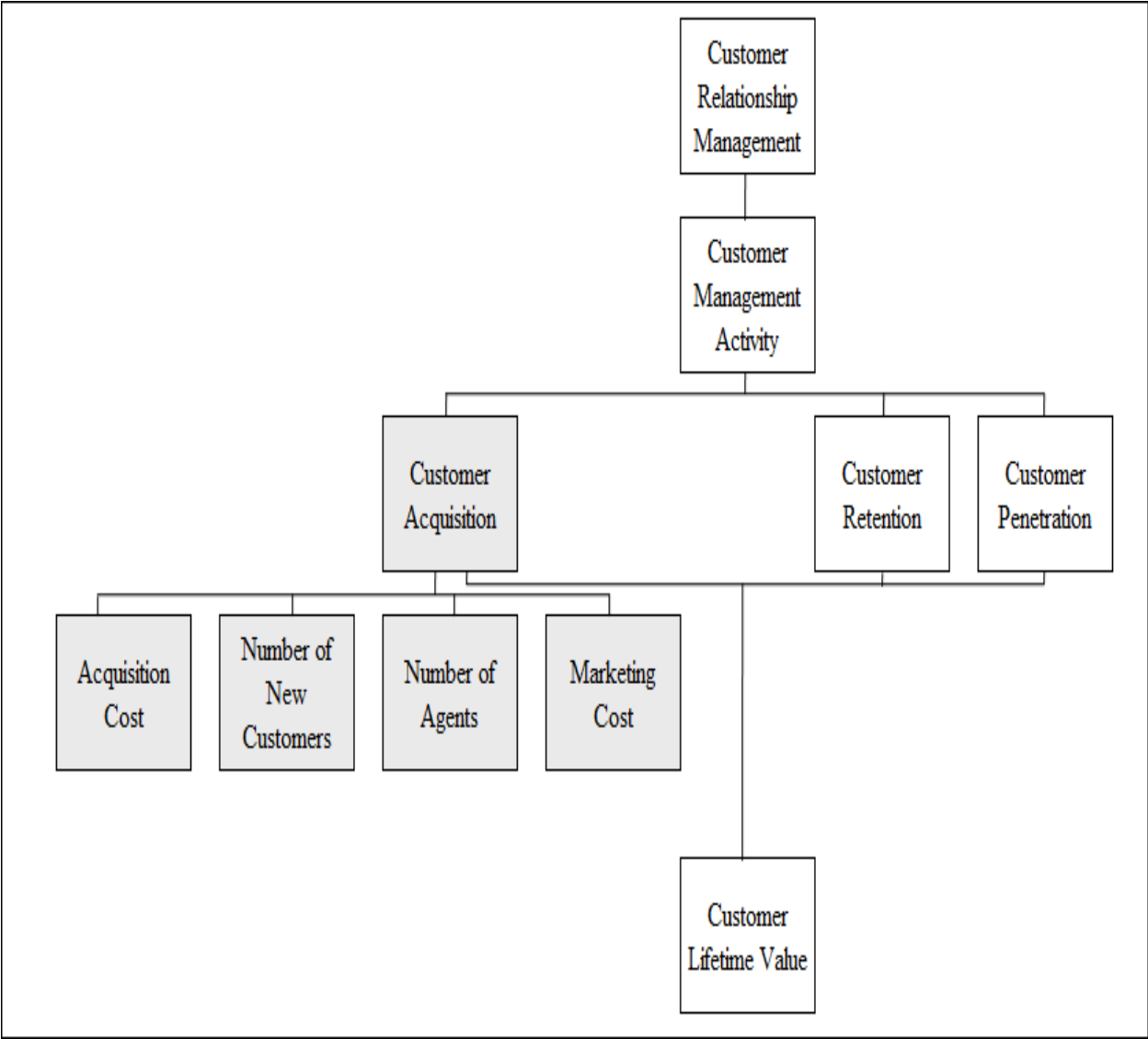
Figure 1 Theoretical Framework

Source: (Buttle F. , 2009)

CHAPTER II

LITERATURE REVIEW

2.1   Financial Institution

International Business occasionally cannot be separated with financial markets and institutions, yet, it is closely related with economic and industries globally. There were few cases examples about the global economic crisis that directly and indirectly impacted the stabilization of financial markets and institutions; the last was global crisis in the middle of 2007 until 2008. Anup Shah in Global Issues stated,

> "Around the world stock markets have fallen, large financial institutions have been collapsed or been bought up, and government even in the wealthiest nations have had to come up with rescue packages to bail out their financial systems (Shah, 2010).

As the impact of the global economic crisis, one of world's largest insurance and financial services companies, AIG had credit default swaps with roughly US$ 400 billion and many of them were on mortgages and went downward surely (Shah, 2010). From this, it can be seen how financial institutions have been impacted by the global economy. Particularly in this latest century, with more competitive nature, more profit oriented as well as more risky economic condition, risk management could be extremely important.

Financial institutions (FI) can be seen as firms or perhaps intermediaries. FI as firms are kind of profit maximisers which the profit gained from the interest that they

charged to the borrowers. On the other hand, FI also can act as the intermediaries or mediator between two parties. One of its roles is to borrow funds from lenders in order to lend it to the borrower with more profitable for both parties for sure. However, people's decision to buy financial product does involve their decision about future, indeed, as it concerns about their future or long investment.

Additionally, FI have special roles while facing risks such as liquidity risk, operating risk, etc. Financial Institutions can be formed as depository institutions and nondepository institutions. The detail will be explained below.

2.1.1   Depository Institutions

Commercial banks, savings institutions and credit unions are three major financial institutions included in depository institutions. Principally, it is called depository institutions because the majority of their funds come from deposits and they have different roles in serving customers (Saunders & Cornett, 2008).

Commercial banks more concentrate to the residential mortgage but it also holds others loans, such as commercial loans, corporate bonds and corporate stock. Besides, savings institutions only focus on residential mortgage and credit unions concerns about consumer loans funded with member deposits. So, even commercial banks cover wider than other two institutions but basically their functions are similar.

2.1.2 Nondepository Institutions

Insurance companies, securities firms, investment banks, finance companies, and mutual funds are parts of nondepository institutions. These institutions included within the nondepository due to the circumstance when the institutions pay funds to savers or investors only in the specified event. For insurance companies, for instance, they promise the customers (policy holders and policy insured) to compensate them if certain incident occurs.

Besides, securities firm is included within the industry that concerns about purchasing, selling and brokerage of existing securities, while investment banks focus on originating, underwriting, and distributing issues of new securities. The difference is seen between two firms, the existing and new securities. That is why their function also different one another.

Moreover, mutual funds, from its functions, have become the opportunity especially for the small investor to invest in the financial securities as they offer lower transaction cost and commission. The last institution is finance companies that have similar function with commercial banks while giving consumer loan and mortgage but they use short and long term debt as they funds source instead of deposits like commercial banks.

In this particular research, the researcher will discuss more deeply about one of nondepository institutions, which is insurance industry. As being discussed in previous chapter, this specific institution has been chosen due to special advantage

offer by this industry, which is protection and also due to this industry's growth current condition in total especially in large potential market such as our country. Thus, the deeper explanation of insurance industry can be seen in the next point.

2.2 Insurance Industry

Insurance, in a simple explanation, is the condition when people buy insurance policy, then unexpected thing happen to the policy holder (injured, die, has an accident, and so on) and the rest of family or policy insured gets some money. Insurance is about protection, protect people from any kind of risks, either health or financial risk (for children's education or pension fund for example).

However, public interest in using insurance products in Indonesia is still low; it is proven by the low penetration rate and density of population even though there is positive growth each year (Bapepam LK Annual Report 2010, 2011). Therefore, due to this fact, majority of foreign insurance companies turn into joint venture with local companies when they entered to Indonesian market (ISI Emerging Markets Blog, 2011).

In addition, Indonesia insurance industries depicted positive growth especially in 2007 but still experienced fluctuate particularly in 2008 as the impact of the global economic crisis. It can be seen in the chart below that the asset and insurance gross premium keep growing each year even the growth still fluctuates.
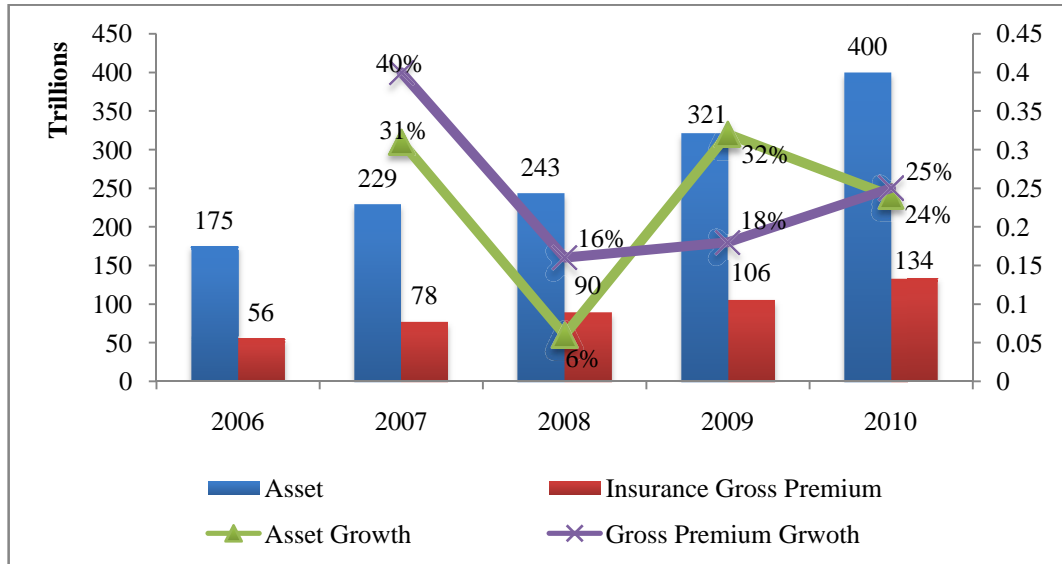
Figure 2 Asset and Gross Premium Growth

Source: (Bapepam LK Annual Report 2010, 2011)

Growth of insurance industry is not fully determined by its assets and profits but it also can be observed from its investment growth, premium growth, claims, operating expenses as well as insurance industry's density and penetration (Bapepam LK Annual Report 2010, 2011).

Furthermore, insurance companies gain their assets from two ways, either by selling insurance policies and/or annuities (Kirk, 2007). The more company sells number of policies, the more number of its customers, the more asset that it is possible to gain. That is why the company tries to attract customers as much as possible to raise its asset and profit. Regarding this fact, the company runs few strategies in order to gain the customers, but the most popular possibly through acquiring new customers and retaining existing customers.

However, regardless of which strategy the insurance business is going to apply in order to gain more customers and more profit, it is sure that the company ought to maximize first its product offered to the customers. As people know, insurance industry covers three main products, life, health, and non life insurance. Mostly insurance companies have covered two most popular products, life and health insurance but people may not know that not the whole insurance companies have the non life insurance products.

1. Life insurance

   Life insurance may become one of the most popular products within insurance industry. Based on the website named Whole Life insurance definition, life insurance is an insurance that provides death protection for the insured's entire lifetime (Whole Life Insurance definition, 2010). However, the policy holder is responsible to pay the regular premium for interval previously agrees.

   Life insurance is extremely useful for people, who expect or wish their stable financial condition without any fear of contingency fee or unexpected things. Further, based on Joanne Horton and Richard Macve from University of Bristol and LSE, life insurance may be a form of investment (Horton & Macve, 1996). Therefore, derived from the fact that it offers protection and investment (even not the whole products of life insurance provide this additional benefit); it is no doubt that the numbers of life insurance's policy holders are commonly more than other insurance.

2. Health insurance

    Health insurance covers medical expenses if something happened to the policy insured. The amount of premium will be based on the estimation of the overall risk calculated by the insurance company. There are so many health insurance products that offer different benefits and different period of products.

3. Non life insurance

    Non life insurance, also known as general insurance, is a type of insurance that protects such as property item (house, office, and so on), vehicle (car, motorcycle, etc), cargo marine, personal accident, and so forth. It is called non life insurance as it does not cover people personally but it covers property owns by people. Thus, people who own a non life insurance called policy holder and the property covers by this insurance called the insured.

2.3   Insurance Terms

There are several definitions within insurance industry that may not be popular for common people, even for the customers itself. Terms such as premium, claim or policy holders perhaps are the most well known compared with other terms like riders, acquisition cost, and so on. Therefore, in order to avoid misunderstanding about these terms, below are several definitions that commonly used within insurance industry as well as within this research.

1. Agent - a person who sells insurance policies either as independent agent or career agent. Independent agent is an agent who represents at least two insurance

companies and searching for the most advantageous price, while career agent is the one who only represents one company and sells its policies (Ambest, 2011).

2. Acquisition and administration cost – both expenses mostly are about service cost as it spent in order to serve customers. Acquisition costs are costs spend by insurance companies to acquire new customer or to get new policy holder (Info Asuransi, 2011). It contains commission, over riding commission, survey expenses, or anything else that spends for acquiring new customers. Besides, administration costs consist of anything related administration service in order to assist the insurance administration, such as printing fee, courier fee and so on (Info Asuransi, 2011).

3. Claim – a demand made by the policy holder or the insured on the damaged, lost, or payment of benefits as provided by the policy (Ambest, 2011).

4. Commission – mostly given to the insurance agents. It is a percentage of each premium paid and includes a fee for servicing the insured's policy (Ambest, 2011). The amount of commission itself will be decreased each year, therefore, it will not be paid in the same amount, yet the commission will be paid only for the first 5 years of insurance term life. Not to forget, the amount of agents' commission also depends into each insurance product.

5. Policy, policy holder, insured – policy is the written contract prepared by insurance company between the insured and the company (Ambest, 2011). Besides, policy holder is a person who is responsible to pay the insurance

premium to the company, while policy insured is the one who is protected by the insurance company. Policy holder may be count as the insured as well but not the whole policy insured is the policy holder.

6. Premium – the price of insurance protection for a specified risk for a specified period of time (Ambest, 2011).

7. Riders – are special additions that offer other benefits that not be covered by the original policy, for instance, endowment program, whole life plan program, and so on and so forth (Bankers, 2011).

2.4   Customer Lifetime Value

Philip Kotler, based on his Principle of Marketing text book, describes that customer lifetime value is "the value of the entire stream of purchases that the customer would make over a lifetime of patronage" (Kotler, Marketing management: the milennium edition, 2000). Additionally, according to Pfeifer, Haskins, and Conroy, Professor of Business Administration at one of Business school, CLV is also "the present value of the future cash flows attributed to the customer relationship" (Pfeifer, Haskins, & Conroy, 2004). CLV simply means the significant purchase's contribution of a customer within his lifetime support.

However, because customer lifetime value is more likely a financial worth for each customer, then, the acquisition cost is considered as one of the customer lifetime value's elements. Acquisition cost is truly one of the major factors while prospecting

customers but it will be much better if the company decides to prospect future customers if the expected PLV or Prospect Lifetime Value is positive.

In many terms, customers' values are more often profitable within every transaction and the values have to be based on their relationship with the firm. Besides, CLV is used to determine whether or not the customer is profitable for the company. Take a look at this example, a new customer costs $40 to be acquired but his lifetime value is $50, then he can be determined as the profitable one and adding similar type of customer to be acquired is highly recommended.

Marketing cost could be in form of cost of campaign to increase the loyalty of existing customers, campaign or programs to win back lost customers, and so on. The important part to be concerned from this cost is the different channel used by the company to run the program. It could be through e-mail or even more expensive one, direct meeting with the customers.

2.5 Customer Relationship Management (CRM)

Francis Buttle in his book, Customer Relationship Management, summarized that,

> "CRM is the core business strategy that integrates internal process and functions, and external networks, to create and deliver value to targeted customer at a profit. It is grounded on high quality customer-related data and enabled by information technology." (Buttle F. , 2009)

CRM helps organizations maximize the value of every customer interaction and drive superior corporate performance by enabling them to manage and coordinate customer

interactions across multiple channels, departments, line of business and geographies (Software Solutions).

Sales oriented businesses, one of major business orientation by Philip Kotler, make the assumptions that if they invest enough in advertising, selling, public relation and sales promotion, customers will be persuaded to buy (Kotler, Marketing management: the milennium edition, 2000). Most large and medium-sized companies build and exploit customer databases; CRM is wider in scope than database marketing.

Database marketing is less evident in strategic, operational and collaborative CRM (Buttle F. , 2009). CRM software applications are used for many marketing activities such as: market segmentation, customer acquisition, customer retention and customer development (cross-selling and up-selling). CRM helps them to manage customers' defection (churn) rates and to enhance cross-sell performance.

However, there are three major management activities of customer relationship management: acquiring new customers, retaining existing customers, developing customer value. Both acquiring new customers and retaining existing customers will be explained further in the next point.

2.6   Customer Acquisition

There are three major management activities: acquiring new customers, retaining existing customers and developing customer value. Acquiring new customers is the

first and the most important steps by company in order to customer lifecycle. Majority companies do the acquisition strategy in order to replace the lost customers; if they do not do it, then, their business will always experience decreasing number of customers, yet the worst thing, bankruptcy.

Moreover, existing customers may no longer use your products for several reasons, or may called natural attrition; hence, replacing them is the best way to keep company in the right track to grow. Acquiring new customers begins with targeting the right potential customers, continued by possible strategy to approach them include what products or services to offer them.

Talking about new customers, there are two kinds of customers, *new-to-category* and *new-to-company* (Buttle F. , 2009). Customers who have classified new need or entry new category are included within the first type. New couple with child just entry the kindergarten is one example of new-to-category customers. Besides, customers that are new-to-company generally leave the old one and then switch to the new one.

Mostly, company chooses to acquire more new-to-company customers as it is the only option to raise number of customers. Consumption of consumer goods, for instance, can be a simple example how customers could switch from one brand to another brand for several reasons. Due to customers' switching habits, acquiring new-to-company customers can be more expensive than another one since their loyalty to the old brand could be high, makes it harder to break that. But if the

company is able to offer a way better quality and value, it could be more easily for attracting them.

B2B leads, promotional activities can also be formed as exhibitions, seminars, trade shows and conferences as well. They generally do little advertising placed in highly-targeted specialist media such as trade magazines.

One of the popular strategies that can be profitable and productive for the company is building company's website. With quite low penetration rate of internet users, around 16.1%, Indonesian population still become market potential since there are "only" 39.6 million users out of more than 200 million people here (TeknoJurnal, 2011). With huge number of internet users and its possibility to access the internet more easily at this moment, the company's website should be one tool that can connect company and customers, both existing and future customers.

The websites is expected to provide detail information about the products or services and once potential customer requests for more information then it usually require his name or email address. From this, the company, the direct marketing particularly, is able to contact him through email or phone (if any) to offer possible product according to his needs. This way is way much cheaper than using the salesperson, particularly if it is aimed for B2B or for the company.

For B2C customers, advertising becomes main thing to be considered whenever the company wants to run the acquisition efforts. Potential customers need to be made

aware of the products and the benefit within it. There are also some critics about ineffectiveness of advertising as the message within it mostly directed to the existing and current customers.

Within the acquiring strategy, there are three key performance indicators (KPIs) for customer acquisition activities. They are as follow:

1. How many customers are acquired?
2. What is the cost per acquired customer?
3. What is the value of the acquired customer?

From these indicators, the result is expected to be the low cost program but produces lots of highly valuable customers. This ideal result hopefully fulfills the company's expectation of attaining more new customers. Theoretically, customer referral schemes also known as CRS seems to be very cost effective methods as it costs less expensive than create advertisement to attract customers. Poor quality and wrong delivered message advertisement could be boomerang for company as the customers who have successfully acquired would not stay for longer time, means, if they get a better product then they will leave the company.

Example: in a motoring membership organization, member-get-member scheme has a direct cost per new customer £22, compared to £100 for direct response television and £70 for door drops. A telecommunications company report that it costs £52 to

win a new customer through its recommend-a-friend program, compared to an average of £100 and advertising-generate costs £200 (Buttle & Kay, 2000).

In the case of insurance companies, life and non life insurances have two different products, which sometimes bring them into different strategy of acquiring new customers. In non life insurance, the product expires annually while life insurance is absolutely expires more than one year. Derived from this fact, non life insurance commonly offers repeated purchase strategy by suggesting them cross-selling or up-selling products.

Acquiring new customers is one of insurance company's strategies that have effectively increased not only number of insured people, but also its profitability. By selling insurance policies mean the company is trying to attract new customer to buy its product with new promotions, advertising, more time for explaining the business, commission of agents, etc, which indicated also more budget requirement.

Several strategies have implemented by insurance companies in order to attract new customers, such as offering new products that expected to satisfy customers' needs, offering new promotion events or advertising to attract their attention, etc.

However, even the retention strategy comes with several benefits but still customer acquisition becomes the most primary marketing goal (62%) while customer retention only takes part 14% as marketing goal (2009). Yet, based on marketers worldwide, new customers' acquisition still takes biggest part the importance of

advertising goal. Companies focus on customer acquisition even though it can cost 6 to 7 times more to acquire new customers (Flowtown, 2010).

Even so, new customers are the most expensive and hardest to get as the company needs to spend more time, money, and energy to attract them through company's agents. In PT. X, sales distribution or agents still become their number one strategy to acquire new customers. It is one of the most costly factors in the business, thus, derived from this fact, acquisition customers still turn out to be the most used strategy by insurance companies.

Though, companies are expected to avoid mistakes commonly done while they are trying to attract new customers. The biggest common mistake is by lowering their selling price just to get customers' attention but they do not realize that it forces them into business failures (Tinney).

In order to meet the goal of this acquisition strategy, the company should decide carefully which prospects that suitable and match with company's ability and needs and which one is not and should be eliminated. It does not always need big improvement as sometimes the small one would be adequate to increase the profit. Company should review and analyze the data or information suspiciously to observe deeply about the opportunities of cross-selling or up-selling that could be ran by companies (Tinney).

2.9   Customer Retention

Retention strategy comes from the "fear" of losing their customers because of some reasons, such as bad customers service which lead to switching to other business. However, both loss and acquire new customer cost quite expensive (per each customer). For losing a customer it costs $243 globally (2009). In point of fact, the company need to spend more budgets for acquiring new customers based on their new advertising or promotions, extra time for explaining the business, personal selling, etc.

There are several strategies to increase profit and save one existing customers, such as (Flowtown, 2010):

1. Reducing frequency of advertising and volume of promotions, such as free gifts, discounts, etc

2. Reducing personal selling budgets → save on the commission for sales persons

3. Reducing new customers = save on entertainment budget for customers

4. Reducing time and money on explaining business procedures and costs with new customers

5. Existing customers are less price sensitive revenues increase by charging the premium to loyal customers

In addition, there is also one strategy run by insurance company in order to retain their current customer, which is NPS (Net Promoter Score). NPS is mainly use in two ways, to benchmark ourselves every year for customer loyalty against competitors in each market and to systematically collect customer feedback on key customer

interactions such as claims and sales (Allianz Group Annual Report 2010, 2011). It has been successful program as the company has successful increase the customer loyalty. There are few benefits of retention strategy:

1. Acquiring new customers can cost five times more than satisfying and retaining current customers

2. A 2% increase in customer retention has the same effect on profits as cutting costs by 10%

3. The average company loses 10% of its customers each year

4. A 5% reduction in customer defection rate can increase profits by 25-125%, depending on the industry (Kotelnikov)

A high raw customer retention rate does not always signal excellent customer retention performance. Over the time, as seller and buyer demonstrate commitment, trust grows and it becomes progressively more difficult to break the relationship. It may not be beneficial to maintain relationships with all customers; some may be too costly to serve, others may be strategic switchers constantly in search of a better deal. Thus, these can be value-destroyers, not value-adders.

2.10 Acquisition Cost

Within one of insurance companies' annual report, it stated that, "Acquisition cost is the amount of cash or cash equivalents paid or the fair value of other consideration given to acquire an asset at the time of its acquisition" (Allianz Group Annual Report 2010, 2011). Briefly, some amount of money were spent in order to implement the

acquisition strategies, whether the promotion, advertising, or other campaigns until a customer is acquired.

It might include from the beginning of process, prospecting costs, continue with other steps such as advertising costs, and commissions to salespeople, collateral materials, and sales promotion costs, credit referencing, supplying tangibles (e.g. credit cards) and database costs.

Acquisition costs can be calculated with this formula:

Acquisition cost = purchase consideration + costs directly attributable to the acquisition; with purchase consideration consists of assets exchanged, liabilities assumed, shares issued and costs directly consists of accounting fees, consultancy fees, legal fees, valuations (stu).

Here is one of the examples of acquisition cost case study: within one company there are website development costs (1), expected life of website (2), monthly promotion cost (3), and monthly maintenance cost (4), thus, the calculation of acquisition cost per customer will be:

$$((1/2) + 3+4) / \text{New customers}..(1)$$

If the acquisition cost result is too high then Panalysis, a web analytics and marketing optimization experts suggests to reduce the overall marketing costs by improving its conversion rate, increase the customer value through analyzing the lifetime value of the customers, identify where the company is losing sales leads (Panalysis, 2011)

Derived from the insurance company's financial report (2011), acquisition cost consists of four parts, commission expenses-first year, commission expenses-continuation year, overriding expenses, and other expenses. But in some cases marketing cost, general and administration cost also included within the acquisition cost as these costs sometimes required to acquire new customer.

It is important to bear in mind that agents' commission will only be paid in the first five years, even though the insurance premium's period is possible to be more than five years. Commonly, first and second year's commission will have the same amount and the rest will be paid with lower percentage than the first two years. The amount of each commission is going to be different, depending on each premium of each product.

Meanwhile, commission expenses-first year within the financial report will not include the second year's commission expenses, though they have the same amount. Instead, the second year will be included in the commission expenses-continuation year together with third, fourth, and fifth year.

On the other hand, overriding commission will be given only to the business director and business manager (within agents' organization structure) with the same percentage each month and each year. The requirement to obtain this commission is by reaching certain amount set by the company through the financial consultant. The amount given to the director and manager is smaller, indeed, compared with those who have their own financial consultant.

2.11 Marketing Cost

Each business needs marketing strategy in order to introduce its products or services to the customers. Yet, each business exists because of customers who need to be attracted perhaps through several marketing strategies or programs. There is no doubt that marketing strategy has become first impression for customers who barely know about the products or services. If this first impression has successfully adhered customers' mind, then it will easily attract them to -at last- take a look to the products; it is more success if they finally buy it.

Insurance company also one of businesses that depending on marketing strategy. Company needs to market the products and services but more important is to share the knowledge about the benefits within it. It is essential to be done as insurance products are not only about investment but also protection inside. If the acquisition strategy emphasizes more to the sales distribution (agents), marketing strategy focuses more to promotion and advertising.

Promotions can be important tool to introduce the products to new customers. There are lots of promotions activities, such as, sampling, free trials, discounts, coupons, rebates or cash back, bonus packs, banded packs, free premiums, cross-promotions, lotteries, competition. In addition, word of mouth and telemarketing are also possible to be the effective ways to generate target market.

In addition, the way insurance company advertises its products generally possible to attract customers' attention since it tells the story of protecting people. The

advertisement commonly in formed of print-ad within newspapers and magazines, brochures, TV-ad, and so forth. It is better if the content of the advertisement gives clear explanation about the products that the company tries to offer. Though, clear explanation here does not mean it should explain the whole thing about the products, but no less than the first important points that the company thinks customers need to know about the products.

For sure, the cost that insurance company spends for marketing programs would be called marketing costs. These costs consist of marketing and sales campaign, yet, any advertisement made for the marketing programs. The amount of marketing cost cannot ensure that it is going to help the company adds its number of new customers, but it may considerably contribute to it. Marketing cost itself is included within variable cost, the cost which directly related with production of the company. It means, the bigger marketing programs run by the insurance company, thus the marketing cost is also getting bigger.

2.12 Insurance Agents

Insurance agent is a person who sells insurance policies either as independent agent or career agent. Independent agent is an agent who represents at least two insurance companies and searching for the most advantageous price, while career agent is the one who only represents one company and sells its policies (Ambest, 2011). It is commonly happen in each insurance company to have thousands of agents, especially within big insurance companies.

Based on number of agents' data of PT. X from March 2009 until October 2011 the average total agents of PT. X is approximately 10 thousands agents but only 13% - 23% at the most of their agents considered as active agents. Active agents mean simply as agents who actively sell the product during certain period of time and able to achieve the target set by company.

Insurance agents are paid from the commission based on the products that they sell. The amount of commission will be different depends on the premium amount of the product. Most of the cases in life insurance, the commission paid will be for five year period as the length of product generally the same.

However, insurance company generally provides the agents with several basic training in order to prepare them before they meet the customers. Company's vision and mission, all information about products, behavior and attitude are usually the basic foundations to become an agent.

CHAPTER III

RESEARCH METHODOLOGY

3.1   Research Method

Based on the purpose of this research, which is to find out the correlation and contribution of the marketing cost and number of agents with the increase of new customers and acquisition cost, thus, the researcher decides to utilize the quantitative method as its basic of research. As people know, there are two main methods for research, qualitative and quantitative method, which come up with each own benefits and disadvantages.

3.1.1 Quantitative Method

As people know, there are two kinds of research method, qualitative research and quantitative research. Based on Saunders, Lewis, and Thornhill (Saunders, Lewis, & Thornhill, 2009) they state that,

> "Quantitative is predominantly used as a synonym for any data collection technique (such as questionnaire) or data analysis procedure (such as graphs or statistics) that generates or uses numerical data. In contrast, qualitative is used predominantly as a synonym for any data collection technique (such as interview) or data analysis procedure (such as categorizing data) that generates or uses non-numerical data."

Thus, both qualitative and quantitative are used by researcher in order to differentiate the data collection methods, data analysis procedures and the focus of numeric and non numeric data.

The only distinguishing among both research is the data itself, thus, based on objective of this research, the quantitative research is expected to represent the result better. Meanwhile, there are two types of research statistic, descriptive and inductive research. Descriptive research is talking about gathering data, simplify data experiment then calculate distributing data, while inductive research is clearly about deducing conclusion from the generalization of population based on the sample. Thus, derived from the definition itself, descriptive research will clearly signify this particular research due to the gathering data and calculating the data process during the research.

Derived from the fact that quantitative analysis is using the numeric data, thus, the utilization of graphs, charts, or statistic tables will really assist the researcher in order to present and describe the result better (Saunders, Lewis, & Thornhill, 2009). These helping tools could support the research's result by delivering the significance correlations amongst the data and it also could answer the research questions within chapter I.

Ever since quantitative analysis is closely related with the calculation of numeric data, the operation of several computer analysis softwares become one of the essential factors here. The application within much simpler such as Excel spreadsheet or even more complicated for instance SPSS, SAS, or Minitab is very common and familiar for quantitative research. These applications are extremely helpful for each quantitative researcher who tries to find out the correlation or even the most contributed factor within a case study.

In doing this research, Excel spreadsheet and SPSS will help the researcher in order to process the data. The raw data will be preceded through Excel spreadsheet while SPSS will process the further step in order to find out the correlation. But it should be noted that the research emphasizes more into the statistic tool using the SPSS, therefore, the usage of Excel spreadsheet will only explain briefly.

3.1.2 Canonical correlation

Canonical correlation often described as the extension of multiple regression analysis, was developed by a mathematical statistician Harold Hotelling. Canonical correlation aims to identify the relationship among two sets of variables, dependent and independent variables (Johnson & Wichern, 2007). This statistical tool has multiple dependent and independent variables while multiple regression analysis only has one dependent variable with more than one independent variable.

Canonical correlation emphasizes more on the connection between one linear combination with another linear combination. The combination should be one of the major factors within canonical correlation as it is formed based on the correlation amongst whole variables. The pairs within linear combination called canonical variables whereas the correlation called canonical correlations. Nonetheless, the linear combination is suppose to represent the upside right graph, which shows the data within certain period. The example of the linear combination depicts as below.
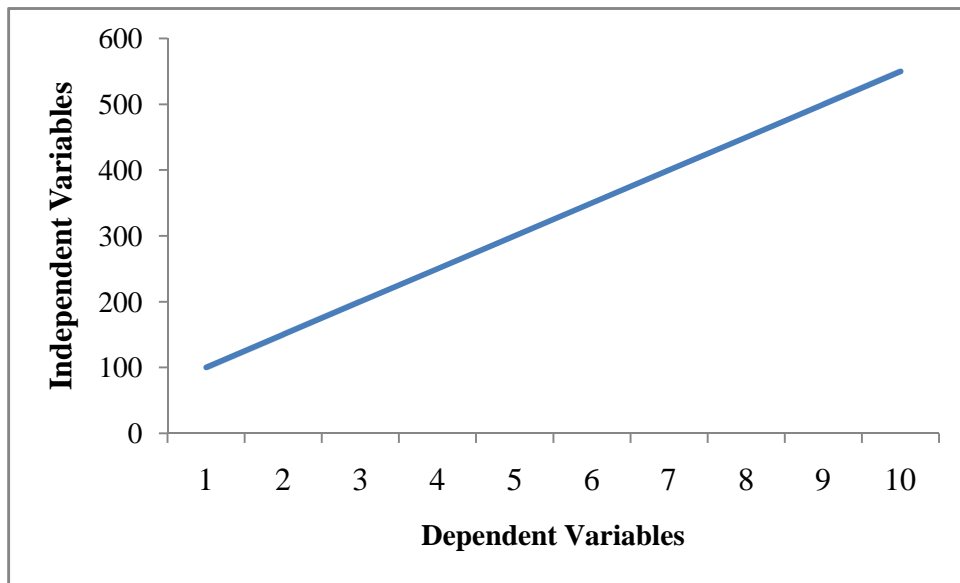
Figure 3 Linear Combination

Source: Internal Source

Compared with multiple regression analysis or other statistical tools, canonical correlation does have its own advantages. It particularly can determine the relationship between multiple sets of variables formed as metric data. In addition, line up of both dependent and independent variables will form canonical variates, which describes as formula below.

$$Y_1 + Y_2 + \ldots + Y_n = X_1 + X_2 + \ldots + X_n \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(2)$$

Furthermore, canonical correlation included in the dependence correlation, which means it has both dependent and independent variables that correlate and drag on another. Dependent variables are those variables whose number or amount depends

on independent variables while on the other hand independent variables are not impacted by the dependent variables.

Canonical correlation is not the only method that included within the dependence correlation. Multiple regressions, logistic regression, discriminant analysis, SEM (Structural Equation Modelling) and MANOVA (Multivariate Analysis of Variance) are other statistic tools included in dependence correlation.

3.2   Research Instruments

This research uses the secondary data taken by PT. X, one of insurance companies. The data taken is the real data collected for the last two and half years, from March 2009 up to October 2011. This research does not use the questionnaire or survey since it is not required to do that for the research process. Actually, a short interview with the insurance company itself was done by the researcher in order to gain deeper understanding about insurance industry, acquisition and marketing strategy, and other related terms with the research.

However, this research has two dependent variables (increase number of new policy holders and acquisition cost) and two independent variables (marketing cost and number of agents), that made canonical correlation is considered as the most suitable statistic tool in order to process the research. But even though this research's purpose is to find out the correlation amongst whole variables, it is not possible to use multiple regression analysis as this tool only contains one dependent variable even it covers multiple independent variables.

Additionally, canonical correlation itself is the statistic tool focuses on correlation between two sets of variables. This correlation analysis focuses on one linear combination with another linear combination (Johnson & Wichern, 2007). Thus, based on the primary data taken, this tool is believed as the best representative in order to find out the correlation amongst acquisition cost and marketing cost with the growth of new policy holders and the number of agents each month for the last two and half years.

3.3   Variables Involved

In doing this research, there are four variables involved, two as dependent and the other two as independent variables. The increase number of new policy holders (INPH) and acquisition cost will represent the dependent variables. Meanwhile, marketing cost and number of agents (NoA) will stand for the independent variables within this research.

Dependent variables are chosen due to fact that both variables depend on the independent variables, indeed. Theoretically number of new customers will increase if marketing cost and number of agents also increase; on the other hand acquisition cost will rise if numbers of agents also develop. Besides, marketing cost and number of agents clearly become independent variables as they affect both dependent variables.

The raw data itself consist of those four variables, taken by the company being researched, PT. X. The data were taken monthly started from March 2009 until

October 2011, therefore, the total data will be 31. In point of fact, there should be 32 data during this certain period; however, there was one incomplete variable within a month, thus the researcher decided to take the data out of the data group in order to avoid missing data.

In here, it should be bear in mind that the utilization of INPH variables indicates only the increase number of policy holders and it does not include the number of policy holders in total or number of policy insured. Therefore, it is not the real number of PT. X's customers as it does not contain the total customers.

Two variables, the increase number of new policy holders and number of agents are in form of thousands as it depicts the number of people while in the meantime, acquisition cost and marketing cost are in form of billion rupiah as it is talking about cost spent by the PT. X. Hence, in order to avoid the discrepancy amongst the data, the whole data that inputted into SPSS will be transformed and standardized into z-score first.

The standardized process into z-score is done based on the average and deviation standard in each variable number. And so, after the whole data transformed into z-score, there would be four new variables with word 'z' in front of each variable's name. It indicated that the data has been standardized and ready to continue to the next process.

3.4   Data Processing and Analysis

Based on the explanation in previous point, all gathered data will be processed by canonical correlation, one of statistical tools that focus on one linear combination and another combination. There are seven big steps in arranging the analysis through the canonical correlation as follows:

Step 1: Determine the dependent and independent variables.

As explained earlier there are two dependent variables in this particular research, the increase number of new PH (INPH) and acquisition cost, while independent variables consist of marketing cost and number of agents (NoA). The selection of each variable is based on fact that the number of policy holders (or new customers) and acquisition cost theoretically depend on marketing cost and number of agents.

Step 2: Develop the relationship or correlation amongst variables.

A linear combination between INPH and marketing cost could be implemented as well between INPH and NoA because theoretically both variables could impact the growth number of new customers. On the other hand, acquisition cost could be correlated with NoA as this variable consists of cost made by NoA.

Step 3: Process of inputting the data.

1. Process of inputting data begins with input the variables details in variable view column. Whole variables should be included with the details of the type to avoid the mistakes. However, variables with "z" are the standardized format that will be explained in the next steps.

	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure
1	month	Date	6	0	month	None	None	8	≣ Right	⁄ Scale
2	inph	Comma	8	0	increase numbe...	None	None	8	≣ Right	⁄ Scale
3	noa	Comma	8	0	number of agents	None	None	8	≣ Right	⁄ Scale
4	acquisition_...	Comma	11	0	acquisition cos...	None	None	14	≣ Right	⁄ Scale
5	marketing_c...	Comma	11	0	marketing cost ...	None	None	11	≣ Right	⁄ Scale
6	Zmonth	Numeric	11	5	Zscore: month	None	None	13	≣ Right	⁄ Scale
7	Zinph	Numeric	11	5	Zscore: increas...	None	None	13	≣ Right	⁄ Scale
8	Znoa	Numeric	11	5	Zscore: numbe...	None	None	13	≣ Right	⁄ Scale
9	Zacquisitio...	Numeric	11	5	Zscore: acquisi...	None	None	19	≣ Right	⁄ Scale
10	Zmarketing...	Numeric	11	5	Zscore: marketi...	None	None	17	≣ Right	⁄ Scale

Figure 4 Variables View

Source: SPSS 16.0

2. The process continues by inputting data in data view column. The numeric data should be inputted within the data view begins with month column.

	month	inph	noa	acquisition_cost	marketing_cost
1	Mar 09	6,167	11,960	105,797,821,971	2,868,669,230
2	Apr 09	6,471	12,317	149,195,739,740	5,089,449,656
3	May 09	6,905	12,793	189,792,284,523	6,402,272,218
4	Jun 09	7,192	13,303	236,477,738,139	6,538,373,389
5	Jul 09	7,426	13,506	292,590,167,513	11,144,690,177
6	Aug 09	6,769	11,583	346,172,981,206	12,898,316,942
7	Sep 09	7,231	12,060	387,770,604,289	14,582,506,474
8	Oct 09	6,873	12,333	436,704,059,884	17,650,078,307
9	Nov 09	6,680	12,754	487,039,413,187	19,372,665,860
10	Dec 09	10,385	13,251	294,038,296,107	75,798,022,678
11	Jan 10	6,808	13,352	50,251,561,662	396,908,343
12	Feb 10	6,679	13,551	101,234,671,323	3,613,212,703
13	Mar 10	7,845	13,599	162,296,970,387	4,603,938,166
14	Apr 10	7,658	13,855	225,624,119,776	7,775,436,009
15	May 10	6,962	14,281	280,046,513,212	9,741,722,523
16	Jun 10	6,882	14,709	347,271,746,625	11,779,870,750
17	Jul 10	6,391	11,092	410,828,184,328	13,606,434,751
18	Aug 10	7,371	11,708	494,201,077,052	15,383,356,207
19	Sep 10	5,325	11,997	564,828,898,369	17,066,062,277
20	Oct 10	6,382	12,574	643,069,143,560	19,161,167,856
21	Nov 10	7,567	13,289	733,033,472,026	21,137,946,848
22	Jan 11	5,962	13,120	81,936,325,279	3,035,908,232
23	Feb 11	6,016	13,322	149,658,488,910	4,675,762,021
24	Mar 11	8,225	12,883	234,605,220,812	6,912,486,031
25	Apr 11	6,523	13,224	303,347,444,828	8,563,528,062

Figure 5 Data View

Source: SPSS 16.0

Within the data column above, it can be seen that the range or interval amongst variables is quite huge. Acquisition and marketing cost reached the billion while number of new customers and agents only reached thousands. Thus, if it left just like the original data, it will make the data bias because of the imbalance between one variable with another.
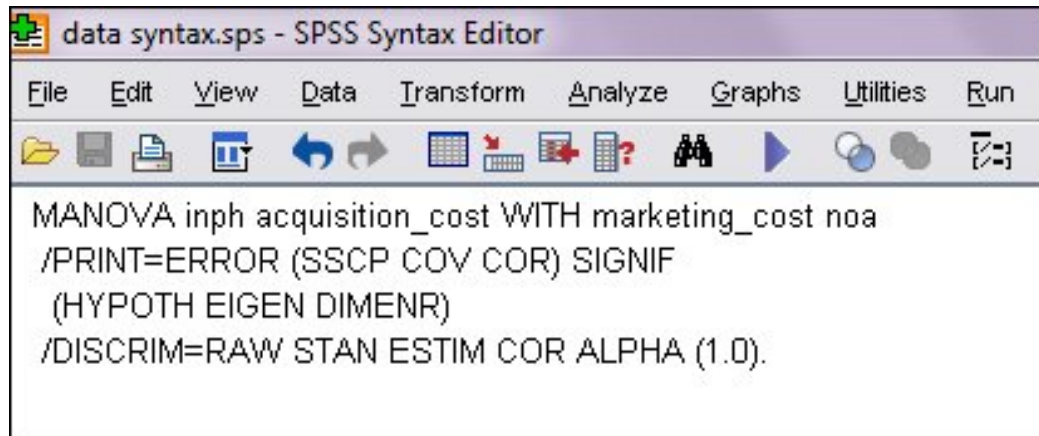
In order to avoid the bias, the researcher needs to standardize the original data by transforming it into *z-score*. With the standardized data from the z-score, data from the whole variables will have small range.

Zmonth	Zinph	Znoa	Zacquisition_cost	Zmarketing_cost
-1.61892	-0.74794	-1.28868	-1.24981	-0.80323
-1.51145	-0.42661	-0.87402	-1.03765	-0.63310
-1.40745	0.03212	-0.32114	-0.83917	-0.53253
-1.29999	0.33547	0.27123	-0.61093	-0.52210
-1.19599	0.58281	0.50702	-0.33660	-0.16921
-1.08852	-0.11163	-1.72657	-0.07464	-0.03487
-0.98106	0.37670	-1.17253	0.12873	0.09415
-0.87706	-0.00170	-0.85544	0.36796	0.32916
-0.76959	-0.20570	-0.36644	0.61405	0.46112
-0.66559	3.71042	0.21083	-0.32952	4.78380
-0.55813	-0.07041	0.32815	-1.52138	-0.99259
-0.45066	-0.20676	0.55929	-1.27212	-0.74619
-0.35360	1.02568	0.61504	-0.97359	-0.67029
-0.24613	0.82803	0.91239	-0.66399	-0.42733
-0.14213	0.09237	1.40719	-0.39793	-0.27669
-0.03467	0.00781	1.90432	-0.06927	-0.12055
0.06933	-0.51117	-2.29688	0.24145	0.01938
0.17680	0.52467	-1.58138	0.64906	0.15551
0.28426	-1.63792	-1.24571	0.99435	0.28442
0.38826	-0.52068	-0.57551	1.37686	0.44492
0.49573	0.73184	0.25497	1.81669	0.59636
0.70719	-0.96462	0.05868	-1.36647	-0.79042
0.81466	-0.90754	0.29330	-1.03538	-0.66479
0.91173	1.42734	-0.21660	-0.62009	-0.49344
1.01919	-0.37165	0.17947	-0.28401	-0.36695

Figure 6 Data View after standardized

Source: SPSS 16.0

3. Last, input the command in the Syntax Editor.

Figure 7 Syntax Command

Source: SPSS 16.0

Process of writing the command start from MANOVA *dependent variable* WITH *independent variable* then it continues with the next line that consists of the word SIGNIF, which means testing the significance of variables. The last line is more about standardize discriminate coefficient function (RAW and STAN), estimation (ESTIM) and canonical correlation. Last step, execute the command by using Run menu, thus, the output preview will show.

Firstly, the output will show the number of cases' calculation, whether it is accepted, rejected or even the empty cell. Then, the rest of the output will illustrate the result of the calculation from the previous command. Though, not the whole output is going to be analyzed by the researcher because there are only several parts that represent the real results, which will be explained much clearer one by one in the next point.

```
Manova


[DataSet1] D:\documents\Saya Mahasiswa\semester 7\New folder\THESIS\data\data.sav



* * * * * * * * * * * * * * * * A n a l y s i s   o f   V a r i a n c e * * * * * * * *

The default error term in MANOVA has been changed from WITHIN CELLS to
WITHIN+RESIDUAL.  Note that these are the same for all full factorial designs.

* * * * * * * * * * * * * * * * A n a l y s i s   o f   V a r i a n c e * * * * * * * *


        31 cases accepted.
         0 cases rejected because of out-of-range factor values.
         0 cases rejected because of missing data.
         1 non-empty cell.

         1 design will be processed.

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 Adjusted WITHIN CELLS Correlations with Std. Devs. on Diagonal

                    inph          acquisit

 inph             749.14413
 acquisit           -.41424 194933846480.042

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Figure 8 Output Preview

Source: SPSS 16.0

Step 4: Determine the canonical functions based on dependent and independent variables. It is the output from the previous command and it consist the result of the research. The output is divided into several boxes in order to make it easier during the analysis. Below is the first part of the output result that represents canonical correlation Function 1 and Function 2.

```
Eigenvalues and Canonical Correlations

Root No.      Eigenvalue       Pct.      Cum. Pct.     Canon Cor.      Sq. Cor

   1          1.42759        99.95109    99.95109        .76686         .58807
   2           .00070         .04891    100.00000        .02642         .00070


- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Dimension Reduction Analysis

Roots          Wilks L.          F       Hypoth. DF      Error DF       Sig. of F

1 TO 2          .41164       7.54131        4.00          54.00          .000
2 TO 2          .99930        .01956        1.00          28.00          .890
```

Figure 9 Canonical Correlations

Source: SPSS 16.0

First part of box above tells about the canonical correlation of Function 1 and 2. It is depicted within the Canon Cor's column where the canonical correlation for Function 1 is 0.766 and 0.026 for Function 2. Second part of the box tells more about the significance test for canonical function in first part. It is depicted within the Sig. of F's column where the significant number of Function 1 is 0.000 and 0.890 for Function 2.

If it tests together, then the result will be as below:

```
Multivariate Tests of Significance (S = 2, M = -1/2, N = 12 1/2)

Test Name     Value      Approx. F      Hypoth. DF      Error DF      Sig. of F

Pillais        .58877      5.84079         4.00          56.00         .001
Hotellings    1.42828      9.28385         4.00          52.00         .000
Wilks          .41164      7.54131         4.00          54.00         .000
Roys           .58807
Note.. F statistic for WILKS' Lambda is exact.
```

Figure 10 Canonical Correlations

Source: SPSS 16.0

The values that should be highlighted are the Sig. of F' column as all of three procedures have significant number below 0.05, which means canonical function 1 and 2 can move to the process further.

Step 5: Develop the significant test or canonical relationship or redundancy index in order to test which canonical function from the second step that can be used.

Step 6: Interpret the result of the significant test through several methods, such as canonical weights, canonical loadings (cross canonical loadings).

Using canonical weights

Standardized canonical coefficients for DEPENDENT variables Function No.		
Variable	1	2
inph	.86206	-.50849
acquisit	.54359	.84036

Figure 11 Dependent variables

Source: SPSS 16.0

Standardized canonical coefficients for COVARIATES CAN. VAR.		
COVARIATE	1	2
marketin	.97562	.21979
noa	.20787	-.97823

Figure 12 Independent Variables

Source: SPSS 16.0

Using canonical loadings

```
Correlations between DEPENDENT and canonical variables
        Function No.

Variable              1           2

inph               .83965      -.54313
acquisit           .50806       .86132
```

Figure 13 Dependent Variables

Source: SPSS 16.0

```
Correlations between COVARIATES and canonical variables
        CAN. VAR.

Covariate             1           2

marketin           .97816       .20786
noa                .21977      -.97555
```

Figure 14 Independent Variables

Source: SPSS 16.0

<u>Step 7:</u> Develop the validation of the output result by dividing and comparing the sample. It will be a valid correlation if the comparing result is not huge.

Though, there are few things that need to be focused on in doing the analysis through canonical correlation analysis. As stated previously, there should be pair of linear combination from two variables. A linear combination will be more valid if it is analyzed within certain period, thus, it will create a line that moves into upside right. In this particular research, the linear combination is created through two out of four variables, number of new customers (PH) and the amount of acquisition cost.

These two variables certainly have quite strong correlation that will create the perfect linear combination. Theoretically, if the company spends more for its acquisition program, then the more number of new customers or policy holders that will be attracted. Therefore, it is going to create a linear combination that moves into right upside.

On the other hand, the assurance of no correlation amongst variables in dependent variables and independent variables is really a must. If there is correlation between variables within dependent or independent variables, it would be better to take out one of the variables and replace it with another variable.

CHAPTER IV

ANALYSIS OF DATA AND INTERPRETATION OF RESULTS

4.1   Analysis of Data

This particular part will discuss about the result of the analysis using primary data based on calculation within previous chapter. Derive from the objective of this research, to find out the correlation amongst increase number of new policy holders and acquisition cost (as dependent variables) with marketing cost and number of agents (independent variables), therefore the utilization of canonical correlation depicts the result based on that connection.

In order to develop much deeper analysis and to achieve the goals and objectives as explained earlier, it is going to peel-off each part of the result. The analysis of each result consists of several parts according to the result of the calculation through canonical correlation as the statistic tool. Fundamentally, the result comes up first with the canonical correlations by virtue of dependent and independent variables followed by the result of whole variables itself.

4.1.1 Canonical Correlations Result

Canonical correlation statistic tool is talking about the correlation amongst one linear combination with another linear combination; while it is known as well that linear combination occurred as the result of dependent and independent variables. Beside linear combination, there will be canonical functions that also occurred by the

correlation between dependent and independent variables. The number of canonical function will be based on the smallest number of the variables, thus there will be two canonical functions since in this particular research there are both two dependent and independent variables. The canonical function and the significant number will be depicted in the figure below.

Eigenvalues and Canonical Correlations					
Root No.	Eigenvalue	Pct.	Cum. Pct.	Canon Cor.	Sq. Cor
1	1.42759	99.95109	99.95109	.76686	.58807
2	.00070	.04891	100.00000	.02642	.00070

Dimension Reduction Analysis					
Roots	Wilks L.	F	Hypoth. DF	Error DF	Sig. of F
1 TO 2	.41164	7.54131	4.00	54.00	.000
2 TO 2	.99930	.01956	1.00	28.00	.890

Figure 15 Canonical Function

Source: SPSS 16.0

Two canonical functions as the result of dependent and independent variables are illustrated in part ROOT NO and Canon Cor; root itself means linear combination. There are two canonical functions with each number of canonical correlations, 0.766 (Function 1) and 0.026 (Function 2).

However, the second part of the figure above represents the significant test of the previous canonical functions. 0.000 is the significant number of Function 1 while 0.890 is significant number of Function 2.

The significant number is, theoretically, supposed to be below 0.05, however, based on the test result above, it illustrates that both significant number are exceptionally far from 0.05. Significant number for Function 1 is way below 0.05 with 0.000, besides, Function 2 has 0.890, very far from the limits number.

Derived from this particular circumstance, it occurs possibly due to the small size of data sample, 31 samples. If the sample size is bigger, it will definitely detect stronger correlation and it may result more significant than before. Nevertheless, from the result earlier, Function 1 still has closer gap with the standard significant number than Function 2. Therefore, Function 1 individually can be identified as more significant function than Function 2.

Moreover, canonical functions also test together with other procedures and the result is showed as below.

Multivariate Tests of Significance (S = 2, M = -1/2, N = 12 1/2)					
Test Name	Value	Approx. F	Hypoth. DF	Error DF	Sig. of F
Pillais	.58877	5.84079	4.00	56.00	.001
Hotellings	1.42828	9.28385	4.00	52.00	.000
Wilks	.41164	7.54131	4.00	54.00	.000
Roys	.58807				
Note.. F statistic for WILKS' Lambda is exact.					

Figure 16 Multivariates Tests

Source: SPSS 16.0

Procedures 1 Pillais: this procedure is calculated to prove that there is no relationship amongst element of both variables. It is calculated as:

(canonical correlation)^2 + (canonical correlation)^2……………………………….(4.1)

$(0.766)^2 + (0.026)^2 = 0.588$

Procedures 2 Hotellings: the utilization is similar with Pillais and can be calculated trough:

(canonical correlation^2/(1-canonical correlation^2))……………………………….(4.2)

$(0.766^2/(1-0.766^2)) + (0.026^2/(1-0.026^2)) = 1.428$

Procedures 3 Wilks' lambda: it is used to test if the dependent and independent variables are correlated a lot.

(1-canonical correlation^2)*(1-canonical correlation^2)…………………………….(4.3)

$(1-0.766^2)*(1-0.026^2) = 0.411$

Procedures 4 Roys: this procedure calculated from the largest eigenvalue of the canonical correlation.

largest eigenvalue/(1 + largest eigenvalue)………………………………..…..(4.4)

$1.427/(1+1.427) = 0.588$

Hence, derived from the multivariate tests, all functions are possible to be processed further since the significant numbers are below 0.05. As it can be seen within the Sig. of F column, the significant numbers for the whole procedures are 0.001, 0.000 and 0.000. Then, if it is previewed individually and collectively, Function 1 is the most enable to be processed to the next step because it has quite strong correlation number,

0.766 compared with Function 2 with only 0.026. Since the perimeter of correlation is 0.5, thus, Function 1 is able to be analyzed further.

4.1.2 Interpretation of Canonical Variates

The result of the possible canonical function to be processed has come up within the previous point, which is canonical correlation Function 1. The analysis does not stop until the research gets the possible function to be processed further but it will continue with the interpretation toward the function. As the Function is possible to be analyzed further, it will be tested specially about its canonical variates.

Checking the variates of the function basically can be done through two methods, canonical weights and canonical loadings. Both methods will come up with the result of dependent and independent variables in order to represent the correlation and the coefficient or contribution toward the variables.

Canonical weights illustrate specifically about the unique contribution of each dependent and independent variables, on the other hand canonical loadings depict the overall correlation amongst variables. In canonical weights, if the coefficients are getting bigger means the contribution towards the summary is bigger as well.

Below is the result through the canonical weights method.

```
Standardized canonical coefficients for DEPENDENT  variables
       Function No.

Variable              1           2

inph              .86206      -.50849
acquisit          .54359       .84036
```

Figure 17 Dependent variables

Source: SPSS 16.0

```
Standardized canonical coefficients for COVARIATES
       CAN. VAR.

COVARIATE         1           2

marketin        .97562       .21979
noa             .20787      -.97823
```

Figure 18 Independent variables

Source: SPSS 16.0

There is no need to take a look at the Function 2 as it is not significant enough in the end of the process, therefore, the acknowledgement result will be only based on Function 1. Based on the result of canonical weights, both INPH and acquisition cost have greater coefficient than the limit number, which is 0.5. It indicates that both variables have contributed together to the independent variables but with different portion.

But since INPH has bigger number than acquisition cost, thus it defines that INPH has bigger contribution towards independent variables with the summary in total is 0.862. Acquisition cost, on the other hand has also given quite big contribution as INPH has; it is proven by the coefficient of 0.543.

On the other hand, both independent variables results represent relatively different among one another, one is far above 0.5 as the limit number whereas the other is quite below the limit. With 0.975, it illustrates that marketing cost as the independent variable has contributed significantly to the correlation between itself and INPH and acquisition cost as the dependent variables.

Though, NoA's coefficient result portrays not pretty high number compared with marketing cost. With only 0.207, NoA appears as it is not radically contributed to the correlation with the dependent variables, INPH and acquisition cost in total. By looking at two different results from dependent and independent variables, it is more convincing that INPH and acquisition cost as the dependent variables are in truth depending on marketing cost and NoA as the independent variables.

To sum up the result based on canonical weights, both dependent variables give pretty big contribution whereas from the independent variable, marketing cost seems to be bigger contributor. It indicates that the bigger marketing cost the bigger INPH and acquisition cost. Positive sign in marketing cost describes the increase correlation among dependent and independent, the bigger independent variable the bigger dependent variable.

Canonical correlation equation can be illustrated as below.

$$Y_1 + Y_2 + \ldots + Y_n = X_1 + X_2 + \ldots + X_n \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(4.5)$$

$$a_1 Y_1 + a_2 Y_2 + \ldots a_n Y_n = a_1 X_1 + a_2 X_2 + \ldots + a_n X_n \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(4.6)$$

There is another way to interpret the result of the function, which is through canonical loading. Below is the result of canonical loadings method.

```
Correlations between DEPENDENT  and canonical variables
        Function No.

Variable            1           2

inph            .83965      -.54313
acquisit        .50806       .86132
```

Figure 19 Dependent variables

Source: SPSS 16.0

```
Correlations between COVARIATES  and canonical variables
        CAN. VAR.

Covariate           1           2

marketin        .97816       .20786
noa             .21977      -.97555
```

Figure 20 Independent variables

Source: SPSS 16.0

Similar with the previous method, there is no need to focus on Function 2 as the function that has been proceeding is Function 1. As being discussed earlier, canonical loadings concerns more about the correlation between all variables, therefore, the numbers depict within the box result are the correlation number based on their relationship. With the minimum limit number of 0.5 and maximum 1.0, both dependent and independent variables present rather high correlation.

From the whole results above, both dependent and independent results number quite similar with the previous result by canonical weights. INPH and acquisition cost as the dependent variables show high correlation number since both results are more than 0.5. The result of correlation shows 0.839 for INPH and 0.508 for acquisition cost.

Since canonical loadings emphasize more about the correlation, it is safe to say that INPH and acquisition cost have strong correlation with independent variables equally. INPH has bigger correlation number may because of the fact that it exists from the marketing strategy with marketing costs spent by PT. X and from the agents for sure.

Though, it is not fully about "the bigger the cost, the more new customer" theory but it describes how the rising number of policy holders really correlates with cost spent by PT. X. The different case may also occur when the company is reducing the cost and number of agents then it will affect the growth of number of policy holders.

While on the other hand, marketing cost gives a picture of another strong relationship with dependent variables. This variable reaches 0.978, makes it possible to be called as the strongest correlation number amongst variables. Nevertheless, another variable, NoA only attain 0.219, way below 0.5 as the limits of correlation.

By way of high gap with marketing cost and low correlation toward dependent variables, it occurs perhaps due to the NoA's monthly small growth. Based on the NoA's secondary data, its growth each month will not more than 6.5%. Therefore,

the numbers of agents depict within the specific period are stable or in other words there are no significant changes of it during the period. The stable growth portrays by NoA possibly make its correlation with dependent variables is pretty low.

4.2 Interpretation of Result

Refer to the research questions in Chapter I, there are two questions that need to be answered within this research. The questions are as below:

1. Is there any correlation between the marketing costs and the increase number of new customers (INPH) and acquisition cost?
2. Is there any correlation between the number of agents (NoA) and the increase number of new customers (INPH) and acquisition cost?

Rooted in the result as being explained previously, both dependent and independent variables are significantly related; it is one of the proofs that independent variables are really affecting the dependent variables. However, according to the result calculated through the canonical correlation tools, not all independent variables correlate with dependent variables. Actually, they do correlate one another, but one independent variable have strong significant correlation with one dependent variable while another one only have weak correlation.

It is positively true that marketing cost should have correlation with dependent variables, INPH and acquisition cost. It is because marketing cost becomes the basic source for dependent variables. The company will spend marketing cost in order to

run the marketing program, which one of the purposes is to increase the number of new policy holders.

Furthermore, marketing cost successfully proves that it does affect the increase number of policy holders and acquisition cost. Regardless the successful marketing strategy of PT. X, this research has illustrated that its marketing cost has worth to be spent as it contributes within the growth of new policy holders.

Meanwhile, NoA portrays quite weak correlation with dependent variables. Theoretically, the correlation amongst them should be higher than since new customers come from the agents and agents' commission is the acquisition cost's variable. But as explained previously, the low correlation number possibly occurs because of stable growth of NoA during the research period. Means its contribution toward dependent variables is not really seen.

To sum up, based on the statistic result it can be summarized that there is correlation between marketing cost and the increase number of new policy holders and acquisition cost but there is no correlation between number of agent and the increase number of policy holders and acquisition cost.

CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

At last, from the analysis of the result within previous chapter, the conclusions are able to be made:

1. There is correlation between marketing costs and increase number of new customers (INPH) and acquisition cots and

2. There is no significant correlation between number of agents and increase number of new customers (INPH) and acquisition cost.

Derived from the result above, marketing cost tends to be one of considerable ways for increasing the number of new customers; it is supported by the result of strong correlation created amongst them. As the number of new customers is increasing due to the marketing cost spent by the company, then it may conclude that the company successfully utilizing marketing strategy not only as the brand awareness but also to contribute to increase the number of new customers.

Therefore, because of the correlation between marketing cost and the other two variables, there should be an allocation for marketing cost if the company wants to gain more customers. This allocation perhaps will not only bring more new customers but also bring other advantages, such as increasing customer loyalty, brand awareness, and so forth.

Meanwhile, even though the correlation between number of agents and increase number of new customers and acquisition cost does not exist considerably but still it cannot be apart from both of them. Anyhow agents are the basic resource of new customers and acquisition cost. PT. X's ability to maintain its number of agents' stable growth should be appreciated as it is one of successful way to retain the consistence of spending cost for them.

5.2   Recommendation for Research Object

Derived from the result that marketing cost is the only one that has strong correlation with the increase number of new customers and number of agents, thus, the company should consider more about its marketing strategy. The cost spent by the company is proven to be one of the effective ways to boost up number of new customers. If during the times the company only utilize the marketing strategy to build brand awareness, it may be the proper time to more concern about it as the previous result have already proved it.

Due to the result earlier, it is said that number of agents has no significant correlation with other variables. Therefore, it will be better if PT. X review its agents and prioritize the active agents. If the company keeps the whole agents though its contribution is pretty low, it somehow will affect the amount of acquisition cost as well.

However, just because the marketing cost contributes more it does not mean that the company has to diffuse the entire budget to run the marketing strategy but it is better

for the company to allocate the cost more for marketing cost properly. In other words, prioritizing which cost that need to be spent in order to bring the company more benefit would be another idea to be taken.

There is one recommendation that the researcher would like to give, which is to find out more about specific dominant marketing cost' variable that really affect the increase number of new customers. The researcher did not analyze about it specifically but marketing cost as total, therefore, it would be better if the company finds out more about the detailed variable.

5.3   Recommendation for Further Research

Since this research is more talking about the trend and correlation among customer acquisition cost, marketing cost, the number of new customers and number of agents, the proposed research is to take longer period in doing the research, for instance minimum the last three years. It may depict much clearer correlation as well as represent better statistic result.

In addition, there are three customer management activities based on customer relationship management include customer acquisition, customer retention and customer penetration. However, this research only concern within the customer acquisition area which covering the whole variables (INPH, NoA, marketing and acquisition cost). Thus, it would be better if there are further researches covering customer retention and customer penetration in order to complete one another.

LIST OF REFERENCES

(2009). Retrieved from
http://www.google.co.id/imgres?q=fastest+way+to+lose+customers&hl=id&gbv=2&
tbm=isch&tbnid=MJgjAIqB00hLUM:&imgrefurl=http://conorbyrne.wordpress.com/
2010/12/07/fastest-way-to-lose-customers-
donors/&docid=xKlvsFcn1k8rcM&w=510&h=1970&ei=kMGDTtv1LcK3rAfn6rCw
D

(2011). *Allianz Group Annual Report 2010.* Munich: Mediahaus Biering GmbH.

Ambest. (2011). Retrieved from http://www.ambest.com/resource/glossary.html

Bankers. (2011). Retrieved from http://www.bankers.com/products-
lifeinsuranceriders.aspx

(2011). *Bapepam LK Annual Report 2010.* Jakarta: Orange Circle Design.

Buttle, F. (2009). *Customer Relationship Management: Concept and Technologies.*
Massachussets: Elsevier.

Buttle, F., & Kay, S. (2000). RAFs, MGMs and CRSs: Is £10 enough? *Academy of
Marketing Annual Conference.*

Flowtown. (2010, October 17). Retrieved October 17, 2010, from
http://www.flowtown.com/blog/the-value-of-an-existing-customer

Griffin, J., & Lowenstein, M. W. (2001). Customer WinBack : how to recapture lost
customers and keep them loyal. California: Jossey-Bass.

Horton, J., & Macve, R. (1996). Accounting for Insurance. *OECD Seminar on
Accounting Reform In the Baltic Rim*, (p. 4). Oslo.

Info Asuransi. (2011). Retrieved from
http://infoasuransi.com/index.php?option=com_content&task=view&id=90&Itemid=
28

Info Asuransi. (2011). Retrieved from
http://infoasuransi.com/index.php?option=com_content&task=view&id=59&Itemid=
28

ISI Emerging Markets Blog. (2011). Retrieved 2011, from Internet Securities, Inc: http://blog.securities.com/2011/02/indonesia-insurance-industry-growth-potential/

Johnson, R. A., & Wichern, D. W. (2007). Applied Multivariate Statistical Analysis Sixth Edition. In R. A. Johnson, & D. W. Wichern, *Applied Multivariate Statistical Analysis Sixth Edition* (p. 539). New Jersey: Pearson Prentice Hall.

Kirk, R. (2007, May 18). Retrieved May 18, 2007, from Stock Market Notes: http://stockmarketnotes.blogspot.com/2007/05/insurance-sector-value-abroad.html

Kotelnikov, V. (n.d.). Retrieved from http://www.1000ventures.com/business_guide/crosscuttings/customer_retention.html

Kotler, P. (2000). *Marketing management: the milennium edition.* Englewood Cliffs, NJ: Prentice-Hall International.

Kotler, P., & Armstrong, G. (2010). *Principles of Marketing.* New Jersey: Prentice Hall.

Panalysis. (2011). Retrieved 2011, from http://www.panalysis.com/resources/customer-acquisition-cost.aspx

Pfeifer, P. E., Haskins, M. E., & Conroy, R. M. (2004). Customer Lifetime Value, Customer Profibality, and The Treatment of Acquisition Spending . *Journal of Managerial Issues* , 10.

Saunders, A., & Cornett, M. M. (2008). *Financial Institutions Management-A Risk Management Approach.* New York: McGraw Hill/Irwin.

Saunders, M., Lewis, P., & Thornhill, A. (2009). Research Methods for Business Student Fifth Edition. In M. Saunders, P. Lewis, & A. Thornhill, *Research Methods for Business Student Fifth Edition* (p. 151). Essex: Pitman Publishing.

Shah, A. (2010, December 11). *Global Issues*. Retrieved December 08, 2011, from Global Financial Crisis: http://www.globalissues.org/article/768/global-financial-crisis

Software Solutions. (n.d.). Retrieved November 29, 2005, from http://www.siebel.com/what-is-crm/software-solutions.shtm.

TeknoJurnal. (2011, September 26). Retrieved October 20, 2011, from 58. http://www.teknojurnal.com/2011/09/26/data-pengguna-internet-di-kawasan-asia-dan-indonesia-di-tahun-2011/

Tinney, D. (n.d.). Retrieved from http://www.davidtinney.net/entrepreneur/customer-acquisition.html

Whole Life Insurance definition. (2010). Retrieved from http://www.wholelifeinsurancedefinition.org/

APPENDIX I

DATA AND VARIABLES

	month	inph	noa	acquisition_cost	marketing_cost	Zmonth	Zinph	Znoa	Zacquisition_cost	Zmarketing_cost
1	Mar 09	6,167	11,960	105,797,821,971	2,868,669,230	-1.61892	-0.74794	-1.28868	-1.24981	-0.80323
2	Apr 09	6,471	12,317	149,195,739,740	5,089,449,656	-1.51145	-0.42661	-0.87402	-1.03765	-0.63310
3	May 09	6,905	12,793	189,792,284,523	6,402,272,218	-1.40745	0.03212	-0.32114	-0.83917	-0.53253
4	Jun 09	7,192	13,303	236,477,738,139	6,538,373,389	-1.29999	0.33547	0.27123	-0.61093	-0.52210
5	Jul 09	7,426	13,506	292,590,167,513	11,144,690,177	-1.19599	0.58281	0.50702	-0.33660	-0.16921
6	Aug 09	6,769	11,583	346,172,981,206	12,898,316,942	-1.08852	-0.11163	-1.72657	-0.07464	-0.03487
7	Sep 09	7,231	12,060	387,770,604,289	14,582,506,474	-0.98106	0.37670	-1.17253	0.12873	0.09415
8	Oct 09	6,873	12,333	436,704,059,884	17,650,078,307	-0.87706	-0.00170	-0.85544	0.36796	0.32916
9	Nov 09	6,680	12,754	487,039,413,187	19,372,665,860	-0.76959	-0.20570	-0.36644	0.61405	0.46112
10	Dec 09	10,385	13,251	294,038,296,107	75,798,022,678	-0.66559	3.71042	0.21083	-0.32952	4.78380
11	Jan 10	6,808	13,352	50,251,561,662	396,908,343	-0.55813	-0.07041	0.32815	-1.52138	-0.99259
12	Feb 10	6,679	13,551	101,234,671,323	3,613,212,703	-0.45066	-0.20676	0.55929	-1.27212	-0.74619
13	Mar 10	7,845	13,599	162,296,970,387	4,603,938,166	-0.35360	1.02568	0.61504	-0.97359	-0.67029
14	Apr 10	7,658	13,855	225,624,119,776	7,775,436,009	-0.24613	0.82803	0.91239	-0.66399	-0.42733
15	May 10	6,962	14,281	280,046,513,212	9,741,722,523	-0.14213	0.09237	1.40719	-0.39793	-0.27669

Source: SPSS 16.0

69

	month	inph	noa	acquisition_cost	marketing_cost	Zmonth	Zinph	Znoa	Zacquisition_cost	Zmarketing_cost
16	Jun 10	6,882	14,709	347,271,746,625	11,779,870,750	-0.03467	0.00781	1.90432	-0.06927	-0.12055
17	Jul 10	6,391	11,092	410,828,184,328	13,606,434,751	0.06933	-0.51117	-2.29688	0.24145	0.01938
18	Aug 10	7,371	11,708	494,201,077,052	15,383,356,207	0.17680	0.52467	-1.58138	0.64906	0.15551
19	Sep 10	5,325	11,997	564,828,898,369	17,066,062,277	0.28426	-1.63792	-1.24571	0.99435	0.28442
20	Oct 10	6,382	12,574	643,069,143,560	19,161,167,856	0.38826	-0.52068	-0.57551	1.37686	0.44492
21	Nov 10	7,567	13,289	733,033,472,026	21,137,946,848	0.49573	0.73184	0.25497	1.81669	0.59636
22	Jan 11	5,962	13,120	81,936,325,279	3,035,908,232	0.70719	-0.96462	0.05868	-1.36647	-0.79042
23	Feb 11	6,016	13,322	149,658,488,910	4,675,762,021	0.81466	-0.90754	0.29330	-1.03538	-0.66479
24	Mar 11	8,225	12,883	234,605,220,812	6,912,486,031	0.91173	1.42734	-0.21660	-0.62009	-0.49344
25	Apr 11	6,523	13,224	303,347,444,828	8,563,528,062	1.01919	-0.37165	0.17947	-0.28401	-0.36695
26	May 11	5,556	13,415	376,257,436,406	9,042,128,877	1.12319	-1.39375	0.40132	0.07244	-0.33029
27	Jun 11	6,137	13,594	453,643,499,608	12,788,870,067	1.23066	-0.77965	0.60923	0.45078	-0.04326
28	Jul 11	6,023	13,822	542,128,244,055	14,857,736,692	1.33466	-0.90014	0.87406	0.88337	0.11524
29	Aug 11	6,210	13,707	620,895,960,257	17,114,247,958	1.44212	-0.70249	0.74048	1.26846	0.28811
30	Sep 11	6,601	13,987	709,543,303,641	18,567,736,875	1.54959	-0.28920	1.06571	1.70185	0.39946
31	Oct 11	7,891	14,213	794,360,414,849	21,788,987,545	1.65359	1.07430	1.32821	2.11651	0.64623

Source: SPSS 16.0

70

GET
  FILE='D:\documents\Saya Mahasiswa\semester 7\New folder\THESIS\data\data.sav'.
DATASET NAME DataSet0 WINDOW=FRONT.
MANOVA inph acquisition_cost WITH marketing_cost noa
 /PRINT=ERROR (SSCP COV COR) SIGNIF
  (HYPOTH EIGEN DIMENR)

 /DISCRIM=RAW STAN ESTIM COR ALPHA (1.0).

Manova

Notes		
Output Created		22-Dec-2011 10:07:51
Comments		
Input	Data	D:\documents\Saya Mahasiswa\semester 7\New folder\THESIS\data\data.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>

71

	Split File	<none>
	N of Rows in Working Data File	31
Syntax		MANOVA inph acquisition_cost WITH marketing_cost noa /PRINT=ERROR (SSCP COV COR) SIGNIF (HYPOTH EIGEN DIMENR) /DISCRIM=RAW STAN ESTIM COR ALPHA (1.0).
Resources	Processor Time	00:00:00.016
	Elapsed Time	00:00:00.070

[DataSet1] D:\documents\Saya Mahasiswa\semester 7\New folder\THESIS\data\data.sav

* * * * * * * * * * * * * * * * * A n a l y s i s   o f   V a r i a n c e * * * * * * * * * * * * * * * * * *

The default error term in MANOVA has been changed from WITHIN CELLS to WITHIN+RESIDUAL. Note that these are the same for all full factorial designs.

* * * * * * * * * * * * * * * * * A n a l y s i s   o f   V a r i a n c e * * * * * * * * * * * * * * * * * *

31 cases accepted.
 0 cases rejected because of out-of-range factor values.
 0 cases rejected because of missing data.
 1 non-empty cell.

 1 design will be processed.

- -
Adjusted WITHIN CELLS Correlations with Std. Devs. on Diagonal

        inph   acquisit

inph   749.14413
acquisit   -.41424 194933846480.042

- -

Statistics for ADJUSTED WITHIN CELLS correlations

Log(Determinant) =   -.18825
Bartlett test of sphericity =   4.98874 with 1 D. F.
Significance =   .026

F(max) criterion =   6.7709E+016 with (2,28) D. F.

- -
Adjusted WITHIN CELLS Variances and Covariances

inph   acquisit

inph   561216.92151
acquisit   -60493127448231   3.79992E+022

- -
Adjusted WITHIN CELLS Sum-of-Squares and Cross-Products

          inph   acquisit

inph   15714073.80218
acquisit   -1.69381E+015   1.06398E+024

- -

* * * * * * * * * * * * * * * * * A n a l y s i s o f V a r i a n c e -- Design 1 * * * * * * * * * * * * * * * * *

EFFECT .. WITHIN CELLS Regression
Adjusted Hypothesis Sum-of-Squares and Cross-Products

          inph   acquisit

inph   11138409.55266
acquisit   1454489670166406   1.91172E+023

- -
Multivariate Tests of Significance (S = 2, M = -1/2, N = 12 1/2)

Test Name   Value   Approx. F   Hypoth. DF   Error DF   Sig. of F

Pillais	.58877	5.84079	4.00	56.00	.001
Hotellings	1.42828	9.28385	4.00	52.00	.000
Wilks	.41164	7.54131	4.00	54.00	.000
Roys	.58807				

Note.. F statistic for WILKS' Lambda is exact.

- -

Eigenvalues and Canonical Correlations

Root No.	Eigenvalue	Pct.	Cum. Pct.	Canon Cor.	Sq. Cor
1	1.42759	99.95109	99.95109	.76686	.58807
2	.00070	.04891	100.00000	.02642	.00070

- -

Dimension Reduction Analysis

Roots	Wilks L.	F	Hypoth. DF	Error DF	Sig. of F
1 TO 2	.41164	7.54131	4.00	54.00	.000
2 TO 2	.99930	.01956	1.00	28.00	.890

- -

EFFECT .. WITHIN CELLS Regression (Cont.)
Univariate F-tests with (2,28) D. F.

Variable	Sq. Mul. R	Adj. R-sq.	Hypoth. MS	Error MS	F	Sig. of F

inph	.41480	.37300	5569204.77633	561216.92151	9.92344	.001
acquisit	.15231	.09176	9.55861E+022	3.79992E+022	2.51548	.099

- -

Raw canonical coefficients for DEPENDENT variables
      Function No.

Variable	1	2
inph	.00091	-.00054
acquisit	.00000	.00000

- -

Standardized canonical coefficients for DEPENDENT variables
      Function No.

Variable	1	2
inph	.86206	-.50849
acquisit	.54359	.84036

- -

Correlations between DEPENDENT and canonical variables
      Function No.

Variable	1	2
inph	.83965	-.54313
acquisit	.50806	.86132

- -
Variance in dependent variables explained by canonical variables

CAN. VAR.	Pct Var DEP	Cum Pct DEP	Pct Var COV	Cum Pct COV
1	48.15653	48.15653	28.31932	28.31932
2	51.84347	100.00000	.03619	28.35551

- -
Raw canonical coefficients for COVARIATES
        Function No.

COVARIATE	1	2
marketin	.00000	.00000
noa	.00024	-.00114

- -
Standardized canonical coefficients for COVARIATES
        CAN. VAR.

COVARIATE	1	2
marketin	.97562	.21979
noa	.20787	-.97823

- -
Correlations between COVARIATES and canonical variables

CAN. VAR.

Covariate	1	2
marketin	.97816	.20786
noa	.21977	-.97555

- -

Variance in covariates explained by canonical variables

CAN. VAR.	Pct Var DEP	Cum Pct DEP	Pct Var COV	Cum Pct COV
1	29.55322	29.55322	50.25477	50.25477
2	.03473	29.58795	49.74523	100.00000

- -

Regression analysis for WITHIN CELLS error term
--- Individual Univariate .9500 confidence intervals
Dependent variable .. inph   increase number of policy holders

COVARIATE	B	Beta	Std. Err.	t-Value	Sig. of t	Lower -95%	CL- Upper
marketin	.0000000453	.6250401895	.00000	4.32317	.000	.00000	.00000
noa	.1625097025	.1478846814	.15888	1.02286	.315	-.16294	.48795

Dependent variable .. acquisition_cost   acquisition cost per month

COVARIATE	B	Beta	Std. Err.	t-Value	Sig. of t	Lower -95%	CL- Upper
marketin	6.0346361245	.3851100590	2.72670	2.21316	.035	.44924	11.62004

noa   13952149.28771   .0587258690 41341234.12430   .33749   .738 -70731529.9432 98635828.51854

- -

* * * * * * * * * * * * * * * * A n a l y s i s   o f   V a r i a n c e -- Design   1 * * * * * * * * * * * * * * * * *

EFFECT .. CONSTANT
Adjusted Hypothesis Sum-of-Squares and Cross-Products

              inph   acquisit

inph   2221399.28527
acquisit   52783696563225.4   1.25422E+021

- -
Multivariate Tests of Significance (S = 1, M = 0, N = 12 1/2)

Test Name   Value   Exact F   Hypoth. DF   Error DF   Sig. of F

Pillais   .15610   2.49721   2.00   27.00   .101
Hotellings   .18498   2.49721   2.00   27.00   .101
Wilks   .84390   2.49721   2.00   27.00   .101
Roys   .15610
Note.. F statistics are exact.

- -
Eigenvalues and Canonical Correlations

Root No.   Eigenvalue   Pct.   Cum. Pct.   Canon Cor.

79

```
        1       .18498     100.00000     100.00000        .39510
```

- -
EFFECT .. CONSTANT (Cont.)
Univariate F-tests with (1,28) D. F.

Variable	Hypoth. SS	Error SS	Hypoth. MS	Error MS	F	Sig. of F
inph	2221399.28527	15714073.80218	2221399.28527	561216.92151	3.95818	.056
acquisit	1.25422E+021	1.06398E+024	1.25422E+021	3.79992E+022	.03301	.857

- -
EFFECT .. CONSTANT (Cont.)
Raw discriminant function coefficients
        Function No.

Variable	1
inph	.00146
acquisit	.00000

- -
Standardized discriminant function coefficients
        Function No.

Variable	1
inph	1.09519

acquisit   .53350

- -

Estimates of effects for canonical variables
        Canonical Variable

 Parameter   1

    1   6.33039

- -

Correlations between DEPENDENT and canonical variables
        Canonical Variable

Variable   1

inph   .87419
acquisit   .07983

- -

Abbreviated Extended
Name   Name

acquisit   acquisition_cost

marketin   marketing_cost