Cohort 2016–2018

MASTER THESIS

IMPROVING THE INVESTMENT PERFORMANCE OF PETROLIEMEX INSURANCE CORPORATION’S DONG DO SUBSIDIARY

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Supervisor: Nguyen Phu Hung

Hanoi, May 2018
ACKNOWLEDGEMENT

With the approval of the International Faculty of the National University, the University of Nantes and my teacher - Dr. Nguyen Phu Hung, I have chosen the subject of the research "IMPROVING THE INVESTMENT PERFORMANCE OF PETROLIMEX INSURANCE CORPORATION’S DONG DO"

I would like to express my sincere thanks to my all foreign and Vietnamese teachers who designed and taught this course

I would like to thank our professors deeply - TS. Nguyen Phu Hung has guided me to approach research topics and find the suitable solution for this study. He has given me useful and highly valuable comments

I would gratefully acknowledge the profound support of my colleagues in PJICO who have provided me valuable feedbacks on the research and helped me in making and collecting the survey reports.

Although my job is very busy, I always try to finish the thesis. However, the challenge of doing a scientific research gives me more confidence in approaching difficult issues. So, I really want to get valuable feedback from teachers and colleagues to my research to complete my thesis.

Finally, I would like to express my special thanks to my family has encouraged me in the pursuit and completion of this course.

Sincerely thank with my best regards,

Hanoi, May, 2018

Author: Pham Phu Tien – FBA8
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FOREWORDS

Today, insurers are facing an aggressive competition and they have to make efforts to survive in a competitive and uncertain market place. Investment is one of major operations of insurers. Many insurers have realized that managing investment performance is a very important factor for their success. Investment performance management procedures are one of strategic tools that can help an insurer to build long-lasting performance and increase their profits through the right management system and the application of customer-focused strategies. For that strategic importance, in this thesis, a descriptive case study of PJICO is presented. The aim of this thesis is to analyze the necessity, the design, and the implementation of investment management in PJICO, identify the benefits, the problems, as well as the success and failure factors of the implementation and develop better investment performance practices for PJICO.
CHAPTER 1
INTRODUCTION OF DISSERTATION

1.1 The rationale of the subject
The investment function is extremely important in the overall operations of insurance companies. Investment activities on the one hand must assure expected return of shareholders, on the other hand must ensure the liquidity to timely payment for the claim of policyholders. With understanding that the developing of investment activities is necessary for PJICO to survive and develop in new context, I chose the theme "Improving the investment performance of Petrolimex Insurance Corporation’s Dong Do subsidiary" as my thesis topic.

The thesis clarifies the theory of investment in insurance firms, portfolio management and practical investment activities of PJICO. Then, thesis offers solutions to improve the efficiency of investment activities so that they meet the requirements of insurance business and profits for shareholders.

1.2 Objectives of research
The ultimate objective of the thesis is to assess the investment aspects of PJICO, identify the problems, explain the sources of problems, and propose measures/actions to solve the case.

1.3 Research questions
Based on the researched objectives, the thesis will answer the following questions:
- What are problems of insurer’s investments activities?
- What are the requirements for PJICO’s investment activities in the new context?
- What are the solutions to improve the investment performance at PJICO’s DONGDO subsidiary?

1.4 Research scope
- Thesis will gathers secondary data from 2008 to 2016 on the Vietnamese stock exchange to review current situation of PJICO and its business context.
• Thesis will analyze investment activities of the primary data collected through a survey.
• Thesis’ primary focus is the Dongdo subsidiary unit of PJICO.

1.5 Methodology and Data of the research

Thesis will first do a literature review of investment management to build an critical analysis of investment at PJICO. The thesis will survey managers and staffs to get to know the current situation of investment challenging PJICO.

Specifically, the thesis approach is:

• Researching the theoretical basis of investment of general insurance firm and portfolio management.
• Analyzing the situation of PJICO's investment activities to find opportunities for development and improvement performance
• Providing some solutions to improve the investment performance of “Petrolimex Insurance Corporation’s Dong Do subsidiary” base on a theoretical basis.

Figure 1-1: Approach of thesis

1.5.1 Data, Population, and Sample

The primary data served as source of information about the current situation of PJICO is collected from interview with executives in charge of investments, as well as from questionnaire with staffs of PJICO.

My targeted surveyee include:
• Investment Department staffs: total around 20 investment staffs (keep changing now and then).
• Directors and managers. In total, there are 15 managers of different level in the hierarchy.

The thesis also analyzes secondary data collected from academic journals, websites, and governmental offices to draw a comprehensive picture of the insurance industry and assess the comparative competence of the PJICO’s investment in this context. Lessons drawn from literature will serve as basis for recommending solutions to enhance the investment performance for PJICO.

1.5.2 Tools of survey and analysis

The survey will take two forms:
• Google online form for survey
• Survey in paper form

All data collected will be processed by MS Excel.

1.6 Structure of Thesis

Besides the preface and conclusion, the thesis’s content include 05 chapters.

CHAPTER 1. Introduction of thesis
1.1. The rationale of thesis
1.2. Objectives of study
1.3. Questions of study
1.4. Methodology and Data
1.5. Conclusions

CHAPTER 2. Background of PJICO
2.1. Introduction of PJICO
2.2. Insurance market

CHAPTER 3. Literature review
3.1. Risk and Insurance
3.2. Insurers
3.3. Insurance company operations
3.4. Investment strategies
3.5. Risk management of insurer
3.6. Lessons of success and failures
3.7. Conclusion

CHAPTER 4. Survey Result
4.1. Questionnaire conduct
4.2. Results
4.3. Common questions for both manages and staffs
4.4. Assessment of managers
4.5. Assessment of staffs
4.6. Conclusions

CHAPTER 5. Finding and discussions
5.1. Finding and discussion
5.2. Recommendation
5.3. Limits of the thesis
5.4. Conclusion

1.7 Plan to implement thesis

<table>
<thead>
<tr>
<th>Date</th>
<th>Tasks</th>
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</thead>
<tbody>
<tr>
<td>7/2017</td>
<td>Proposal submission</td>
</tr>
<tr>
<td>8/2017</td>
<td>Tutor comments proposal</td>
</tr>
<tr>
<td>11/2017</td>
<td>First Draft of thesis</td>
</tr>
<tr>
<td>3/2018</td>
<td>Second Draft of thesis</td>
</tr>
<tr>
<td>05/2018</td>
<td>Turn in final thesis</td>
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<tr>
<td>08/2018</td>
<td>Thesis defense</td>
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</table>

1.8 Conclusions

After the first chapter of introduction, we do an analytical review of the PJICO in the Chapter 2, the literature review on the Investment management in Chapter 3. The Chapter 5 describes data results from the survey, analyses and discusses the findings. Finally, the Chapter 6 recapitulates the findings and contributions of the dissertation.
CHAPTER 2
BACKGROUNDs OF PJICO BUSINESS

2.1 Introduction of PJICO

2.1.1 Introduction of PJICO

Petrolimex insurance corporation (PJICO), established in 1995, is one of the five biggest general insurers in Vietnam. The profile of PJICO is provided below.

- Vietnamese Name: Tổng công ty cổ phần bảo hiểm petrolimex
- International name: Petrolimex Insurance corporation
- Charter capital: VND 709,742,180,000 ( $31,2 Million)
- Equity: VND 915,261,777,938 ( $41,6 Million)
- Head quarter: Floors 21&22 MIPEC Tower 229 Tay Son Ha Noi
- Tel: 024 3376-0867 Website: www.pjico.com.vn
- Ticker symbol PGI - Ho Chi Minh Stock exchange

PJICO’s missions include (i) Constantly diversify Insurance products and services of high quality, providing valuable experience for the customers and (ii) Preserve and develop asset of shareholders PJICO Vision is to become the leading insurer in Vietnam, recognized for reputation, quality and efficiency.

PJICO’s core value includes (i) Fulfillment of all that has been committed, (ii) Nonstop efforts and creativity, and (iii) Professionalism and dedication.

Core products and services that PJICO provides include (i) Non-life Insurance products (ii) Re-Insurance business; (iii) Financial investment.

The Medium & Long-term development orientations & Strategies of PJICO include:

- Firmly following a rational and sustainable business model in combination with efficiency and quality.
- Providing comprehensive, diversified, high quality and customer-based insurance services
• Pursuing sustainable growth to maximize shareholder value by diversifying insurance business and financial investment activities
• Maintaining and promoting PR program to strengthen PJICO’s brand and the position in the market

2.1.1 PJICO Organizational Structure
Initially, when newly established, PJICO has only eight staffs and a few departments in the Hanoi office, but now, after 7 years of operation, PJICO has deployed a wide business network all over the provinces from north to south with a staff of 280 staff, of which 95% have university degrees. Most of them are very young, dynamic, trained in 12 departments, 19 branches, and over 10 representative offices. As a joint stock company with legal status, financial autonomy and independent accounting, PJICO is very focused on developing the company's organizational structure so closely and at the same time, the order of a joint stock company. Currently, the organizational structure of PJICO is as follows:

Figure 2-1: PJICO Organizational Structure
2.1.2 Insurance products and services

Compared with the early days, the insurance business that the company has deployed has been diversified and improved a lot. This has met the increasing demands for insurance not only for individuals but also for organizations operating in Vietnam. Currently the company is implementing some of the following major operations:

*Maritime insurance:

- Insurance of goods transported by sea, land, river, air.
- Hull insurance.
- Carrier's civil liability insurance.
- Insurance for ship builders.
- Insurance for river ships, fishing vessels.

*Non-marine insurance:

- Motor vehicle insurance.
- Insurance combines people.
- Student insurance, teachers.
- Compensation insurance for employees.
- Insurance for tourists.
- Passenger insurance.

* Technical and Asset Insurance:
  - All risks in construction and installation.
  - Fire insurance and special risks.
  - All industrial risks insurance.
  - Machinery Insurance.
  - Liability insurance.
  - Comprehensive rental property insurance.

* Reinsurance:
  Obtain and receive insurance services.

* Other activities:
  - Carrying out insurance-related operations: Inspection, investigation, calculation of loss distribution, damage assessment agent, compensation consideration agent and request for reimbursement by a third party.
  - Cooperate in investment, credit, joint venture with domestic and foreign partners.

2.1.3 Business performance
To serve more than 10.000.000 clients every year, PJICO has more than 1.600 employees, 2.300 resellers 60 branches, 2.200 sale points, 2.200 Petroleum stations of Petrolimex.

At the end 2016, premium income gained VND 2.467 billion (grew 11% against previous year, market cap reached 1.476 VND billions (PJICO, 2017, p. 2).

Table 2-1: Total revenues of PJICO

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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total revenue (Billion VND)</td>
<td>2.972</td>
<td>2.757</td>
<td>2.546</td>
<td>2.477</td>
<td>2.439</td>
<td>2.355</td>
<td>1.884</td>
<td>1.605</td>
<td>1.308</td>
</tr>
<tr>
<td>Mil. $</td>
<td>130.9</td>
<td>121.5</td>
<td>112.2</td>
<td>109.1</td>
<td>107.4</td>
<td>103.7</td>
<td>83.0</td>
<td>70.7</td>
<td>57.6</td>
</tr>
</tbody>
</table>
In 2017, PJICO successfully implemented its M & A project. PJICO total assets was increased to higher levels, that in turn forces PJICO’s investment activities to expand and develop correspondingly to meet with larger scales.

**Business performance in 2016**

2016 has been the fourth year PJICO firmly persuades its business orientations focusing on sustainable, profitable and efficient growth. The total revenue including direct premium, inward reinsurance premium and outward reinsurance commission reached VND 2.933 billion (m$129), increased by 10,6%. PJICO announced a profit before tax of VND 125,4 billion (m$5,5) showing an increase of 13,3% and completing 108,3 % of annual target. The average labor productivity was VND 1,52 billion/ employee per year, increased by 6% as compared to 2015 while the average income of employees surged by 9-10% year over year.

*Table 2-2: Financial highlights*

<table>
<thead>
<tr>
<th>Norms</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( mVND )</td>
<td>( m$ )</td>
</tr>
<tr>
<td>Total asset</td>
<td>3.717.220</td>
<td>163,8</td>
</tr>
<tr>
<td>Net revenue from insurance activities</td>
<td>1.896.564</td>
<td>83,5</td>
</tr>
<tr>
<td>Financial income</td>
<td>126.751</td>
<td>5,6</td>
</tr>
<tr>
<td>Gross profit from insurance activities</td>
<td>310.734</td>
<td>13,7</td>
</tr>
<tr>
<td>Gross profit from financial activities</td>
<td>95.139</td>
<td>4,2</td>
</tr>
<tr>
<td>Others Profits</td>
<td>1.818</td>
<td>0,1</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>119.816</td>
<td>5,3</td>
</tr>
<tr>
<td>Profit after tax</td>
<td>96.891</td>
<td>4,3</td>
</tr>
<tr>
<td>Earning per share (VND)</td>
<td>1.188</td>
<td>$0,05</td>
</tr>
</tbody>
</table>
Table 2-3: Financial Fundamental

<table>
<thead>
<tr>
<th>Norms</th>
<th>Unit</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Liquidity Ratios</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Ratio</td>
<td>Times</td>
<td>1.07</td>
<td>1.09</td>
</tr>
<tr>
<td>Quick Ratio</td>
<td>Times</td>
<td>0.6</td>
<td>0.61</td>
</tr>
<tr>
<td><strong>Solvency (Leverage) Ratios</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debt Ratio</td>
<td>%</td>
<td>78.38</td>
<td>78.7</td>
</tr>
<tr>
<td>Equity Ratio</td>
<td>%</td>
<td>21.62</td>
<td>21.3</td>
</tr>
<tr>
<td><strong>Management Efficiency Ratios</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Asset Turnover</td>
<td>%</td>
<td>54.4</td>
<td>51.4</td>
</tr>
<tr>
<td><strong>Profitability Ratios</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return on Sales (ROS)</td>
<td>%</td>
<td>4.54</td>
<td>4.51</td>
</tr>
<tr>
<td>Return on Asset (ROA)</td>
<td>%</td>
<td>2.61</td>
<td>2.38</td>
</tr>
<tr>
<td>Return on Equity (ROE)</td>
<td>%</td>
<td>12.06</td>
<td>11.15</td>
</tr>
</tbody>
</table>

The BOD’s Orientations in 2017

1. On the basics of the targets approved by the GM, the BOD will direct and monitor the implementation of the corporation’s 2017 business plan in order to achieve the highest performance.

2. Continue to finalize the procedure for raising the chatter capital by conducting a private placement to foreign strategic shareholders.

3. Continue PJICO’s restructuring, studying and developing solutions to enhance the corporation’s competency and increase PJICO’s market share.

4. Maintain and enhance governance and management quality in all aspects of the corporation’s operations: reviewing, revising and promulgating new regulations in replacement of old ones which are no longer suitable; continuing the oversight and supervision over business operations, financial activities as well as all aspect of Corporation’s management; go-living Informatics system to support PJICO’s management activities.

2.1.4 Challenges facing PJICO

Like many other insurers, PJICO is facing a number of risks, including:
- Risk of insurance: the risks involve financial loss in case the insurance fees fail to recover payments for insurance;
- Financial risk: including credit risk and liquidity risk;
- Market risk: there are increasing number of competitors entering the market, including ones from abroad with higher professionalism;
- Operational risk: the risks originating from ineffective and inefficient operations (e.g., processes, procedures, internal regulations).

### 2.2 Overview of the Insurance Market in 2016

#### 2.2.1 General information about Vietnamese insurance market

According to the figures from Bureau of Insurance Supervisory Management, recently, 62 insurers are operating in Vietnam’s insurance market, therein 29 non-life insurers, 18 life insurers, 2 reinsurers, 1 foreign life insurance branch and 13 insurance brokers.

The total revenue of Vietnam’s insurance market in 2016 has estimated at VND 101.767 billion($4.4 billion). Therein total insurance premium reached 86.049 billion VND ($3.8 Billion), an increase of 22.7% compared with last year. During the last 5 years, the insurance market gained the following development indexes:

<table>
<thead>
<tr>
<th>Main indexes</th>
<th>Unit</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Market Structure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of insurers</td>
<td></td>
<td>57</td>
<td>59</td>
<td>60</td>
<td>61</td>
<td>62</td>
</tr>
<tr>
<td>- Non-life</td>
<td></td>
<td>29</td>
<td>29</td>
<td>29</td>
<td>30</td>
<td>29</td>
</tr>
<tr>
<td>- Life</td>
<td></td>
<td>14</td>
<td>16</td>
<td>17</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>- Reinsurers</td>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>- Insurance brokers</td>
<td></td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td><strong>2. Market size</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total premium revenue</td>
<td>(VND bil)</td>
<td>51.525</td>
<td>58.002</td>
<td>64.479</td>
<td>84.506</td>
<td>101.767</td>
</tr>
<tr>
<td></td>
<td>(USD mil)</td>
<td>2.270</td>
<td>2.555</td>
<td>2.840</td>
<td>3.723</td>
<td>4.483</td>
</tr>
<tr>
<td>Premium income</td>
<td>(VND bil)</td>
<td>41.248</td>
<td>47.851</td>
<td>55.877</td>
<td>70.165</td>
<td>86.049</td>
</tr>
<tr>
<td></td>
<td>(USD mil)</td>
<td>1.817</td>
<td>2.108</td>
<td>2.462</td>
<td>3.091</td>
<td>3.791</td>
</tr>
<tr>
<td><strong>3. Penetration Rate</strong></td>
<td>(% GDP)</td>
<td>1.94%</td>
<td>1.62%</td>
<td>1.71%</td>
<td><strong>2.02%</strong></td>
<td><strong>2.00%</strong></td>
</tr>
<tr>
<td><strong>4. Compensation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(VND bil)</td>
<td>16.649</td>
<td>18.587</td>
<td>21.788</td>
<td>27.043</td>
<td>25.872</td>
<td></td>
</tr>
<tr>
<td>(USD mil)</td>
<td>733</td>
<td>819</td>
<td>960</td>
<td><strong>1.191</strong></td>
<td><strong>1.140</strong></td>
<td></td>
</tr>
</tbody>
</table>
In 2016, Vietnam Insurance Market has the gross insurance premiums at about USD 3.72 billion increasing 31.09% compared with the previous year. Also, the CARG index of Vietnam Insurance market is at 18.68% in the period of 5 years (2011-2016), which shows the good performance of Vietnam Insurance market.

Insurance companies in Vietnam are operated in life insurance or non-life insurance. Life insurance market makes the growth of 29.8%, reaching USD 2.25 billion with 18 operating companies in 2016.

Prudential is the biggest companies in terms of insurance premiums revenue with the market share of 27.11%.

The second biggest company is Bao Viet NhanTho (26.02%), followed by Manulife (11.91%), AIA (10.34%) and Dai-ichi (10.27%). Of which, Established as an 100% Japanese capital company in 2007, Dai-ichi is the only Japanese brand operating in life insurance in Vietnam.

Non-life insurance market has increased to USD 1.65 billion making a rising rate at 14.04% with 29 operating companies in 2016.

PVI is the leader of market with the market share of 18.65%, followed by Bao Viet (17.41%), Bao Minh (8.34%), PTI (8.3%) and PJICO (6.78%). Japanese companies often join in Vietnam non-life insurance market in two ways.

The first way is to establish a joint venture company with domestic partners such as a corporation between Bao Viet and Tokyo Marine in 1996 or Sompo Japan NipponKoa, Mitsui Sumitumo Insurance with Ho Chi Minh City Insurance (now is Bao Minh) in 1997.
way is to buy shares of a domestic company such as Sumitomo Life investing Bao Viet with the capital at USD 340 million to hold 18% shares in 2013.

Legal framework has improved. Recently, the Decree 73/2016/ND-CP of Vietnam Government prescribes the detailed implementation of Insurance business as well as the amendment law for some articles in Insurance Business Law. This Decree will support for insurance business activities of insurance companies in Vietnam and it is also required that insurance companies must to comply with law, improve administration and operation capability, thereby improve better competitiveness

2.2.2 Potential and Challenges of Vietnamese insurance market

The insurance industry in Vietnam only contributes 2% of GDP - lower than many other countries in Asia such as Korea, Singapore…In addition, the government aims to achieve USD 3,750 GDP per capita by 2020, which meaning that Vietnamese will have better income in the next few years. Also, people’s awareness of necessity for insurance is increasing (according to Mr. Phan Kim Bang, president of the Association of Vietnam Insurers). For example, Vietnamese people have to confront with many floods and droughts in the past of few years.

There is also a rise of cancer risk due to unsafe food. These factors make Vietnamese people care more about risk management solution.

According to Mr. PhungDacLoc, general secretary of the Association of Vietnam Insurers, the number of high income farm owner in Vietnam is at about 5 million, and the value of insurance contract they usually sign is about USD 1.37 million. Although there are still challenges, Vietnam insurance market has many opportunities for foreign investors. Particularly, Vietnam and Japan are building a good cooperation on all aspects and many Japanese companies have invested in the market for almost 20 years. Thus, Vietnamese market is potential and has a lot of chances to develop insurance sector in the next years. However, there are still some challenges for enterprises who wish to join in Vietnam market.

“Oligopoly, Lower income and Insurance premium”

According to survey in 2014, the proportion of Vietnamese joining in life insurance is only at 8% of population, which shows the fact that Vietnamese people are not care very much about their life insurance.
One of the reasons is their low income as they cannot afford the fee for private insurance. Another reason is that people are not satisfied with the terms of risks in insurance contract. The same situation is observed in Non-life insurance. For example, Bao Viet has health insurance for many ages, ranges from USD 50-320 per year only for main combo, which does not include out-patient treatment, dental and maternity insurance.

Besides, Vietnam Insurance market was controlled by some big players. New companies wanting to join the market have to be well prepared to compete with these big players. In 2015, Great Eastern has drawn out of Vietnam to focus on other main markets in Singapore and Malaysia in which they are leading insurance market. At that point of time, the market share of Great Eastern is only 0.08% and they decide to put resources into more potential markets.

However, according to Mr. Tran Xuan Ha, Deputy Minister of Finance, Vietnam insurance market was expected to increase stably.

2.2.3 Non-life insurance market

The market remains to be a traditional one from distribution perspective, with main distribution channels for non-life insurers being brokers, agencies and direct handling.

As a generalization, brokers mainly service larger industrial and commercial risks. Whereas foreign brokers focus on multinational and foreign invested accounts or projects involving foreign interests (such as ODA, Build-Operate-Transfer, Build-Transfer projects etc.), domestic brokers take relationship advantages on state-owned and state-controlled projects. As a degree of market liberalization increases, there would be more overlap in customer targets between foreign and domestic brokers in the years to come.

Agency channel comprising of independent corporate agencies and individual agents, which were originally a feature of domestic insurers, mainly handles personal lines and small commercial businesses. Whereas foreign non-life insurers prefer independent corporate agency model, domestic ones have a special appetite on individual agents. As a matter of fact, majority of individual agents of domestic non-life insurers are “fake” agents whose names are used merely to “legalize” their marketing expenses. This tendency would remain to take effect in the years to come.

Direct handling remains to be major distribution channels of domestic non-life insurers and “niche market” foreign non-life insurers such as Japanese, Korean, Taiwanese-based ones.
Bancassurance is still at infant stage, though the market saw an increased recognition of importance of this distribution channel since the last few years, from the perspectives of insurers, insurers and authority concerned. It is expected that bancassurance would be “the way to go” for many non-life insurers in Vietnam market in the years to come.

Telesales, in a form of online sale and sales via call centers, have proven some initial success in Vietnam following a boom in number of internet users, credit card, debit card, ATM card users and bank account holders since the last few years. It is expected that telesales would play an important role in the distribution channel model of non-life insurance sector in the coming years.

In 2016, premium income of non-life insurance gained VND 36.372 billion ($1.6 billion). The five biggest non-life insurers hold more than 59.5% of market share, other 24 insurers and 1 agent only account for 40.5% market share. PVI Insurance took the lead with 18.6% of the market share, followed by BaoViet Insurance with 17.4%, Bao Minh 8.34%, PTI Insurance with 8.3% and PJICO Insurance 6.9%.

Figure 2-3: Market shares 2016

![Premium 2016](image)

Source: Bureau of Insurance Supervisory Management of VietNam

Main non-life insurance products include: Motor Vehicle, Healthcare; Property & Casualty; Cargo; Fire & Explosions; Hull and P&I; and others … The products portfolio of non-life insurance in 2016 is shown in the chart below.

Figure 2-4: Products portfolio 2016 of Vietnam non-life insurance market
Table 2-5: Non-life Insurance companies in Vietnam

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Close Price</th>
<th>Market Cap.</th>
<th>EPS (VND)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(kVND)</td>
<td>$ (bVND)</td>
<td>m$</td>
</tr>
<tr>
<td>BVH</td>
<td>57,1</td>
<td>2,5</td>
<td>38.855</td>
</tr>
<tr>
<td>PVI</td>
<td>35,1</td>
<td>1,5</td>
<td>8.128</td>
</tr>
<tr>
<td>BIC</td>
<td>37,85</td>
<td>1,7</td>
<td>4.439</td>
</tr>
<tr>
<td>BMI</td>
<td>27,9</td>
<td>1,2</td>
<td>2.553</td>
</tr>
<tr>
<td>PGI</td>
<td>20,6</td>
<td>0,9</td>
<td>1.476</td>
</tr>
<tr>
<td>PTI</td>
<td>23</td>
<td>1,0</td>
<td>1.889</td>
</tr>
</tbody>
</table>

(Source: VietStock, 2017)

Table 2-6: Key performance ratios of non-life Insurance companies in Vietnam
<table>
<thead>
<tr>
<th>Symbol</th>
<th>ROE</th>
<th>ROaA</th>
<th>P/E</th>
<th>Book value (kVND)</th>
<th>P/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>BVH</td>
<td>10%</td>
<td>3.45%</td>
<td>30</td>
<td>19.8</td>
<td>0.9</td>
</tr>
<tr>
<td>PVI</td>
<td>9%</td>
<td>2.30%</td>
<td>14</td>
<td>30.7</td>
<td>1.4</td>
</tr>
<tr>
<td>BIC</td>
<td>7%</td>
<td>3.52%</td>
<td>34</td>
<td>17.7</td>
<td>0.8</td>
</tr>
<tr>
<td>BMI</td>
<td>10%</td>
<td>3.75%</td>
<td>12</td>
<td>24.2</td>
<td>1.1</td>
</tr>
<tr>
<td>PGI</td>
<td>13%</td>
<td>3.88%</td>
<td>13</td>
<td>13</td>
<td>0.6</td>
</tr>
<tr>
<td>PTI</td>
<td>6%</td>
<td>3.45%</td>
<td>16</td>
<td>23.4</td>
<td>1.0</td>
</tr>
</tbody>
</table>

(Source: VietStock, 2017) ROA : Average Return on Asset last 10 years

As far as the insurers’ market shares are concerned, PVI temporarily takes 1st position with the total direct insurance premium written of VND 3,628 billion, increased 8.5%; Baoviet VND 2,985 billion, grew 6.9%; Bao Minh reached VND 1,395 billion, increased 5.5%; PTI VND 1,470 billion, increased 33%; PJICO VND 1,193 billion, grew 9%;

There are many insurance companies that have high growth rate such as Cathay 91%, UIC 66%, BHV 63%, VASS 61%

The rate of compensation (excluding reserves for losses occurred) averaged at 30%, down sharply against 2015 (65%). Compensation reserve for business is VND 4,086 billion. If including claim reserve, the compensation ratio is 54%.

Motor vehicle insurance reached premium income of VND 5,842 billion, increased 23.7%, compensated VND 2,388 billion, claim reserve VND 1,547 billion, compensation ratio 67.3%

The Ministry of Finance (ISA) cooperates with IAV to amend terms and conditions, tariff of motor vehicle accordance with Decree No 73.

Health insurance reached premium income of VND 4,246 billion, increased 30.8%, compensation ratio is 45%. Currently the members of the research team are about to complete the standard rules condition of health insurance to make it more convenient for the approval of product registration.

Property & Casualty insurance reached premium of VND 2,882, decreased 7.7%, although revenue fell down compared with the same period last year, but the compensation is only VND 431 billion, claim reserves VND 803 billion, compensation ratio is 42.8%. The Ministry
of Finance issued Circular guiding the implementation of compulsory insurance of investment and construction activities.

Fire insurance and property all risk reached premium of VND 1,481 billion, up 20.8%, compensated VND 454 billion, claim reserves VND 482 billion, compensation ratio is 63.2% compared with the compensation ratio of May 6, 2015 was 117%, showing explosive situation has been better controlled. Ministry of Finance guidelines the amendment of Circular 220 of compulsory fire insurance in order to solve the difficulties faced by insurers in doing business.

Cargo insurance reach premium of VND 1,058 billion, down 8%, compensated VND 256 billion, VND 286 billion of claim reserves, compensation ratio is 51.2%. Hull and P &I insurance reached VND 1,168 billion, increased 13%, compensated VND 310 billion, claim reserves of VND 498 billion, compensation ratio is 69.1% which is better than that of 94% of the same period last year. Other lines including liability insurance gained VND 393 billion, increased 17.9%; aviation insurance gained VND 389 billion, increased 20%; credit and financial risk insurance reached VND 61 billion, down 11%; business interruption insurance reached VND 99 billion, increased 40%.

2.3 Conclusions

The section above has reviewed current situation of PJICO and its business context. The next section is going to review literature of investment management to provide a base for the thesis to develop recommendations.
3.1 Risk and insurance

According to the Risk and Insurance book (Rejda & McNamara, 2011), in business, risk can be classified into several distinct classes, including the following:

- Pure and Speculative Risk: one in which there are only the possibilities of loss or no loss (earthquake), or a speculative risk is one in which both profit or loss are possible (gambling)
- Fundamental and Particular Risk: A fundamental risk affects the entire economy or large numbers of persons or groups (hurricane); A particular risk affects only the individual (car theft)
- Enterprise Risk: one encompasses all major risks faced by a business firm, which include: pure risk, speculative risk, strategic risk, operational risk, and financial risk.

The presence of risk results in three major burdens on society: (i) individuals would have to maintain large emergency funds, (ii) The risk of a liability lawsuit may discourage innovation, depriving society of certain goods and services; (iii) Risk causes worry and fear. Thus, Insurance is a technique for handing an already existing pure risk. Insurance is the pooling of fortuitous losses by transfer of such risks to insurers, who agree to indemnify insureds for such losses, to provide other pecuniary benefits on their occurrence, or to render services connected with the risk. Insurance is socially productive since both parties have a common interest in the prevention of a loss (Rejda & McNamara, 2011).

3.2 Insurers

3.2.1 Objectives of insurers

Insurers always want to maximize their expected utility of final wealth by selecting optimal investment and risk control strategies. The insurer’s risk process is negatively correlated with the capital gains in the financial market. Many of them obtain explicit solutions of optimal strategies for various utility functions (Zou & Cadenillas, 2014, p. 57).
3.2.2 Types of Insurers

Insurers can be classified by their organizational form: (i) Stock insurers (a corporation owned by stockholders); (ii) Mutual insurers (a corporation owned by the policyowners); (iii) Reciprocal exchanges (an unincorporated mutual). Other types of private insurers include (iv) Lloyd’s of London (is not an insurer, but a society of members who underwrite insurance in syndicates); (v) Health maintenance organizations (HMOs)

The financial services industry consists of:

- Commercial insurers
- Savings and loan institutions
- Credit unions
- Life and health insurers
- Property and casualty insurers
- Mutual Funds
- Securities brokers and dealers
- Private and state pension funds

The size of the insurance market is huge. In 2014 in United States, there are 1179 Life and health insurers (insurers who sell life and health insurance products, annuities, mutual funds, pension plans, and related financial products), and 3300 property and casualty insurers (insurers who sell property and casualty insurance and related lines)(Rejda & McNamara, 2011).

3.2.3 Operations of Insurers

The first is Ratemaking. It is the pricing of insurance and the determination of insurance premiums. Insurance premiums, also known as insurance product prices, are the sums of money an insurer must pay to an insurer in exchange for a guarantee of the risk that will be transferred to the insurer. Premiums are considered as the price of the product. The cost of insurance also covers the total cost of management costs, compensation costs, contingency costs that the company will pay in the future and make sure to make a profit. However, compensation costs are future payables - not known in advance. Therefore, the calculation of premiums must be based on mathematical methods, statistics on the basis of loss data of the enterprise, the sector or the analysis of factors leading to risk. Calculators must have professional knowledge of mathematics and full knowledge of all phases of the insurance company.(Rejda & McNamara, 2011)
The second is Underwriting - the process of selecting, classifying, and pricing applicants for insurance. Underwriting activities include:

- Set up a security policy that fits the company's goals and regulatory requirements such as: Acceptable classes of business, the amount of insurance that can be written ...
- Organize sales force to reach customers
- Gather information about subject insurance information through application, agent's report, physical inspection.
- Making an Underwriting Decision: After reviewing the information, the underwriter can: accept the application, accept the application subject to restrictions or reject the application (Rejda & McNamara, 2011)

The third is Production. Due to insurance is the service industry, its products are produced when them sold. Production of insurer is sales and marketing activities. This activity is successful organization of sales force and distribution channels.

The fourth is claims settlement. It is includes below:

- Determine the losses are covered under the policy, amount of payment
- Make payments fairly and quickly.
- Provide personal support to the insured after excessive loss.

The fifth is reinsurance. Reinsurance is an arrangement by which the primary insurer that initially writes the insurance transfers to another insurer part or all of the potential losses associated with such insurance. Insurers have to find optimal reinsurance problem, insurers who want to control the reinsurance payout for certain objectives would consider reinsurance an important tool for insurance companies to manage their risk exposure. The reserve of an insurance company is managed and monitored by a diffusion process under the criterion of maximizing expected utility of running reserve up to bankruptcy (Zou & Cadenillas, 2014, p. 58).

The next is investments. Because premiums are paid in advance, they can be invested until needed to pay claims and expenses. Insurance companies receive premiums at a constant rate, the total claims are modeled by a compound Poisson process, and the insurance company can invest in the money market and in a risky asset such as stocks. Investment income is extremely important in reducing the cost of insurance to policy owners and offsetting unfavorable underwriting experience. Life insurance contracts are long-term; thus, safety of principal is a primary consideration. In contrast to life insurance, property insurance contracts
are short-term in nature, and claim payments can vary widely depending on catastrophic losses, inflation, medical costs, etc (Rejda & McNamara, 2011).

Other operations of insurer include (i) the electronic data processing area (maintains information on premiums, claims, loss ratios, investments, and underwriting results), (ii) The accounting department’s staffs prepare financial statements and develops budgets; (iii) The Legal department’s attorneys do advanced underwriting and estate planning; (iv) Staffs of the property and liability insurers can provide loss control services (Rejda & McNamara, 2011).

3.2.1 Profitability of Insurance Industry and Other Selected Industries

Compared with other industries, insurance industry does not have better rate of return.

Figure 3-1: Profitability of Insurance Industry and Other Selected Industries

<table>
<thead>
<tr>
<th>Year</th>
<th>Property/Casualty Insurance</th>
<th>Life/Health Insurance</th>
<th>Diversified Financial</th>
<th>Commercial Banks</th>
<th>Electric and Gas Utilities</th>
<th>Fortune 500 Combined Industrials &amp; Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statutory Accounting(^a)</td>
<td>GAAP Accounting(^a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td>9.6%</td>
<td>9.3%</td>
<td>10.0%</td>
<td>15.5%</td>
<td>16.5%</td>
<td>11.5%</td>
</tr>
<tr>
<td>1997</td>
<td>11.8</td>
<td>11.6</td>
<td>12.0</td>
<td>14.9</td>
<td>16.9</td>
<td>10.4</td>
</tr>
<tr>
<td>1998</td>
<td>9.2</td>
<td>8.5</td>
<td>11.0</td>
<td>19.8</td>
<td>16.0</td>
<td>10.2</td>
</tr>
<tr>
<td>1999</td>
<td>6.9</td>
<td>6.0</td>
<td>13.0</td>
<td>21.0</td>
<td>18.0</td>
<td>11.9</td>
</tr>
<tr>
<td>2000</td>
<td>6.8</td>
<td>5.9</td>
<td>10.0</td>
<td>21.3</td>
<td>16.7</td>
<td>11.8</td>
</tr>
<tr>
<td>2001</td>
<td>-1.8</td>
<td>-1.2</td>
<td>7.0</td>
<td>13.3</td>
<td>14.0</td>
<td>10.5</td>
</tr>
<tr>
<td>2002</td>
<td>3.3</td>
<td>2.2</td>
<td>1.0</td>
<td>10.5</td>
<td>17.3</td>
<td>2.9</td>
</tr>
<tr>
<td>2003</td>
<td>8.5</td>
<td>8.9</td>
<td>9.0</td>
<td>16.5</td>
<td>14.9</td>
<td>10.5</td>
</tr>
<tr>
<td>2004</td>
<td>9.3</td>
<td>9.4</td>
<td>11.0</td>
<td>15.0</td>
<td>15.5</td>
<td>10.5</td>
</tr>
<tr>
<td>2005</td>
<td>10.4</td>
<td>9.4</td>
<td>13.0</td>
<td>15.0</td>
<td>16.0</td>
<td>10.0</td>
</tr>
</tbody>
</table>

\(^a\)Return on equity on a GAAP accounting basis, Fortune.
\(^b\)Net income after taxes, divided by year-end policyholders’ surplus. Calculated by the Insurance Information Institute from Highline Data. Statutory accounting is used by insurers when preparing the Annual Statements they submit to regulators.
\(^c\)Return on average net worth, ISO.
\(^d\)Return on equity on a GAAP accounting basis, Fortune. Combined stock and mutual companies as calculated by the Insurance Information Institute.
\(^e\)Companies whose major source of revenue comes from providing diversified financial services. These companies are not specifically chartered as insurance companies, banks or savings institutions, or brokerage or securities companies, but they may earn revenue from these sources.
\(^f\)Fortune 500 Combined Industrial and Service Businesses median return on equity.

Source: Insurance Information Institute from the National Association of Insurance Commissioners (NAIC) Annual Statement Database, via Highline Data, LLC. Copyrighted Information. No portion of this work may be copied or redistributed without the express written permission of Highline Data, LLC.

(Source: Rejda & McNamara, 2011)
3.3 Investment strategies

3.3.1 Passive strategy
Passive investment, or indexing, is the preferred strategy for investors who believe markets are essentially efficient. A passive strategy is developed from the premise that securities are fairly priced, and it avoids the costs involved in undertaking security analysis. Intense competition among professional money managers often force security prices to levels that there would unlikely to turn up significant profit opportunities. Passive investment strategies may make sense for many investors.

3.3.2 Active Investment Management
Active managers consider markets not efficient and that bargains can be found in security markets by application of asset valuation and portfolio theory. That is in contrast with passive portfolios that require efficient organization and trading structure but no need for security analysis or portfolio strategy. Professional management of active investment focuses on contractual relationship between a client and a portfolio manager.

3.3.3 Asset allocation across risky and risk-free portfolios
Experience from history always shows that long-term bonds investments are riskier than Treasury bills investments, and that stock investments are riskier than all. However, investors have trade-off: the riskier investments would offer higher average returns. Consequently, investors can construct their portfolios using securities from all asset classes. A simple strategy to control portfolio risk is to specify the fraction of the portfolio invested in each risky asset class such as stocks, bonds, and safe assets such as Treasury bills. This asset allocation technique plays an important role in the determination of portfolio performance.

3.3.4 Diversification to reduce or eliminate risk
Certain risk are firm-specific risk, nonsystematic thus can be eliminate by diversification. Most portfolio will have volatile reduces when the number of its assets increases.

3.3.5 Reinsurance policy
Recently, reinsurance and investment have become more and more important in the insurance business, and they have attracted a great deal of interest. Many insurers studied the optimal investment strategies and/or reinsurance and investment problem to minimize losses. They apply the diffusion risk model and found the optimal investment strategy of exponential utility maximization of terminal wealth with multiple risky assets. They assume that the risky asset’s price is supposed to follow a geometric Brownian motion, which implies that the volatility of
the risky asset’s price is constant and deterministic (Zou & Cadenillas, 2014). However, many empirical evidence shows that this is not the case. Some insurers use the capital markets as an alternative to traditional reinsurance. Securitization of risk (an insurable risk is transferred to the capital markets through the creation of a financial instrument, such as a futures contract) is a strategy.

3.3.6 Investment management process
Work of Rejda & McNamara (Rejda & McNamara, 2011) suggests that the Investment management process should looks like below:

*Figure 3-2: Investment management process*

I. Planning
- A. Identifying and specifying the investor’s objectives and constraints
- B. Creating the investment policy statement
- C. Forming capital market expectations
- D. Creating the strategic asset allocation (Target minimum and maximum class weights)

II. Execution: Portfolio construction and revision
- A. Asset allocation (including tactical) and portfolio optimization (Combine assets to meet risk and return objectives)
- B. Security selection
- C. Implementation and execution

III. Feedback
- A. Monitoring (investor, economic, and market input factors)
- B. Rebalancing
- C. Performance evaluation

3.4 Risks and Risk management of insurers
Risk factors common to the whole economy are classified into market risk, systematic risk, non-diversifiable risk.
• The market risk, risk that is attributable to market-wide risk sources, remains even after diversification.
• The unique risk, firm-specific risk, nonsystematic risk, or diversifiable risks are risk that can be eliminated by diversification.

Extensive diversification is to eliminate all risk. For example, portfolio standard deviation falls as the number of securities increases.

Bierth, Irresberger, & Weiß (Bierth, Irresberger, & Weiß, 2015) paper analyzes the exposure and contribution of 253 international life and non-life insurers to systemic risk in the period from 2000 to 2012. According to Bierth, insurers face a number of systemic risks to the global financial sector, and their default would cause severe disruptions in the financial sector. There is a potential of the insurance sector to destabilize the whole financial system and subsequently the national economy (Bierth, Irresberger, & Weiß, 2015). In addition, insurers can become systemically important if they are too interconnected, invest too heavily in business activities outside the traditional insurance sector, or acquire other insurers. For that, non-core activities and high degrees of interconnectedness are the primary causes of insurers’ systemic relevance. Engaging in non-core investment would lead to illiquid assets of insurers and could create systemic risks in times of financial crisis. There are a number of findings.

• Systemic risks in insurance are likely to have grown partly as a consequence to the increasing interconnectedness of insurers and their activities outside the traditional insurance business. Insurer size seems to be a major driver of the systemic risk exposure and contribution of U.S. insurers.
• Insurers contributed largely to the instability of the financial sector during the financial crisis, though the systemic risk in the international insurance sector was small.
• Sources of systemic risk of insurers include factors such as (i) insurer’s interconnectedness and leverage, and (ii) the magnitudes and significances of these effects of interconnectedness and leverage are different depending on the systemic risk measure used, insurer line, and geographic region.
• Level of the interconnectedness of each large insurer with the insurance sector would drive its exposure to systemic risk.
• The leverage, loss ratios, and the insurer’s funding fragility would drive the contribution of insurers to systemic risk.
Life insurers do not contribute significantly higher to systemic risk than non-life insurers do.

The research of Zou and Cadenillas (Zou & Cadenillas, 2014) found that insurers always want to maximize their expected utility of terminal wealth by selecting optimal investment and risk control strategies. The insurer’s risk process is modeled by a jump-diffusion process and is negatively correlated with the capital gains in the financial market. Risk does not forget any ones, even AIG with an AAA credit rating, one of the largest insurance companies in the United States collapsed in 2008. Its stock price fell from over $50 per share in February 2008 down to less than $1 per share, leading to liquidity crisis, and making it to be rescued by the government with a total of $182 billion bailout, the largest government bailout in history. The largest insurer made several major mistakes, including:

- Underpricing the risk of writing CreditDefault Swap (CDS) contracts since it ignored the negative correlation between its liabilities and the capital gains in the financial market.
- Applying a problematic model for risk management
- Misunderstanding the impact of derivatives trading on the capital structure.

To address these issues, the insurer should process an insurer’s risk (per policy risk) and consider optimal investment and risk control problem from an insurer’s view of (i) optimal consumption and investment problem and (ii) optimal reinsurance (risk control) problem.

Insurers can incorporate an external uncontrollable risk process (which can be insured against by purchasing insurance policy) to study optimal consumption, investment and insurance problems under two different criteria: (i) maximizing expected exponential utility of terminal wealth and (ii) minimizing the probability of ruin.

The classical models for risk in the insurance literature include (i) a compound Poisson process to measure risk (Cramér–Lundberg model), (ii) a diffusion process or a jump-diffusion process, (of Wang et al. 2007), (iii) incorporating regime switching.

The Enterprise Risk Management (ERM) is a system to actively monitor and control risks. ERM focuses on financial risk, accounting, as well as all aspects of organizational operations. Enterprise risk can include a variety of factors with potential impacts on activities, processes, and resources of the companies, such as economic change, financial market developments, and dangers arising in political, legal, technological, and demographic environments. Those
factors are considered beyond the control of any company, but companies can prepare and protect themselves from them. Internal risks include human error, fraud, systems failure, disrupted production, and other risks. Often systems are assumed to be in place to detect and control risk, but inaccurate numbers are generated for various reasons.

ERM brings a systemic approach to risk management, providing more complete coverage of risks. ERM provides a framework to identify risk, define risk impact and possibility, risk responsibilities, and a need to monitor and measure these risks. Business scorecards are a tool to provide a measurement of risks that are keys for the managers to understand the scene of actions.

**ERM Performance Measurement**

Some performance measures for enterprise risk modeling are used to determine the relative effectiveness of the scorecards. There are four measures: (i) the Divergence (measured as squared difference between the mean score of good and bad accounts divided by their average variance), (ii) Kolmogorov-Smirnov (KS) Statistic, (iii) Lorenz Curve, and (iv) Population stability index.

Divergence is a relative measure, and a high divergence value indicates the score is able to differentiate between good and bad accounts. The KS Statistic measures the maximum difference between the cumulative percentage of good and cumulative percentage of bad, which can be graphed to depict the power of a model capturing bad accounts relative to the entire population.

### 3.5 Investment Risk Management

#### 3.5.1 Objectives of risk management

Risk management is a critical task to identify potential risk and define response plans to minimize potential losses (Zou & Cadenillas, 2014; Gestel & Baesens, 2008; Bierth, Irresberger, & Weiß, 2015).

#### 3.5.2 Risk management process

Risk Management process is to detect potential risks and improve overall performance of existing business systems (Gestel & Baesens, 2008).
This is a continuous task that need staffs in charge to evaluate risk indicators constantly to reveal potential threats so that the insurers will not encounter any surprising loss.

The risk management processes in general include five stages (Rejda & McNamara, 2011):

1. Risk identification
2. Assessing sources of risk
3. Assessing risk impact and possibility
4. Defining response plans for different scenarios
5. Manager to select the best plan

(Source: Gestel & Baesens, 2008, p. 42)
3.6 Lessons of investment success

- Investors should diversify investment assets to reduce risks.
- Investors should allocate its resources to both risky and risk-free assets to reduce risks. However, the balance should be modified following the market changes to maximize profits.
- Active investment is better than passive management because it is aimed at actively monitoring and acting before the markets. Active management could create contractual relationship between a client and a portfolio manager.

3.7 Conclusions

This chapter has reviewed recent literature on risk management and insurance. The next Chapter is going to provide primary data from a survey that is designed to picture a status-quo of PJICO investment management system.
CHAPTER 4
SURVEY RESULTS AND FINDINGS

4.1 Introduction

This thesis uses a google form to create and conduct a survey. This chapter describes the results of survey and discusses the findings.

The questionnaire is placed online, at https://docs.google.com/forms/d/1xwOpUNeUiA7a2x7ukQywPlkDikmljklzmopYAtibw/edit?ts=5af1a847

4.2 Response rate

For the purpose of this survey, the questionnaire targets all managers and staffs only from the Investment Department of PJICO. The Investment Department has around 20 staffs now and then.

In total, there were 26 responses. The number of responses looks small, but it is ok enough because 2/3 staffs and most of managers have responded. It could be better if we have more time to conduct the survey or persuade other managers and staffs to participate in the survey.

4.3 Common questions for both manages and staffs

4.3.1 The match between the professional of staffs with PJICO investment requirements

Regarding this question¹, about 8% of managers and 36% of staffs contend that the qualification of investment management staffs is normal. About 50% (17%+33%) of managers and 29% of staffs contend that investment management staffs are highly qualified.

¹ Original question: CácanhchijdánhgiáthénàodôivОсácngоi dung duốidày [Múcđôtrinhđơchuyênmônсácngоi quàn tridùadautur so vọtyęucău]
However, about 41% (8%+33%) of managers and 36% of staffs contend that current qualification of investment management staffs is low and very low.

Table 4-1: The match between the professional of staffs with PJICO investment requirements

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</tr>
</tbody>
</table>

4.3.2 The actual investment performance versus expectation

Regarding this question of actual investment performance versus expectation, about 50% of managers and 42% of staffs contend that the actual investment performances match with expectations. About 50% (42%+8%) of managers and 29% of staffs contend that actual investment performances are better than expectations. However, about 8% of managers and 21% of staffs contend that actual investment performances are well below expectations.

Table 4-2: The actual investment performance versus expectation

<table>
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</tbody>
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2 Original question: Căcanhchiđánhgiáthểnâođốívôífácăncôí dũng đươídâíy [Kếtquảđạtưtrongnhữngnăm qua so vớikývong]

31
4.3.3 Investment portfolio management performance

Regarding this question, about 33% of managers and 36% of staffs contend that the Investment portfolio management performance is normal. About 42% (25%+17%) of managers and 21% of staffs contend that investment portfolio management performances are better than expectations. However, about 25% (17%+8%) of managers and 42% (21%+21%) of staffs contend that Investment portfolio management performance is well below expectations.

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<thead>
<tr>
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</table>

4.3.4 Investment opportunities

Regarding this question, about 17% of managers and 23% of staffs contend that the investment opportunities are normal. About 75% (50%+25%) of managers and 77% of staffs contend that investment opportunities are well above expectations.

---

3 Original question: Cácanhchídánhgiáthểnàodôivôicáncội dường dưíđây [Chátlơngcôngtác quàn trđànhmuçdăut]

4 Original question: Cácanhchídánhgiáthểnàodôivôicáncội dường dưíđây [Cơhđâututrènthítương]
contend that investment opportunities are high and even very high. There is only one manager contends that investment opportunities are lower than previous years.

Table 4-4: Investment opportunities

<table>
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<td>12</td>
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</table>

4.3.5 Investment risk in the market

Regarding this question\(^5\), about 27% of managers and 21% of staffs contend that the investment risk in the market is normal. About 54% (36%+18%) of managers and 79% (43%+36%) of staffs contend that investment risks in the market are high and even very high. There is only two managers contend that investment risks in the market are low.

Table 4-5: Investment risk in the market

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\(^5\) Original question: Cácanhchidánhgiáthénàoôivójácónôi dung duốidày [Ràirokhidátutrènhrìtrùòng]
4.3.6 PJICO competitiveness compared to competitors

Regarding this question⁶, about 42% of managers and 36% of staffs contend that the PJICO competitiveness is normal. About 42% (17%+25%) of managers and 28% (14%+14%) of staffs contend that PJICO competitiveness in the market is higher and even very higher than those of competitors. However, there are 2 managers and 5 staffs contend that PJICO competitiveness in the market is low.

Table 4.6: PJICO competitiveness compared to competitors

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<th>Managers</th>
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</table>

Grand Total | 14 | 100.00% | 12 | 100.00% | 26 | 100.00%

4.3.7 The coverage of current internal investment regulations to investment operations

Regarding this question⁷, about 33% of managers and 21% of staffs contend that the coverage is normal. About 16% (8%+8%) of managers and 21% of staffs contend that coverage is very good or even very good. However, there are still 50% of managers and 58% of staffs contend that coverage is low and even very low.

---

⁶ Original question: Cácanhchịđánhgiáthểnhàodốivócácncổngười dũng duốidày [Súcçasnhtranhđạoanhhiệpmình so vớidốithư trenches]

⁷ Original question: Cácanhchịđánhgiáthểnhàodốivócácncổngười dũng duốidày [MứcđốThề, Quy trình, Thực tế quản trijdátưienthiabaoquáthểđượcccâmng/ngội dưng/trườnghopdámút]
Table 4-7: The extent to which current internal investment regulations and procedures cover investment operations

<table>
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4.3.8 The appropriateness of internal procedures managing investment operations

Regarding this question, the opinions are conflicting. About 25% of managers and 36% of staffs contend that the internal procedures managing investment operation is appropriate. About 33% (25%+8%) of managers and 21% of staffs contend that internal procedures managing investment operation is highly appropriate. However, there are also 42% of managers and 42% of staffs contend that internal procedures managing investment operations is inappropriate.

Table 4-8: The appropriateness of internal procedures managing investment operations

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8 Original question: Cácanhchiđánhgiáthểnhàđoídòngđảngduốidây [Mụcđộchấttlượng/sựhợplýcủaThếlê, Quy trình, Thútquản lý đầu tư]
Table 4-9: The urgency to enhance investment management procedures

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</table>

4.3.9 The urgency to enhance investment management procedures

Regarding this question, the opinions are conflicting. None of managers and 21% of staffs contend that the urgency to enhance investment management procedures is normal; Almost all managers (92%) and 78% of staffs contend that it is highly urgent to enhance the procedures; However, only a single manager contends that the need to enhance investment management procedures is not urgent.

Table 4-9: The urgency to enhance investment management procedures

9 Original question: CácanhchídánhgiáthểnàOdõivívícácnnót dúng duốidąd [Nhu cấucápháicáithểnThểlệ, Quy trình, Thực quán tríđáutru]
4.4 Assessment of managers

4.4.1 The quality of staffs in charge of managing investment

For this question\(^{10}\), most managers contend that the quality of staffs is high. However, a third contend that the quality is lower than average.

*Table 4-10: The quality of staffs in charge of managing investment*

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4.4.2 The staff working attitude

For this question\(^{11}\), there are 3 managers not satisfied with staff working attitude, account for 21%. The rest contend that the attitude are good or even very good.

*Table 4-11: The staff working attitude*

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\(^{10}\) Anh/Chị đánh giá thế nào đối với công việc của các nhân viên quản lý hoạt động kinh doanh?

\(^{11}\) Anh/Chị đánh giá thế nào đối với công việc của các nhân viên quản lý hoạt động kinh doanh?
4.4.3 The need to refresh investment management staffs

For this question\(^\text{12}\), there is a single manager consider to the need is low, account for 8%. Most of managers (8 persons, or 66\%) think that the need to refresh is high and very high.

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4.4.4 The frequency to change investment management staffs

For this question\(^\text{13}\), there is a single manager consider to the frequency to change investment staffs is low, account for 8%. Most of managers (11 persons, or 91\%) think that staffs should be changed frequently to refresh the working air.

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\(^{12}\text{Anh/Chị đánh giá thất bại đối với việc quản trịstaffs}}\)

\(^{13}\text{Original Question: Anh/Chị đánh giá thất bại đối với việc quản trịstaffs}}\)
4.5 Assessment of staffs

4.5.1 The appropriateness of directions and guides from managers
For this question\textsuperscript{14}, there are 5 staffs (account for 26\%) think that the directions and guides of managers are inappropriate. Most of staffs (14, or 74\%) think that directions and guides are appropriate, even highly appropriate.

\textit{Table 4-14: The appropriateness of directions and guides from managers}

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4.5.2 The workloads compared with time available
For this question\textsuperscript{15}, most staffs think they do not have enough time to treat all the workload. There are 14 staffs (account for 74\%) think that workloads are normal. A third think that workload are too high regarding time available to process them.

\textit{Table 4-15: The workloads and time available}

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\textsuperscript{14} Original Question: Anh/Chị đánh giá công việc như thế nào? [Mức độ hợp lý/dúng đằng acác chi đắc u của quản lý]

\textsuperscript{15} Original Question: Anh/Chị đánh giá công việc như thế nào? [Khối lượng công việc phải xử lý phù hợp với thời gian nhân viên có]

39
4.5.3 The complexity of job
The complexity of the job is very high: 68% said it is high and very high. Only about 31% investment staffs contend that the complexity is normal.

*Table 4-16: The complexity of job*

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4.5.4 The match between compensations and investment management job
Many staffs do not think the compensations match with their job complexity and workloads, account for 32%.

*Table 4-17: The match between compensations and investment management job*

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4.5.5 Working environment

There are 19 responses. Most said the working environment is satisfactory. Only 2 said they are not satisfied.

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4.5.6 The encouragement to be innovative and creative of working environment

Almost a half do not think that the working environment encourages innovative and creative operations\(^\text{16}\).

<table>
<thead>
<tr>
<th>Table 4-19: The encouragement to be innovative and creative of working environment</th>
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4.5.7 The need to get training to improve qualification

Almost all staffs raise their need to get training to improve their qualification. Only 3 out of 19 answers said they do not have that need\(^\text{17}\).

\(^\text{16}\)Count of Anh/Chijdánhgiáncácnọi dung saunhursthénàọ? [Mọịtrụọmglámviệckhuyénkhíchsángtọ, phándáu]
Table 4-20: The need to get training to improve qualification

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4.6 Conclusions

The survey shows a number of investment management to be improved, and PJICO has to invest more in this critical function. In the next chapter, the thesis will develop strategies and actions to deal with matters.

---

Original question: Count of Anh/Chị đánh giá công việc saunhurthénào? [Nhu cầu được đào tạo nâng cao trình độ]
CHAPTER 5
RECOMMENDATIONS AND CONCLUSIONS

5.1 Findings and discussions

The survey shows a number of findings. I classify findings into categories of investment, people, and working environment. These findings are discussed in sections below.

5.1.1 Challenges of investment and investment management

5.1.1.1 The PJICO investment performance is to be improved

Most managers and investment staffs contend that the actual investment performances are normal, matching with expectations. Nevertheless, in total there are 16% of responders contend that the investment performances are poor, even well below expectation. That may be direct result of the limited qualification of a part of PJICO workers.

A source of this problem is attributed to the poor portfolio management performance. In total a third of all managers and staffs contend that investment portfolio management performance is well below expectations, the other third contend it is normal (as shown in the Table 4-3). That means the investment portfolio management performance should be improved.

Another source of this problem is the nature of investment analysis job is so complicated and time-consuming, leading to investment staffs in many times are overwhelmed by workloads, compromising quality (read Table 4-15 and Table 4-16).

The investment performance could be solved because opportunities in the markets are plenty – as many as 70% of all responders contend that investment opportunities are plenty (refer Table 4-4). PJICO quite can improve that, as its competitiveness looks comparable to that of its competitors (however, there are still 7 out of 26 answers contend that PJICO’s competitiveness in the market are lower than its competitors, see Table 4-6). Nevertheless, the investment risks are high – about two third (2/3) of all responders contend that investment risks in the market are high and even very high and (Table 4-5).
5.1.1.2 Internal investment regulations and procedures do not cover all investment operations appropriately

A majority of managers and staffs contend that the current internal investment regulations do not cover all investment operations appropriately (see the Table 4-7). There are many cases the current regulation do not cover making the investment staffs do not have a rule to follow and do by their own ways. That makes the investment operations inconsistent among different staffs. That in turn makes it is difficult to monitor and control investment projects.

In addition, majority of responders contend that it is highly urgent to enhance the investment management procedures, because there are 42% of managers and 42% of staffs contend that internal procedures managing investment operations is inappropriate (read Table 4-8 and Table 4-9).

5.1.1.3 The investment strategy may not reflect changing market

A part of managers and staffs contend that the investment strategy is fixed, kind of not linked to national economy fluctuations. They demand to have more flexible strategy with more open opportunities to industries other than the traditional areas of PJICO investment policy. The broader investment boundary would help PJICO to seize more opportunities.

5.1.2 Issues of people

5.1.2.1 The professional of investment staffs partly do not match with PJICO investment requirements

As found in the Table 4-1, 41% of managers and 36% of staffs contend that current qualification of investment management staffs is low and very low, falls short of PJICO investment management requirements.

This ratio appears to be so high that require an urgent move to improve the qualification of staffs. Training current workforce is a choice. Replace unqualified investment staffs is also a choice, but is only the last choice - However, this solution is very good in that it provide fresh thinking and working attitude and atmosphere to the workplace.

5.1.2.2 The general working attitude is good

Though the workloads are very high and the complexity of job is high, the general working attitude would improve the performance high. Nevertheless, there is still a part of working staffs do not have expected working attitude.
5.1.2.3  *The need to refresh investment management staff is very high*

The management thinks that the needs to refresh investment staffs is high (refer to Table 4-13). They argue that investment staffs tend to be more and more consecutive and stuck into certain narrow fields of investments. In other side, some investment staffs also increasingly get fear because of their low performance in managing investment portfolio recent years.

The decreasing investment performances are not only a result of poor qualification of staff, but also a result of difficult national economy and global crisis after Russian invasion to Ukraine. Many investment though try their best cannot improve performance, leading to low self-confidence. They are too timid to make decisions. Refreshing the investment decision board by having new investments staffs is an urgent need.

5.1.2.4  *Unmatch between compensation and job complexity*

Many staffs show their disappointment that their compensations do not match with their job complexity and workloads (read Table 4-17).

In fact, in recent years, many staffs quit jobs for that reason. Many new staffs replacing them also do not stay for long – most of them are newly graduated students that take the job for getting experience rather than for a job that can earn their life, and after certain quarters, those staffs would quit for better offers elsewhere.

5.1.3  *Challenges of working environment*

5.1.3.1  *Certain guides and directions from managers are inappropriate*

A number of investment staffs consider guides and directions from managers in many cases were not appropriate because the managers did not study the case carefully (refer Table 4-14, page 39). In many cases, investment staffs complained that the managers do not listen to investment staffs as well.

However, the managers ultimately are in charge of investment performance, thus managers think that they need to override investment staffs in certain cases.

5.1.3.2  *Exceptional high workloads*

Many staffs (about a third) think that their workload is too high, thus they do not have enough time to treat all the workloads within days (read Table 4-15).
The high workloads are attributed to two sources. The first is the shortage of investment staffs. There are only under or above 20 people at different point in time. The second source is the investment analysis jobs are so complex and complicated, costing investment staffs long time to process. The investment staffs contend that lack of time is a chronicle problem, and would lead poor investment performance. Consequently, PJICO must increase the size of investment analyst and manager force so that to handle the high workloads.

5.1.3.3 Working environment is satisfactory

Most said the working environment is satisfactory. Only 2 said they are not satisfied (read Table 4-19). That means the company has created a good working environment and culture. That is important for staffs to perform.

However, survey also reveals that many staffs think that the working environment does not encourage innovative and creative behaviors and operations. This is explained that due to the specificity of investment projects, every staff must follow procedures and processes strictly, having no room for being creative. The good side of this practice is that would help even the inexperienced staffs can do the analysis and management. The drawback is that in certain cases when the situation are very good and require quick decisions, the current regulations deter investment staffs from making quick decision - They still have to complete all the procedures regardless that each case has different situation.
5.2 Recommendations to enhance investment performance

5.2.1 The overarching approach to enhance investment management performance

The overarching approach to enhance investment management performance include (i) modifying investment procedures to make more room for investment staffs while keeping them under relevant constraints and helping them higher performance, (ii) improving working environments, and (iii) investing on peoples and technology.

5.2.2 Enhance the investment performance

5.2.2.1 Enhance the investment appraisal mechanism

This solution includes 3 major works.

First, rebuild the investment appraisal procedures. The procedures and processes should be analyzed periodically to detect its drawbacks. In fact, Vietnam is an emerging economies, many security market operations have not been legalized until recently. The current internal regulations, procedures and processes made in many years ago did not keep up with the new contexts with new assets categories in the money market and capital market. The managers and staffs need to work together to identify the defectives of current procedures and discuss to design new procedures.

Second, rebuild the investment appraisal committee. The investment appraisal committee now regularly meet two times a week to make final decisions on whether to go with investment proposals submitted by subordinate staffs, or ask to modify, or to reject them. The problem is the committee rather fixed and large. Many members are specialized only in specific industries, but they need to present in the committee every time. My recommendation is to build several committees, each committee be specialized in a narrow investment domains and composed of only experts on these industries. That would make the comments more focused and give better decision.

Third is improving analytical techniques: CAPM model should be utilized. The CAPM results could provide insights for managers of insurance companies on how to invest. The CAPM also investigates the effects of changes in various factors (i.e., stock volatility, optimal investment strategies, and survival probability). The obstacles of CAPM application is PJICO would need many more number of staffs to collect and handle data needed for analysis.
Currently, there are only a few of investment staffs mastering such an useful analytical model. PJICO should send investment staffs to workshops to gain practical techniques.

5.2.2.2  *Enhance investment management process*

Lessons from CFA institute shows that investment management process should follow the figure below

*Figure 5-1: Investment management process*

(Source: CFA Institute)

5.2.2.3  *Diversify investment strategy*

The investment strategy is rather fixed, regardless to fast changing environment. PJICO should utilize process to model risk and allow its investment staffs to select investment strategy continuously.

PJICO should conduct regular economic analysis to study the impact of the market parameters on the optimal policies. There are a number of factors driving. For example, each business cycle of the national economy should have impacts to the business of companies profits, making their stock dividends and prices decrease; Climate change cycles (cycling floods or
droughts) would create a number of negative effects to individual health or traffic conditions, leading to rising claims of accidents and personal healthcare cures, and etc.

Recently, PJICO receives premiums at a constant rate, the total claims are modeled by a compound Poisson process, and invest in the money market and in a risky asset such as stocks. Asset allocation across risky and risk-free portfolios is one of major strategies that PJICO should follow. Risk-free assets such as short-term T-Bills and T-Bonds would help to secure a return in time of other stock volatile.

5.2.2.4 Reallocate to risky and risk-free assets
In the incoming years, the most fundamental strategy change could be the reallocation policy, or the decision of investing is the allocation of PJICO assets in stock, in bonds, and in cash reserves. The proportions should be designed specifically and carefully by all expertise and historical experience PJICO has.

5.2.2.5 Re-enforce the risk management task by a specialized unit
The risk management has not been paid enough concern from both managers and staffs. In fact each investment staff self manages the risks of his/her investment projects. Not many of PJICO personnel are truly concerned of risk management, though they are aware of risk involved to their business, because they already have a resort on reinsurance, a policy to protect PJICO from risks. The investment performance is decreasing recently because many risks do occur.

To re-enforce the risk management, PJICO should establish a unit specializing in risk management that hold together all best senior managers and investment staffs. That is to unify expertise across organization into a strong unit to analyze.

5.2.2.6 Business Scorecard Analysis to Measure Enterprise Risk Performance
Business scorecards are one of a number of quantitative tools available to support risk planning. Among a number of production planning and control tools, scorecards are considered as the most successful approach in production planning and control performance measurement. Various forms of scorecards should be built into the PJICO business decision support system in order to monitor the performance of the PJICO in the strategic decision analysis.
Risk management has not been paid enough efforts at PJICO, mostly due to lack of expertise rather than lack of attention. While risk needs to be managed, taking risks is fundamental to doing business. Any profitable projects require necessity to accept some degree of risk. Enterprise risk management (ERM) provides tools to rationally manage these risks. ERM provides the methods and processes to manage all risks and seize opportunities to achieve organization objectives.

PJICO ERM should be in place to detect and control risk regarding the following data:

- External factors: such as economic change, financial market developments, and dangers arising in political, legal, technological, and demographic environments.
- Internal risks: human error, fraud, systems failure, disrupted production, etc.

5.2.2.7 Invest on technology

Information system is a key successful factor in the time of 4.0. Many Vietnamese businesses are still stuck with techniques of the old days when all data (accounting, financial activities, purchasing, selling, manufacturing, etc.) are to be processed manually. One reason is investing in information technologies is costly, second is most application is in English while the English levels of workers are limited, and third is it would take long time to understand and master the use of application in the work.

PJICO should invest in the following operations:

- Application

Most of data analytical jobs could be computerized. KPI could be produced automatically with help of application. The investment in application would be very costly, but it would pay well in future because it helps with cost cutting and performance and treatment speed improving.

- Database

Without database, investment staffs cannot run or develop their analytical models, thus database is critical. The database should be kept up to date by computer application rather than by labor.

- Computers and intranet
In financial market, computers are critical for management. Staffs have been complained about old computers and slow internet. The storage volumes are increasingly running out quickly. PJICO should replace old PCs with new ones and also in extra desktop screens to facilitate more information display.

PJICO does not have its own email server as well. Many staffs have used the free mail account to communicate in job, leading to high danger of data leaking.

5.2.3 Invest in people

5.2.3.1 Enhance the overall qualification of investment managers and staffs

Enhancing the qualification of investment staffs is quite a demand. It is strongly relating to exist of PJICO. The qualification of employees is a major driver of PJICO performance.

Major actions to include:

- Regular training workshops

These workshops hand-on practical experience to employees. The internal workshops are best but many experienced seniors in fact do not want to share their experience with new comers. The external workshops can solve this issue, but they are costly. PJICO must balance between these two categories.

- Regular new recruitments

Because there are investment staffs quitting jobs, recruit new staffs are to replace them. The new recruits include fresh inexperienced financial graduates and experienced financial analysts. The inexperienced ones would be largely in charge of data collection and management and with minor roles in computing financial indicators. The experienced ones would be in charge of analyzing results submitted by subordinate fresh financial analysts to conclude findings and make decisions.

- Periodical visiting trips to enhance experience

Study trips are important to learn from the markets.

5.2.3.2 Enhance the Linking between compensation and the investment performance

PJICO appears to pay well to its employees, but that is the salary for 8 working hours. However, as the workloads are extremely high, investment staffs have to work from 8 am to
almost 8 pm, making PJICO wage paid for a working hour lower than that of its comparable companies. The wage should be raised to reflect the complexity the staffs are dealing with every day, as well as the amount of works they have to follow up, days and nights, at work or at home.

In addition, better investment performance should be rewarded by higher bonus, and wage should be KPI-based. To provide more incentive to investment managers and staffs to perform better, the wage should reflected more clearly the performance of workers. Due to the history tradition, the bonus intervals for workers have been fairly narrow, thus the encouraging effects are limited. Enlarging these intervals to twice or triple times is believed to help with solving problems.

However, determining bonus intervals is not that simple. To determine how large the investment performance intervals to be, PJICO should have a common meetings with all employees to measure the likely magnitudes of effects and get a common agreement among employees on bonus schemes.

5.2.4 Improve the working environment

As found in the survey, many staffs think that the working environment does not encourage innovative and creative operations. Due to the specificity of investment projects, every staff must follow procedures and processes strictly, having no room for being creative. Though the good side of this is actions are clear, consistent, and easy to follow up with, the one-size-fit-all procedures may not perform in case the markets need quick reactions.

There are many factors contributing to work satisfaction. Apart from salary and bonus mentioned above, work satisfaction factors include rewards, recognition, career path, equipment for each individual. How to improve them is out of scope of this thesis.

5.3 Limit of the thesis

The thesis has certain limits. Due to time and financial limits, the survey did not get the response rate as expected. Fewer responses may make the analysis fail to reflect correctly current situation.

5.4 Conclusions

This thesis has investigated the investment management performance of PJICO, identifying a number of issues regarding investment management, people, and working environment. The
thesis also provides recommendations to improve and enhance the situation. Each of solutions would have clear advantage, though also have drawbacks.

I would like to thank the Université de Nantes for the program, and my supervisor, Dr. Hung Nguyen for his meaningful assistance.
LIST OF REFERENCES


APPENDIX

Survey form

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Managers

![Image of a form titled "Nâng cao Hiệu quả Quản trị Đầu tư" with questions and rating scale]

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Staff

56
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