In Conjunction with the Second Annual Conference on Global Management
27th of April - 1st of May 2010

Conference 2010
AAMAI
The Indonesian Insurance Institute

Workshop on World Insurance Stance:
Challenge and the Future of Insurance Industry in Developing Countries

Discovery Kartika Plaza Hotel, Bali INDONESIA
Conference Papers

Workshop on World Insurance Stance: Challenge and the Future of Insurance Industry in Developing Countries 2010

Prof. Dr. Noor Fuad, MBA, MSc, Ph.D., FLMI, AAIJ, QIP, CPIE, FIIS (Ed.)

Gunadarma - AAMAI

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Gunadarma - AAMAI
2010
ISBN : xxx-xxx-xxxx-xx-x

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Welcome speech

The Global Management Conference (GM Conference) was established two years ago by CISRO Institute of Management as a forum dedicated to fostering and promoting global management studies for sustainable economic development. The GM conference, under the leadership of a program committee consisting of international scholars and practitioners, has become one of the respected forums for exchanges between academics and professionals. The conference aims:

- To promote research pertaining to global management issues across the full spectrum of organizations;
- To encourage integration and exchange of knowledge among academics and professionals worldwide;
- To develop frameworks for a better understanding of the dynamics of globalization in the process of sharing knowledge and technologies aimed at sustainable development.

The GM conference continues to evolve into a leading global conference since its launch, thanks to the immense support provided by many dedicated individuals and institutions. The objectives and far-reaching visions of the GM conference have generated interest and excitement among academics and practitioners around the world.

The GM conference is indebted to all those responsible for this year's program, particularly those who served as reviewers and track chairs. Among members of the organizing committee, those representing Gunadarma University are acknowledged for the excellent work coordinating arrangements for the conference venue, collaborating with our Indonesian partners, and assuring a memorable conference experience for participants. Special thanks are extended to Dr. Maurice Grzeda,
from Laurentian University, Sébastien Azondékon from University of Québec in Outaouais (UQO), Dr. Komlan Zedzro from University of Quebec in Montreal (UQAM), Dr. Suzy Suhenda, Dr. Hotniar Siringoringo and Dr. Sarifudding Madenda from Gunadarma University. Thanks also to the GM conference officers and Board of Directors.

Our appreciation also extends to the authors of papers presented in the conference. The quality of papers submitted attests to the growing reputation of the GM conference.

We would like to extend our personal thanks to Prof. Dr. ES. Margianti, Rector of Gunadarma University for her support. Special acknowledgement and thanks to our esteemed sponsors AAMAI (the Indonesian Insurance Institute), as well as our sponsors PT Asuransi Jiwasraya (Persero), AJB Bumiputera 1912, PT. Asuransi Bangun Askrida, PT. Jamsostek (Persero) as the major contributor for making this event possible.

Prof. Dr. Tov Assogbavi
GM Conference Chair
Foreword

First of all, on behalf of Gunadarma University, I would like to welcome to all participants of the Second Annual Conference on Global Management in Discovery Kartika Hotel, Kuta – Bali, from 27th of April 2010 until 1st of May 2010. It is an honor to me as a rector of Gunadarma University to host a big event such as Global Management Conference (GMC), here in the island of paradise, Bali Indonesia. Having the success of first GMC in Rio de Janeiro Brazil in 2009, Gunadarma University delighted to take part in organizing this conference.

As the biggest Information Technology based university in Indonesia, Gunadarma University always attempts to have a golden opportunity in taking parts of increasing the abilities and competition of Indonesia. After passing a quite long journey of history, currently Gunadarma University has been existing in Indonesia for more than a quarter of century, which has no less than 25,000 students as well as has graduated more than 50,000 students. Gunadarma University has succeeded in achieving the pinnacle of its career by having a good reputation as a prominent university in Indonesia as well as globally.

This conference is a collaborative effort between CISRO - School of Business, Canada and Gunadarma University. However, this conference is only possible through many supports from various partners. One of the biggest support is AAMAI, the Indonesian Insurance Institute, which also plays a big role also as the co-host in the workshop during the conference.

The main theme of this conference is Globalization, Sustainability, and Development. During the conference various globalization problems will be investigated by the involvement of researchers over the globe who are in the developing countries. These researchers eventually act as a bridge of the dominance of thought of researchers in developed
countries. It is also a provision of platform in exchanging management thoughts in this new era of globalization.

The main topic is determined due to the current social economy condition from the whole world which continuously keeps the pressure on the global condition which becomes the essential needs from the whole world's components. In the different sight, the continuity and development of a particular social economy must always be maintained in order to hold up the value of a particular country. Hence, globalization will not make the small countries as victims of globalization.

In order to reach up the program, a workshop with a special focus is also held. This workshop is a cooperation between Gunadarma University and AAMAI, association of the insurance sector in Indonesia. During this workshop, wide range of topics which are crucial and important in the development of knowledge in the side of insurance will be described and explored.

Furthermore, this conference can also be utilized as a platform to establish many forms of cooperation internationally. Paralleled with AAMAI event (the biggest and main insurance organization in Indonesia), the Second GMC is more interesting and lively. With this exciting program, the conference attracted more than 150 participants who are academician and professional in management. They come from different countries such as Canada, USA, Australia, India, Bangladesh, Mauritius, UK, Pakistan, Portugal, Sweden, Turkey, Hungary, Republic of Georgia, Malaysia and Indonesia.

As the medium for knowledge sharing, a proceedings and one paper collection are published and distributed. In these publications, all valuable articles which are presented on the conference can be found. The articles cover a broad spectrum of topics of global management. The articles provide an overview of critical research issues reflecting on past achievements and future challenges. Moreover, the paper collection of the insurance topic in Indonesia is also a big contribution of this conference.

In this occasion, let me give special thank to Prof. Dr. Tov Assogbavi as a Director of the CISRO Institute of Management who initiates the GMC. Your entrust to us to host this special event is an honor. I also like to express my gratitude to all organizing team including program chairs, session chairs, reviewers, and local committee, for their commitment, effort and dedication in undertaking their own task to bring the success of this conference.
I would like also to thanks to our keynote speakers, Mr. Isa Rachmatarwata, M.Math., FSAI, The Director of Insurance and Financial Institution, Ministry of Finance of the Republic of Indonesia, and also to our distinguished speakers Prof. Dr. Sebastian Azondekon (Canada), Campbell O. Webb Ph.D (USA), Semih Bilgin MBA(Turkey), Drs. Hendrisman Rahim, MA, FSAI, AAII, QIP, CPI and Adiwarman Azwar Karim.

In addition to the efforts of all those people, the success of the conference was due to the financial support from Gunadarma University Indonesia and AAMAI (the Indonesian Insurance Institute), as well as our sponsors PT Asuransi Jiwasraya (Persero), AJB Bumiputera 1912, PT. Asuransi Bangun Askriza, PT. Jamsostek (Persero), PT. Reasuransi International Indonesia, PT. Reasuransi Nasional Indonesia, PT. Prudential Life Assurance, PT. Asuransi Kredit Indonesia, PT. Asuransi Wahana Tata, PT. Maskapai Reasuransi Indonesia, PT. Tugu Reasuransi Indonesia, Axioo, Grace Technology Infokom, and Gapensi. We also thank for the support from TELKOM, and Megaswara during this event. We owe them also gratitude as well as to Hillsom Information Network, Canada for sources of support.

Finally, we owe gratitude to all the conference participants for their contributions to the intellectual discourse during the conference and for the overall success of GMC.

As closing remarks, Let us say thanks to the Lord Almighty God for all His blessing on us. Ultimately, I hope that this conference will produce a wide range of formulation forms which can be used by many parties in order to increase competition, and the ability of Indonesia in particular as well as other countries.

Jakarta, 28 April 2010

Prof. Dr. E. S. Margianti, SE, MM
Rector of Gunadarma University
Co-Chair International Global Conference 2010
Preface

The conference that should confer "Globalization, Sustainability and Development" conducted jointly by the Indonesian Insurance Institute or AAMAI, University of Gunadarma Jakarta, and the International Global Management Association, our partner from Canada.

I believe that the conference is very strategic and beneficial to all of us, because at the present times, many deviations are happening in several aspects of our life, such as politics, economy, social, cultural, and also in the area of business management. We do not want to talk about all aspects of our life, especially politics that is now coloring many media that we can watch everyday in some newspaper, website and television. But we will discuss and elaborate management science to improve the quality of the human and social life.

The Indonesian Insurance Institute is a Professional and Non Profit Organization that was established since 1987. The initiative of its establishment was from the Indonesian Insurance Council together with the Ministry of Finance of the Republic of Indonesia. Our organization has a very significant role to assist the Indonesian Government to prepare, supply and develop Professionals for Insurance Industry in this country. Considering this mission, we feel that we have to collaborate with external parties, domestically and worldwide. Accordingly, in this esteemed conference, we collaborate with our domestic long-standing partner, the University of Gunadarma, that has been being our partner more than 8 years continually in our efforts to develop Insurance Professionals, Life and Non Life or General Insurance Professionals in this country. Within last three years, our organization together with the University of Gunadarma also invited some other universities, such as Perbanas Economics School in Surabaya, East Java; Pasundan University in Bandung, West Java; Sriwijaya University, Palembang, South Sumatera
; and Medan State University, North Sumatera, to develop the members of our organization through a tele-conference conducted.

In this occasion, the Indonesian Insurance Institute and the University of Gunadarma as Domestic Committee has concurred to collaborate with the International Global Management Conference from Canada that we appraise it as an organization that has been successful in performing similar event in other country.

Especially in the field of Insurance, we will elaborate "World Insurance Stance: Challenge and the Future of Insurance Industry in Developing Countries" as the main topic, and this conference will be officially opened by Mr. Isa Rachmatarwata, M.Math., FSAI, The Director of Insurance and Financial Institution, Ministry of Finance of the Republic of Indonesia.

In this substantial conference, we will invite Prof. Dr. Sebastien Azondekon from the University of Quebec, Canada, as our Central Guest Speaker. From the domestic region, several Professionals in Insurance Industry will contribute several topics, as mentioned below:

- Mr. Drs. Hendrisman Rahim, MA, FSAI, CPIE, the President Director of PT Jiwasraya Life Insurance who will present: The trends of Insurance Business in the future.
- Mr. Adiwarman Azwar Karim, the President Director of Karim Business Consultant who will present: Challenge and the future of Islamic Insurance Industry in Indonesia.
- Mr. Frans Y. Sahusilawane, MBA, ACII, QIP, the President Director of PT Asuransi Maipark Indonesia who will contribute the theme on Perspective of General Insurance, especially Earthquake Insurance.
- Mr. Kornelius Simanjuntak, SH, MH, QIP, the President Director of PT Asuransi Himalaya Pelindung who will share his experience in handling General Insurance Business in Indonesia.
- Mr. Munir Syamsoedin, MBA, the Chairman of STIMRA, Institute of Risk Management and Insurance who will share his ideas on Required Strategy Approach for Insurance Business in this country.
- Mr. Kasir Iskandar, M.Sc., MBA, FSAI, CPIE, the President Director of PT KISAktuaria who will present the topic on Prediction on Health Insurance Trend in Indonesia.
• And Prof. Dr. Noor Fuad, MBA, M.Sc., Ph.D., FLMI, AAIJ, FIIS, a Management Consultant who will perform as the Moderator at the conference.

Finally, on behalf of the Indonesian Insurance Institute and our partners, I would like to be grateful to all parties who has contributed and supported the triumphant of this conference, especially the Management of PT Jiwasraya Life, the Management of Bumiputera Mutual Life Insurance company, the Management of PT Bangun Asksrida General Insurance, the Management of PT Jamsostek State Social Insurance company, the Management of PT Marein Reinsurance company, PT Reindo International Reinsurance company, the Management of PT National Reinsurance company, the Management of PT Tugu Reinsurance company, the Management of PT Askrindo Credit Insurance company, the Management of PT Wahana Tata General Insurance, the Management of PT Prudential Life Assurance, and other companies who has sent their representative to attend this prestigious conference.

I hope that all participants will get the most substantial benefit to develop our lovely organization, Insurance Industry and also our lovely country.

Thank you very much for your attention and cooperation.

Jakarta, April 26, 2010
The Indonesian Insurance Institute
The Board of Management,

Drs. Hendrisman Rahim, MA, FSAI, AAIJ, QIP, CPIE
Chairman of the Indonesian Insurance Institute, Jakarta
Editorial

Within the conference that should be conducted on this April 28 and April 29, 2010 in Denpasar, Bali, we will deliberate “Globalization, Sustainability and Development”. This conference is conducted jointly by the Indonesian Insurance Institute or AAMAI, Gunadarma University, and the International Global Management Association, Canada.

The conference is very strategic and will be beneficial to all participants, because we will discuss and elaborate several management aspects to improve the quality of the human and social life in the world especially in developing countries.

The Indonesian Insurance Institute as one of domestic committees is a Professional and Non Profit Organization that was established since 1987 based on initiative of the Indonesian Insurance Council together with the Ministry of Finance of the Republic of Indonesia. Considering the mission of our organization as the Agent of Professional Development in Insurance Industry in Indonesia, we feel that we must collaborate with other parties, domestically and worldwide. And accordingly, in this admired conference, we work together with our long-standing partner, the Gunadarma University in conducting this admired international conference. We also concurred to work in partnership with the International Global Management Conference from Canada that we appraise it as a corporation that has been thriving in conducting similar occurrences in the past.

In the course of this international conference, particularly in the field of Insurance, we will elaborate a central theme on “World Insurance Stance: Challenge and the Future of Insurance Industry in Developing Countries” that would be contributed by our Special Guest Lecturer, Prof. Dr. Sebastien Azondekon from the University of Quebec, Canada.
To comply the comprehension of the participants of this conference, we proudly invite some domestic experts and practitioners in Insurance Industry as follows:

1. **Drs. Hendrisman Rahim, MA, FSAI, AAIJ, QIP, CPIE**, the President Director of PT. Jiwasraya Life Insurance who will share his prediction on the trends of Insurance Business in the future. Previously he was the President Director of PT. Reindo, a domestic reinsurance company, and since last year he is also the chairman of the Indonesian Insurance Institute. The participants of this conference have opportunity to discuss many things with him.

2. **Mr. Adiwarman Azwar Karim**, the President Director of PT. Karim Business Consulting Firm who will present the topic on challenge and the future of Islamic Insurance Industry in Indonesia. As we know that Islamic Insurance Business is now becoming popular in this country, because Islam is the largest part of Indonesian population. The Islamic Insurance Business has been starting since last ten years in this country.

3. **Frans Y. Sahusilawane, MBA, ACII, AAIK, QIP**, the President Director of PT. Asuransi Maipark Indonesia who will share his insight on perspective of General Insurance, especially Earthquake Insurance. In reality, Indonesia consists of many islands and is in the volcanic line, and accordingly this topic is very significant to be elaborated.

4. **Kornelius Simanjuntak, SH, MH, AAIK, QIP**, the President Director of PT. Asuransi Himalaya Pelindung who will share his experience in handling General Insurance Business in Indonesia. He is also one of the General Insurance Examiners at the Indonesian Insurance Institute. We can use this opportunity to discuss many things on General Insurance aspects.

5. **Ir. B. Munir Syamsoedin, MBA, AAIK(HC)**, the Chairman of STIMRA School, Institute of Risk Management and Insurance who will contribute his ideas on Required Strategy Approach for Insurance Business. He has very eminent experience in running general insurance corporation and reinsurance company before, and accordingly we can discuss many things related to the activities of managing an insurance business, general insurance as well as life insurance.
6. **Drs. H. Kasir Iskandar, M.Sc., MBA, FSAI, MHP, QIP, CPIE**, the Managing Director of PT. KIS Aktuaria who will present the topic on Health Insurance Coverage Outlook in Indonesia. He is also one of the Life Insurance Examiners, the Indonesian Insurance Institute, and accordingly we can discuss many things related to the life insurance practices in Indonesia.

In this esteemed conference, I will contribute myself to be the Moderator at several sessions presented.

I wish that all participants of this conference will get the most generous benefits as resources to develop our organization, business organization as well as intellectual corporation.

Thank you very much for your attention and cooperation

Jakarta, April 26, 2010

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The Indonesian Insurance Institute  
Research and Development Department,  
Prof. Dr. H. Noor Fuad, MBA, MSc, PhD, FLMI, AAIJ, QIP, CPIE, FIIS  
Department Head
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The Information Technology in insurance industry: inhibitors and supporting factors in ICT implementation in Indonesia

Prof. Dr. Noor Fuad SE, MBA, MM, MSc, PhD, FLMI, AAIJ, QIP, CPIE, FIIS.
Ate Sumarna, SE
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1 Introduction

Indonesian Insurance has grown quite fast in these previous years. Up to September 2007, it is stated that the revenue has reached IDR 32.4 trillion which has increased by 71 percent in comparison to 2006. In fact, this number only covers 39 of 46 life-insurance company which operate in Indonesia. Due to this achievement, the insurance company will still grow significantly in 2008 as estimation. This is due to many supporting factors which include the increase of public realization in the importance of insurance. Besides that, the phenomenon of the sales of unit link which is spectacular is also supported by the innovation of products as well as decrease in bank interest rates. Public is also searching for the alternative for allocating investment which therefore gives a higher profits which is more interesting in return in comparison to deposit account in the bank. From macro sector, government target in the economic growth has reached 6.8 percent which eventually increase the confidence of the increase in the insurance sector in the future, and coming years.

According to total assets, life-insurance keeps increasing and growing consistently in these previous years with the average growth of 25
percent per year. Nevertheless, with the total asset of 2006 which reaches IDR 70.99 trillion, the total asset of life-insurance in Indonesia is only 6 percent of total asset of Indonesia banking. Due to the increasing and growing of Indonesia Insurance which is quite swift, hence some of strategies should be developed in order to support the growth of market, such as: adoption of technology information which supports the work of a particular organization. The implementation information technology in many sectors will be increased, thus the organizational performance will optimized. This strategy is needed to make a good decision for the organizational to have the best result. The purpose of this research is to know and analyze the map of technology information implementation, thus we can have a description for the next and sustainability development.

2 Theoretical framework

OECD has reported in 2000 that insurance industry in the whole world has taken note that direct premium is US$ 2444 billion or equals to 7.8 percent from the domestic product brutto in the world. In the same year, insurance companies in developed countries collected premium as US$ 209 billions. Information Technology Computer is the convergence from three parts which are information, data and information, as well as the problem in the social economy. In particular, for the use of internet in the insurance companies is known as e-insurance. UNCTAD (2202) defines e-insurance as the implementation of internet as well as information technology that is related to the production and distribution of the insurance service. Lilischkis (2003) mentions many kinds of information technology that can be implemented in the insurance companies which are internet, computer, world wide web (WWW), e-mail, Local Area Network, Intranet, Wide Area network (WAN), extranet, and Electronic Data Interchange (EDI).

How is the profile of the use of many kinds of information technology that have been mentioned above for the insurance companies in Europe? Internet access is the most popular technology that is used by the entire insurance companies in Europe which reaches 99 percent of the companies. The other three technologies which are used by 90 percent of the insurance companies are computer, WWW, email. While the other two technologies that are used relatively less than the others are extranet and EDI which are only used by 41 percent and 25 percent of the com-
panies respectively. The workers of the insurance companies in other countries are generally given a high access to the worldwide computer network and internet, which are through: 1. The use of internet for internal communication, 2. The use of internet for the external communication, 3. Access to WWW, 4. access to the companies' intranet. Website is one of the e-commerce levels which are informational or transactional.

Taylor and Celuch (2002) indicate that distribution of insurance service and finance are having a dramatic change through the use of the internet. Many of the insurance companies are currently using website to give the specific information about companies and rise up the sales through internet. The sale of insurance product from online is estimated to affect more on the products that are relatively not complex (or standard), for the example is the insurance for vehicles in comparison to life insurance product that or insurance for houses that are considered complicated and complex. Model of insurance business internet on the insurance companies is based on E-Business Watch European Commision (2002) can be seen at the following table:

Table 1: Internet Address at business model category

<table>
<thead>
<tr>
<th>Category</th>
<th>Business Model</th>
<th>Example of Internet Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing</td>
<td>Website information provision</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Multi-channel distribution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Online sales only</td>
<td>ines.com, Genialloyd.it</td>
</tr>
<tr>
<td>Portals</td>
<td>Product portals</td>
<td>Financewarehouse.co.uk, Bankrate.com</td>
</tr>
<tr>
<td></td>
<td>Thematic portals</td>
<td>AutoByTel.com, BabyCenter.com</td>
</tr>
<tr>
<td>Market Places</td>
<td>Brokers Independent</td>
<td>Quotesmith.com, QuickQuote.com</td>
</tr>
<tr>
<td></td>
<td>Comparison</td>
<td>InsWeb.com, EhealthInsurance.com</td>
</tr>
<tr>
<td>Specific Solutions</td>
<td>Online risk markets</td>
<td>catex.com, GRX.com</td>
</tr>
<tr>
<td></td>
<td>Reverse Auctions</td>
<td>Ebix.com, ixsure.de</td>
</tr>
</tbody>
</table>

Information Communication Technology offers many opportunities to the insurance companies which have potency in giving a huge impacts to the insurance in the realization of 1. Insurance Business is based on the information processing in majority and 2. Insurance business is managed by the way of centralization and facing the challenge in reach-
ing the optimum point of communication between central office, insurance agency, and the salesperson. The implementation of Information Computer Technology is very crucial and important in every step in the making of value which includes two main aims as well as the location of implementation which are 1. internal work which is the purpose of paperless implementation in the internal process about policy, and insurance claim as well as 2. Marketing or Advertising and sales which is by considering what the best way is in managing the relationship between customers as well as using the internet to get consumers as well as giving the service.

Nearly all the insurance companies use distribution model which are multi channel or using internet for the purpose of information provision to the consumers or public. The strategy is by concerning more on the customer service which is classified as personal, with the consideration of the good and trustworthy relationship between consumers is the most important factor in the insurance industry. Thus, Information Computer Technology as well as internet give a significant impact towards the chain of insurance value which creates a possibility of the new development of new business model towards the operational of insurance company.

The implementation of the electronic business process in the insurance companies generally has an aim to have a collaborative work, tracking of working hours, and the production time, support the management of human resources, automation of workers trip, and for the implementation of e-learning (for the example for the tutorial or workers training which are internet basis which give a possibility of a distant learning.) Regarding the e-commerce technology in the insurance companies, there are some usage profile in the insurance companies in Europe which indicate that a. 33 percent of the online companies have been giving a chance of online payment, b. 41 percent of the companies through online has been conducting the electronic market. c. 55 percent insurance with the online sales have used technology more than two years, 39 percent between one to two years, and only six percent which have implemented less than one year, as well as d. 86 percent of insurance companies and pensions fund have conducted sales through online tp the individual consumer, 51 percent to the companies, and 46 percent to the public sectors.

The use of e-commerce in the insurance companies is generally used for four purposes which are official websites, information about insurance products through the websites, sales of insurance products through
online, as well as the goods through online. Garven (2002) states that the use of e-commerce makes the insurance companies have changed from product-oriented approach to customer-oriented approach. Due to the search cost that is cheap to the customers, hence it will make many strategies of price fixing and quality transparency. This matter will increase the strength of discipline market in the competitive environment, which is by making the consumers to be not interested in changing their insurance company to others and keep them stick on their current insurance company. The more the transparency of the insurance company will eventually empower the customers and encourage the insurance companies to do experiment in many kinds of alternative methods of price fixing. In spite of the fact that the presence of agency and conventional brokers plays less role in the environment that is e-commerce basis, they will still able to adjust and adapt and still gain profits. Besides that, by reducing the transaction cost, e-commerce and insurance services will be more mediated in comparison to the current situation. Hence, the new media through internet will keep popping up. E-commerce will also give an important implication for the design of insurance product which gives more flexibility to the consumers in managing their risks.

Some of the above statements generally indicate that the use of information communication technology can give impacts towards the performance of insurance company although there are some conditions and situations which become as the factors which determine the success which are normally related to the support of the organization and human resources. Besides that, the information communication technology has relative impacts towards the performances of different insurance companies, from the quality of customer service up to logistic costs. The impacts of e-commerce generally indicate that the insurance companies receive significant impacts to the performance attribute. The attribute that is relatively high in comparison to the others is the change of working process, improvement of relationship with the customers, as well as the change of organization structure. While the change of insurance products supply as well as the relationship with the suppliers is relatively has lower impact.

The implementation of online sales generally give a higher impacts to the rise of customer service quality, the rise total consumers, and efficiency internal process in comparison to the impacts toward the sales volume, sales coverage, and logistic costs. For the impacts toward the finance, the insurance companies which have sales and the service through
internet will have cost advantage in comparison to the conventional insurance company, which is approximately 58 percent up to 71 percent throughout the consumers' lives. That particular cost savings is from the difference of sales price, customer services, and operational, as well as the attempts of gaining better and cheaper information (Allen and Hamilton, 1997 inside Garven, 2002).

The previous explanation indeed indicates that information communication technology at the insurance company varies in the sight of many kinds of performance attribute. Besides that, Information communication technology is only equipment that is needed to be supported in order to achieve success in the implementation. Information communication technology is basically used by individual which is majority of them are the workers of the companies. Hence, the use of information communication technology in every country is completely determined by the intensity of the use of ICT by workers and eventually will lead to the performance of the companies. The use of ICT in the companies scale indeed is not a guarantee to increase the performance of the company. Organization that has conducted the strategic plan of information system does not guarantee the success of the ICT implementation in order to increase the competitive advantage. This phenomenon, which is known as paradox of productivity from information technology Brynjolfsson dan Hitt, 1998), states that computerization does not automatically increase the productivity, but only an important component in the system that is wider about the change of organization which eventually will lead to an increase in the productivity. Hence, the change of the organization is integral part in the computerization process. The insurance side generally indicates that they still confront many ordeals in the implementation of online sales.

The result of the survey denotes that for the insurance company in other countries, in this case is Europe, they are still facing many obstacles in the implementation of online sales for the insurance products. From the eight factors which inhibit the sales of insurance through online, two factors that are relatively dominant are: a. Not all of the insurance products can be offered and ordered through internet, essentially for the complex products which need intensive customization between the insurance company and prospective insured, as well as b. The revenue through the sales of internet indeed relatively has a small contribution in comparison to the conventional sales. Besides that, consumers are relatively reluctant to use the internet facility in finding the information or the purchasing of insurance products. Even though they are still
facing the inhibiting factors, insurance companies in other countries
tend to intensify the use of information technology, internet in business
operation in particular.

3 Methodology

This research is a preliminary study is expected to be able to give a util-
ization rate of IT and IT mapping used by the Insurance Industry in In-
donesia. Methods of data collection was done by purposive sampling
that all samples associated with the object of research is taken to be used
as samples. Determination of the sample based on the assumption (rule
of thumb) given by Roscue in Sekaran (2000) that for the multivariate
study sample size should be several times (at least ten times or more) of
the amount of research variables.

The questionnaire contains individual background followed by a se-
ries of questions that will be used for mapping the Information Technol-
gy applied by insurance companies. The questionnaire was brought
directly by enumerators to do the filling and in-depth and personal in-
terview to each respondent. This is done to anticipate the low rate of
return, providing more in-depth explanations, as well as obtain a variety
of other information that is not covered in the questionnaire.

This study uses a ready instrument in the form of a questionnaire
that has known reliability and validity for the instruments used to mea-
sure these variables are adopted from existing literature and has been
widely used by previous researchers. However, to check the consistency
and accuracy of data as a result of translation of the instrument, then
re-testing of internal consistency using Cronbach alpha coefficient.

The method of analysis used multiple-regression-based to analyze
the causality between the independent variable (IV) and dependent vari-
able (DV) with variable intervening or mediating variables (MV). There
are four steps used in this analysis (Baron and Kenny, 1986 and Judd and
Kenny, 1981). According to Kenny (2008), there are three criteria, the re-
sults of these steps. First, there was full mediation (complete mediation)
if the four steps above are fulfilled. Second, there was partial mediation
(partial mediation) if only the first three steps are fulfilled. Third, there
is no mediation process if one of the steps from step one, two and three
are not met. Then to measure the significance of the mediation model
used Sobel test. Sobel significance level below 0.05 means indicates that
the model of mediation by the MV in the relationship between IV and
DV is significant. Software used to process the data was SPSS v.11.5. Selection is based on the consideration that software version 11.5 is able running script (syntax) SPSS for mediating variable analysis. SPSS Syntax mediating variable analysis was written by William Dudley, PhD, and Jose Benuzillo MA (2002). Tests on the reliability and validity of questionnaires in this study was done by using one computer program package of statistical data processing in SPSS v. 5.11, then to analyze the relationship between the independent variables on the dependent variable with intervening variable using script (syntax) SPSS analysis of mediating variables.

4 Result and discussion

4.1 Research Data

Research activities which is a collaboration between AAMAI and Universities Gunadarma conducted through questionnaire dissemination, accompanied by intensive interviews with resource persons (officials or staff who is directly responsible to the management of IT). The main respondents who becomes the object of research, this mapping is an insurance company. While the main content of the data collected were various matters relating to the mapping application of information technology, insurance industry in Indonesia.

he persons who were interviewed (respondent) or who conduct research in general, filling questionnaire is divided into three characteristic positions, namely the Head of Division, IT Manager and IT staff. Figure 1. illustrates the composition of interviewees based on the number of positions and levels of the expert staff for each type of insurance business which is used in this study. Based on these graphs shows that the composition of respondent at the head of the division participate in the research on each type of insurance business is only around 10% to 20%. At the level of resource managers in the composition of each type of insurance business ranging from 9.5% to 30.6%. While the level of resource composition of IT staff in each type of insurance business ranging from 40.5% to 77%.

Insurance and reinsurance companies that are willing to participate in this research activity is dominated by insurance companies and reinsurance companies, followed by life insurance companies and social. In this study the composition of insurance companies owned by national private parties include, life insurance companies amounted to 61.9%,
social life and equal to 59.4%. Insurance and reinsurance companies which form a joint venture ownership structures (joint ventures), for insurance loss is equal to 25.5% and for social insurance and by 9.5%. While insurance companies are owned by the state (SOE) is 7.7% for life insurance and reinsurance, and 19% for life insurance and social. Complete picture of the composition of ownership for each type of insurance industry are more expressed in the Figure 2.

4.2 Insurance industry information system concepts

Increased use of computer-based information systems in the insurance industry, influenced by (1) increasing complexity of management tasks, (2) increase the ability of employees at all levels in using computers, and (3) development of technology. According to the results of a survey conducted by Celent International (2008) against 954 international insurance companies in Asia Pacific in the period of 2001-2006, indicates that the computer application software that is used as a support system of information on the insurance industry is divided into four main categories, namely activities processing (processing cores), distribution (distribution), documentation (document management) and infrastructure
Figure 2: Composition of Ownership and Insurance Line Business

The survey shows that most insurance companies have to innovate and improve the quality of computer application software used in operational activities. Improving the quality of the application software associated with an increased complexity of the company's business needs and in providing insurance services to its customers. Innovation and improvement of the quality of the computer application software such
as (1) the addition of service facilities, namely the policy administration system and administrative system of policyholders, and claims administration system; (2) changes in content and scope of application systems, namely improving the quality and scope actuarial application system into the administrative system of underwriting. Comparison and recapitulation of the use of computer application software on each type of insurance companies is presented in Table 2. following.

Table 2: Recapitulation of Insurance Computer Application Software

<table>
<thead>
<tr>
<th>Type of Software</th>
<th>Type of Insurance</th>
<th>Life/annuity</th>
<th>Health</th>
<th>Property / casualty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Policy admin (quote-issue-service-billing-claims)</td>
<td></td>
<td>232</td>
<td>131</td>
<td>397</td>
</tr>
<tr>
<td>Policy admin system (quote-issue-service only)</td>
<td></td>
<td>61</td>
<td>28</td>
<td>105</td>
</tr>
<tr>
<td>Full Policyholder portals (include transaction capability)</td>
<td></td>
<td>213</td>
<td>120</td>
<td>357</td>
</tr>
<tr>
<td>Policyholder portals (information only)</td>
<td></td>
<td>80</td>
<td>39</td>
<td>145</td>
</tr>
<tr>
<td>Underwriting (expert system, requirement management, workbench)</td>
<td></td>
<td>152</td>
<td>94</td>
<td>341</td>
</tr>
<tr>
<td>Actuarial/Pricing/Product Design</td>
<td></td>
<td>141</td>
<td>65</td>
<td>161</td>
</tr>
<tr>
<td>Comprehensive claims solutions</td>
<td></td>
<td>121</td>
<td>54</td>
<td>216</td>
</tr>
<tr>
<td>Focused claim solutions</td>
<td></td>
<td>172</td>
<td>105</td>
<td>286</td>
</tr>
</tbody>
</table>

Based on Table 1, seen that the policy administration software that is equipped with billing and claims (full policy administration) has been used by 80% and annuitas life insurance companies, health insurance companies 82% and 79% of insurance company losses. Until the end of 2004, the number of insurance companies in Asia Pacific that has been providing premium payment transaction services via the internet portal, with an average of 72.5%.

Concept design of information systems in general insurance industry refers to the concept that is based on providing services in accordance with the needs of its customers (customer knowledge-based). Description of system architecture design concept in the insurance industry information is presented in Figure 3. below.
Conception of knowledge-based customer generally based on meeting the needs of information systems in providing services to customers. Information systems used by companies as a tool to provide information on various insurance needs and development as well as ideal conditions and capacity of its customers. Results of various alternative choices and information relevant to the needs of customers, will be the basis in making decisions. In the end, the information system will be used as a medium of communication between customers and companies, so the availability of information systems will continue to represent the relationship between customers and companies in real terms.

Application of computer-based information system on the general insurance industry used to meet internal and external. Internal fulfillment of the insurance industry carried out through its operating costs each day, which includes:

- Transaction Policy, namely: a new application, due policyholders, policyholders data, policy loans, and payment of premiums.

- Investment transactions are: purchase and sale of stocks and se-
curities, investment income data, and records of mortgage transactions.

- Personnel data, namely: the names and addresses of all employees, payroll records, information, educational level, skills and experience of employees, and employee performance data.

- Accounting data, such as: recording of expenditure and income, operational costs, reserves and tax policy.

Other internal needs is a service of computer based information system on decision-making process undertaken by the company management, includes several activities, including planning, forecasting, projections of economic conditions, product sales potential, sales potential in certain market segments, as well as various other forms of managerial reports important.

Information systems Software used by insurance companies generally cover the actuarial system, the management of insurance agents (agency management), administration and service claims (claims administration), the application of health insurance (health administration), life insurance application (life administration), administration policy and the premium (the premium policy and administration), the application of property and loss insurance (property & casualty administration), rating and reinsurance applications (rating & quoting, reinsurance administration), underwriting applications.

4.3 Use of E-Commerce trends in the insurance industry

ICT offers many opportunities for insurance companies and has a large potential impact on insurance considering (1) insurance business which is largely based on information processing and (2) insurance business is managed by a centralized and face challenges in communication between head office, agent insurance, and salesman. Application of ICT is very important at all stages in the value creation that encompasses two main objectives and its application areas, namely: (1) internal work flow that is the purpose of implementing a paperless work flow in the internal processing of policyholders and insurance claims, and (2) Marketing and sales, which are considering how best to manage relationships with customers and using the internet to find customers and provide services.

Almost every major insurance company using multi-channel distribution model or use the internet to for the purpose of providing infor-
Information to consumers or the public. The strategy is more focused on customer service more personal, with the consideration that the intertwining relationship of trust with consumers is an important success factor in the insurance industry. Thus, ICT, including internet have a significant impact on the insurance value chain that enables the development of new business models in insurance company operations.

The implementation of electronic business processes in insurance companies in general aim for collaboration (collaborative work), tracking of working hours and production time, supporting human resource management, automated payment of employee travel, and for implementing e-learning (e.g. for tutorials or Internet-based employee training which enables distance learning). Developing countries, is not participating in e-insurance real this. Effect of efficiency in the implementation of e-commerce technology in the insurance industry can be viewed from two perspectives. First, e-commerce may reduce the need for administration and management. Second, direct sales to customers may be able to reduce the cost of commissions to intermediaries (such as for an agent or broker).

CT is the convergence of three areas of information technology, data and information, and social economics issues. Especially for the application of the Internet on insurance companies known as e-insurance term. UNCTAD (2002) defines e-insurance as an Internet application and related information technology for the production and distribution of insurance services. Lilischkis (2003) enumerates the various types of ICT that can be applied in an insurance company that is internet access, computers, world wide web (WWW), e-mail, Local Area Network, Intranet, Wide Area Network (WAN), extranet, and Electronic Data Interchange (EDI). How to profile the use of these technologies for various types of insurance companies in Europe can be seen in Figure 4 follows:

Figure 4.4 shows that Internet access is a type of technology most widely used by all insurance companies in Europe is reaching 99% of the company. Three other types of technology used by more than 90 percent of companies are computers, www, and email. While the two types of technology used is relatively less extranets and EDI is only used by 41% and 25% of the company. Employees of insurance companies in foreign countries generally high given access to computer networks and the Internet world, namely through (1) the use of email for internal communication, (2) the use of email for external communications, (3) access to the www, and (4) access to corporate intranet. Website is one of the levels of e-commerce can be simply informational or transactional.
Yao (2004) states that there are six levels of e-commerce that is used on insurance companies, as presented in Table 3.

The use of e-commerce in insurance companies is generally used for four purposes of the official company website (official website), information about insurance products through websites, online sales of insurance products, and procurement (goods) online. Garven (2002) states that the use of E-commerce cause insurance companies to switch from product-oriented approach to customer-oriented approach. Because search costs would be cheaper for the customer, it will bring more transparency of pricing strategy and quality. This will strengthen market discipline in an increasingly competitive environment, namely by making the customers are not interested to move from his insurance company.

The more transparent insurance rates will further empower consumers and encourage insurance companies to experiment with various alternative methods of price maker. Although the existence of conventional agents and brokers diminishing role in e-commerce based environment, they will be able adapted and still can take advantage. In addition, through the reduction of transaction costs, e-commerce will lead to insurance products and services become more mediated than they are today. So the form of new intermediaries will emerge over the Internet. E-commerce will also provide important implications for designing insurance products that give consumers more flexibility in managing their risk.

Taylor and Celuch (2002) states that the distribution of insurance and
Table 3: Features at all levels of E-Commerce for Insurance companies

<table>
<thead>
<tr>
<th>E-Commerce Level</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website for Corporate Information</td>
<td>Corporate Overview</td>
</tr>
<tr>
<td></td>
<td>CEO Messages</td>
</tr>
<tr>
<td></td>
<td>Financial Data</td>
</tr>
<tr>
<td></td>
<td>News</td>
</tr>
<tr>
<td></td>
<td>Opportunity</td>
</tr>
<tr>
<td></td>
<td>Corporate Responsibility</td>
</tr>
<tr>
<td></td>
<td>Others</td>
</tr>
<tr>
<td>Website for Product and Services Information</td>
<td>General Product Services</td>
</tr>
<tr>
<td></td>
<td>Specials Product Services</td>
</tr>
<tr>
<td></td>
<td>Other Services</td>
</tr>
<tr>
<td></td>
<td>FAQ (frequently Ask Question)</td>
</tr>
<tr>
<td></td>
<td>Insurance Description</td>
</tr>
<tr>
<td>Website for Customer Support</td>
<td>Contact</td>
</tr>
<tr>
<td></td>
<td>Email Address</td>
</tr>
<tr>
<td></td>
<td>Feedback</td>
</tr>
<tr>
<td></td>
<td>Link</td>
</tr>
<tr>
<td></td>
<td>Industrial Link</td>
</tr>
<tr>
<td></td>
<td>Interactive Service</td>
</tr>
<tr>
<td>Online Application</td>
<td>Business Online</td>
</tr>
<tr>
<td></td>
<td>Online Account</td>
</tr>
<tr>
<td>Information Web Access</td>
<td>Online Access Account</td>
</tr>
<tr>
<td></td>
<td>Online Information</td>
</tr>
<tr>
<td></td>
<td>Online Purchase</td>
</tr>
<tr>
<td></td>
<td>Online Delivery and Tracking</td>
</tr>
</tbody>
</table>

Financial services is undergoing dramatic changes through the use of Internet technology. Many insurance companies are now using the website to provide specific information about the company and to generate sales through the Internet. Online sales of insurance products is estimated to be more influential for products which are relatively complex (or is standard), for example, vehicle insurance compare term life insurance product or home insurance is more complicated.

Impact of e-commerce in general shows that insurance companies obtain a significant impact for some attributes of performance. Attribute the relatively high compared to the other is the change in work processes, improved relationships with customers and changes in organi-
zational structure. While changes in insurance product offerings and relationships with suppliers is relatively lower impact. Implementation of online sales in general give a higher impact on improving customer service quality, an increasing number of consumers, and the efficiency of internal processes than the impact on sales volume, sales coverage, and logistics costs. For the impact on the financial, insurance companies who sell and service over the Internet will have a cost advantage compared to conventional insurance companies, which is about 58% to 71% lifetime customer. The cost savings derived from reduced cost of sales, customer service, and operations, as well as efforts to obtain better information and cheap (Allen and Hamilton, 1997 in Garven, 2002).

4.4 The condition of insurance information system in Indonesia

This study aims to obtain a picture and description of the condition of the insurance information system in Indonesia. Picture and description is presented in several sections, including: (a) a description of computer networks and data communications, (b) management policies and procedures for managing information technology.

4.4.1 Computer network and platform

Based on the results of research conducted by AAMAI and Gunadarma University in 2009 to the Information Technology portfolio insurance industry in Indonesia, showed that 17.2% of insurance companies in Indonesia, a rate-based network technology Local Area Network (LAN), using inter-office connectivity network topology utilizing Wide Area Network (WAN), with an average capacity of 512 Mbps - 1.5 Gbps. Insurance companies that implement a LAN type of information that most Windows-based systems, with Windows NT as their network operating system. Specification of software used for the server is a package Back Office Server with supporting multiple applications, namely Microsoft Windows NT Server, Microsoft Exchange Server, Microsoft SQL Server, Microsoft SNA Server, Microsoft Internet Information Server and Microsoft Systems Management.

The results also showed that the level of computer technology for the production machinery insurance company in Indonesia is still largely based on personal computers connected to the LAN and WAN networks, that is equal to 47%. While some insurance companies in Indonesia is
still based on stand alone personal computer (PC Stand Alone), amounting to 1.2%. Stand alone computer with several insurance companies only apply to certain division or department that serves to support the company's main operational activities, such as general affairs, secretariat, correspondence and other administrative activities.

Improvement the level of technology for the entire section or department within an insurance company due to the high value of the investments must be made in establishing network-based information systems or mini-computers. Another consideration in the context of information technology by firms associated with the development of information technology and development needs of customers.

Computer application software underwriting expert system equipped with facilities, requirements management and workbench has been used by 51% of life insurance companies and social, as well as life insurance companies 67%. The results showed that the 62.30% level of technology (platform) computer-based information systems in the insurance industry in Indonesia-based mini-computer, which is dominated by IBM AS 400, and also have been using technology in data communications and network operations Figure 5.

Result also shows that 18.2% insurers already uses technologies web based and integrates with application system internal Company and complemented various multimedia facilities. Characteristics insurers already web based within various activities operational, generally dominated by joint venture.

Method of preparation and development of information systems that made the insurance industry in Indonesia, are generally divided into four types, namely internal development and by IT staff (8%), outsourcing through its software house (19%), adoption of information systems already used by other similar companies (50.7%), and other develop-
ment resources (23.2%). The results showed that the majority of information systems in the insurance industry in Indonesia in the adoption of information systems already used by other similar companies, and then made some adjustments and changes to what the corporate environment.

Adoption of the dominant method of information systems conducted by the insurance company in Indonesia, with several considerations, including: (1) development time and cost savings as well as systems development, (2) lack of insurance information systems expert at the organization, (3) the level of successful implementation and service to the organization's information system has been tested.

4.4.2 IT procedures and policy

Factors of IT policies and procedures is one of the factors that influence the successful implementation of IT in the company. It has also been shown by some previous research results. The results of elaboration of several previous studies have been conducted (DeLone & Mc. Lean, 2002; Faustino, 2001; Prihantoro, 2006) indicates that the support of management and organization directly affects the successful implementation of information systems, through the variable quality of information systems and the variable intensity of use of the system information. This shows that the support of management and organization directly affects the successful implementation of information systems, through variable intensity users of information systems, information system usage satisfaction, and benefits of using information systems.

The results of elaboration of several other studies have shown that (Thong et al, 1996; Sharma & Yetton, 1997; Guimares et al, 1997; Prihantoro, 2006) user participation information system directly affects the successful implementation of information systems through quality information system, intensity of use of the system information, and satisfaction of use of information systems. This shows that that user participation does not directly affect the information systems to the successful implementation of information systems through the use of satisfaction system, intensity of use of information systems and the benefits of using information systems.

Based on the elaboration of some previous research, the structure and the relationship of all variables the successful implementation of information systems with organizational performance are as follows: (1)
Benefits of the use of information systems directly influence the performance of the organization, which is a representation of premium growth, growth in premium reserve, investment growth, return on investment (ROI) and risk based capital (RBC). (2). The intensity of the use and satisfaction of information systems use an indirect effect of information systems on organizational performance, through the benefits of using information systems. (2) The quality of information systems, information quality and service quality information system, an indirect effect on organizational performance, through the variable intensity of use of information systems and satisfaction variable use of information systems, as well as benefits of using information systems.

Results of research indicated that most of the insurance industry in Indonesia has a plan to develop information technology (IT blueprint) is approximately 95%. Meanwhile, despite being equipped with IT blueprint, not all companies are equipped with back-up procedures and recovery plans. Percentage of companies that have been equipped with back-up procedures and recovery plan is 87%. These results indicate that most of the insurance industry in Indonesia already has and develop a blueprint for IT development, but are still not yet have and implement Standard Operating Procedures (SOPs) in their actions to make the process of back-up and data recovery.

![Figure 6: IS Insurance Platform](image)

Other information was also obtained from this research activity is the activity of internal evaluation (internal audit) and external (external audit) to the system of the running application. Results showed that almost all companies (95%) have implemented internal audit procedures of information systems. While the information systems audit activities by external parties is still not implemented in all companies (60%). Based on
these research results indicate that the mechanism of internal audit of information systems and IT facilities have been done by most insurance companies in Indonesia. But the audit activities are only conducted by internal auditors and still has not been carried out by independent auditors (external).

Other information relating to corporate management and policy support in IT development, is the provision of facilities for staff employees to use the internet during working hours, availability of email for using the company domain, in the form of staff development of computer and Internet training. In providing facilities and support to staff and employees to use the internet during work hours, most companies (80%) gave positive support. Other support was also provided to staff and employees is the provision of email facilities using the company domain name that is equal to 96.9%.

In addition, most companies also provide computer training (80%) to staff and employees. While companies that provide Internet training support to staff and employees, only 52%. These results indicate that most insurance companies in Indonesia already has development capability of the staff and employees in the field of information technology, through computer training activities. Other results are also obtained is that the insurance companies in Indonesia have been provided with email facilities through the facilities of the company domain. However, increasing the ability of the staff and employees still do not include training in the use and utilization of internet facilities to support the implementation of the maximum task completion and work.

4.5 Supporting factors of information technology application

Supporting factors mirrored by the 10 IT implementation variables, namely compliance with the application of IT products and services, insurance, IT implementation priorities for the company, high risk IT implementation, IT implementation is part of the corporate strategic plan (five years), alignment of IT with the needs of consumers and shareholders policy, the high cost of IT implementation, availability of adequate human resources in the development and implementation of IT, complicated and difficult implementation of IT in the insurance industry, the lack of guidelines and policies of the government in implementation of IT in the insurance industry, and the trend decline in corporate profits due to the level of IT implementation. Descriptive tabulation results of
research on the factors that support the implementation of IT in the insurance industry are presented in details in Table 4 below.

Table 4: Description Statistical Factors of IT adoption in the Insurance Industry

<table>
<thead>
<tr>
<th>Variables</th>
<th>Theory</th>
<th>Actual</th>
<th>Mean</th>
<th>Deviation Standart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conformity with the application of IT products and services</td>
<td>1-7</td>
<td>1-6</td>
<td>1.45</td>
<td>2.42</td>
</tr>
<tr>
<td>Determination of corporate IT priorities</td>
<td>1-7</td>
<td>1-5</td>
<td>1.74</td>
<td>1.004</td>
</tr>
<tr>
<td>The high risk in the enterprise IT application</td>
<td>1-7</td>
<td>1-6</td>
<td>2.26</td>
<td>1.253</td>
</tr>
<tr>
<td>IT implementation is part of the Corporate Strategic Plan (five years into the future)</td>
<td>1-7</td>
<td>1-6</td>
<td>1.77</td>
<td>1.022</td>
</tr>
<tr>
<td>Suitability of IT with the needs of policyholders</td>
<td>1-7</td>
<td>1-5</td>
<td>1.88</td>
<td>0.992</td>
</tr>
<tr>
<td>Relatively high cost of IT implementation</td>
<td>1-7</td>
<td>1-7</td>
<td>4.29</td>
<td>1.6</td>
</tr>
<tr>
<td>The availability of human resources for the development and implementation of IT</td>
<td>1-7</td>
<td>1-6</td>
<td>2.78</td>
<td>1.700</td>
</tr>
<tr>
<td>Difficult and complicated the application of IT in the insurance industry</td>
<td>1-7</td>
<td>1-6</td>
<td>2.35</td>
<td>1.462</td>
</tr>
<tr>
<td>The government does not yet have policies and guidelines in the application of IT in the Insurance Industry</td>
<td>1-7</td>
<td>1-7</td>
<td>3.65</td>
<td>1.556</td>
</tr>
<tr>
<td>the trend decline in corporate profits due to the level of IT implementation</td>
<td>1-7</td>
<td>1-6</td>
<td>2.03</td>
<td>1.392</td>
</tr>
</tbody>
</table>

Based on the results of the elaboration of descriptive statistics shows that the perception of the most prominent insurance industry in Indonesia regarding the application of information technology is the relatively high cost of IT investment and achieved a mean value of 4.29. Meanwhile, the results also show that the government as regulator of insurance industry still do not provide support in the implementation of IT in
industry in the form of policies and guidelines that can be used by companies to implement IT. This is reflected in the attainment of the mean value of 3.65.

One other factor which become obstacles in the implementation of IT in the insurance industry is still a lack of availability of IT human resources in the field of insurance in Indonesia. The low availability of insurance IT HR was associated with competence and skill level sufficient to follow the progress of IT and business insurance industry. This is a stimulus occurrence constraints to integrate and implement IT in order to become the main pillar in providing services and support business development in the insurance industry. This is reflected in the attainment of the mean value of 2.35 for the factors are complex and difficult application of IT in the insurance industry.

Another factor impeding the implementation of IT in the insurance industry is the high level of risk to be borne by companies in applying IT. The high risks will further influence the fluctuations in the level of profits that can be achieved by the company. This is reflected by the achievement of the mean value of research results to factor IT implementation will reduce the level of corporate profits at 2.03.

Various factors previously mentioned, the next will be a stimulus for achievement of a low mean value <2 to several factors, such as the suitability of IT with the needs of its policyholders and consumers (1.88), IT is part of the company's five-year strategic plan (1.77), application of IT is one of the priority firms (1.74), and the ability of IT to provide business development services in the insurance industry, which is in serving the development of insurance products and services (1.45).

Results of research suggests that the perception of managers of the insurance industry (CEO, Head and managers, and staff) regarding the application of IT in the company more in a sequence is as follows: (1) implementation of IT requires a relatively large cost, (2) the government is still not provide support in the form of policies and guidelines in applying IT in the insurance industry, (3) The availability of highly competent IT human resources and adequate expertise, (4) The high level of difficulty of applying IT to support business development and product insurance industry, (5) Level risk to be borne by companies in applying IT relatively high, so that in case of failure will have an impact on (6) reduced the level of profits earned by the company.

The sixth factor is the accumulation of encouraging and a stimulus for several other factors, such as (7) the low level of compliance of IT with the needs of its policyholders and consumers; (8) IT is not one im-
important part of a strategic plan for company development in the next five years, as well as (9) priority of the application of IT in the insurance industry is still low. All the conditions will eventually become a trigger (10) low capacity and IT capabilities in providing business development services in the insurance industry, which is in serving the development of insurance products and services.

5 Conclusion

Results of research conducted by a collaboration with the AAMAI and Gunadarma University in the mapping and application of Information Technology in the insurance industry in Indonesia, generally show that:

1. Information systems software used by the insurance industry in general, including actuarial systems, agency management, claims administration, health administration, life administration, policy and premium administration, property & casualty administration, rating and quoting, reinsurance administration, underwriting.

2. The information system is implemented in the insurance industry is dominated by the method of adoption of other insurance companies that have succeeded in applying IT. Adoption of the dominant method of information systems conducted by the insurance company in Indonesia, with several considerations, including: (a) development time and cost savings as well as systems development, (b) lack of insurance information systems expert at the organization, (c) the rate of successful implementation and service to the organization's information system has been tested.

3. Perceptions of managers of the insurance industry (CEO, Head and managers, and staff) in applying IT in the enterprise requires a relatively large cost. Meanwhile, the other side of the government as the regulator of insurance activities still do not provide support in the form of policies and guidelines in applying IT in the insurance industry. Another dominant factor is the low level of availability of IT human resources who are competent and sufficient expertise to be able to follow developments and company business.

4. The degree of difficulty and risk of implementing IT in the insurance industry in supporting business development and product insurance industry is relatively high, so that in case of failure will
have an impact on lowering the level of profits that can be achieved by the company. In addition, the contribution of IT in providing support to serve the needs of its policyholders and consumers is still low. This is due to incompatibility IT implementation to the needs of the insurance industry and business development.

5. Policy implementation of IT in the insurance industry in general is not a corporate priority, and still is one important part of a strategic plan for company development in the next five years.

References


