CHAPTER 1

INTRODUCTION

This chapter comprised of five sections (1) Overview and history development of reinsurance industry in Malaysia and Singapore, (2) Performance Measurement System (PMS), (3) Introduction of Balanced Scorecard, (4) Research problem statement, (5) Research questions, (6) Research objectives, (7) Significant of the study, (8) A guide to the remaining of this study.

1.0 Overview

1.1 Reinsurance industry in Malaysia and Singapore

Global reinsurance capital remains competitive in the market for 2012 outlook but reinsurance industry always need to react faster in the uncoordinated in economic prospect due to large and unpredicted catastrophes losses such as hurricane, typhoon season, earthquake, flood, tsunami and etc. In today's competitive market, it is very important for reinsurers in Malaysia and Singapore to react faster in order to lead their business effectively and efficiently. Reinsurance and broker companies in Malaysia and Singapore are still using traditional measure and focus solely on the financial performance such as underwriting ratio, return on equity and return of asset, number of policy written, total premium and number of losses occurred. Managers often omitted the non-financial measures in the evaluation of firm's performance; they use financial measures just to fulfill regulatory, concentration on company's rating and accounting reporting requirement.

Malaysia is govern by Bank Negara Malaysia and regulated under Insurance Act, 1996 while Singapore is under regulation of Monetary Authority of Singapore.

1.1.1 History Development of Insurance Industry in Malaysia and Singapore

Insurance in Malaysia can be dates back to 18th century where there were colonial and growth of trading firms with United Kingdom. There were agency houses like Harrisons and Crossfield, Boustead and Sime Darby act as an agent to accept risk and settle claim to insuring trade. In the early 1960, insurance and reinsurance business continue to growth. Upon the achievement of independence, there was an effort to establish domestic insurance companies. The early 1960's saw the growth of many life and general insurance companies. Malaysia insurance and reinsurance companies are monitored by Insurance Act, 1963 and it has been replaced by Insurance Act 1996.

In 1950s, insurance sector in Singapore had been developed, however it wad dominated by foreign companies. Local insurance companies only had 4 at that time and were less than 10 percent in market share. After Singapore independence in year 1965, insurance industry has grown dramatically and became a regional hub for insurance and reinsurance center in the Asian Region.

1.1.2 Total Premium and Catastrophe losses in Malaysia and Singapore

Premium

In 2012, there are approximately one hundred and four reinsurance firms and brokers in Malaysia and Singapore and they represent 28% of the whole Asia Pacific region. Based on the data provided by Asia Insurance Review 2013, the reinsurance market in Malaysia and Singapore premium was written at USD14,272 million and USD19,463 million

respectively, accounting for about 2.50% of the Asia Pacific reinsurance market. Japan and China are the leaders of Asia Pacific which represent over 65% of the premium written in year 2011. From the chart below, total premium written by Malaysia and Singapore increased from year 2008 to 2011.

For Malaysia market, the premium written in year 2008 was 9,044 million; it has increased to 9,889 million in year 2009 and continue to increase 12,637 million in year 2010 and 14272 million in year 2011.

For Singapore market, the premium written in year 2008 was 14,948 million, it was slightly decreased in year 2009 to 14,451 million but in year 2010, the premium was started to increase from 14,451 million to 16,032 million and aggressively increased to 19,463 million in year 2011.
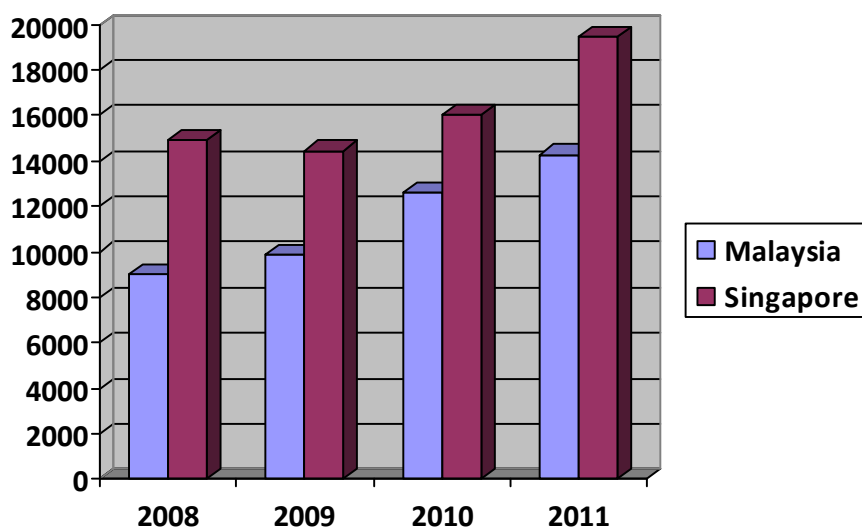

Figure 1.0: Total premium written by Malaysia and Singapore

Table below shows the total premium in US$ (million) written by Malaysia and Singapore:

Premium US$ (million)	2008	2009	2010	2011
Malaysia	9044	9889	12637	14272
Singapore	14948	14451	16032	19463

Catastrophic Losses

Catastrophe losses occurred in 2011 and 2012 has trigged the stable outlook of reinsurance industry in the world especially in Asian Region. Based on Fitch Ratings report in Global Reinsurance Guide 2013, the catastrophe losses of USD6,200 million in 2012 expected to increase USD10,900 million in 2013. This further result the reduction of profitability earnings sustainability becomes more challenging in year 2013. Given the significant of unpredicted losses occurred, reinsurance industry needs to take a major review to contribute a new performance measures and healthy capital environment.

Below show the chart of economic losses in billion. Losses in Asia have accounted the highest as compare to other regions. Thailand flood estimated approximately 10.78 billion. The high loss events has brought attention to various parties like government, policy holders, professionals, underwriters, actuaries and etc to further investigate and anticipate how these extensive losses affect performance measurement system in reinsurance industry.
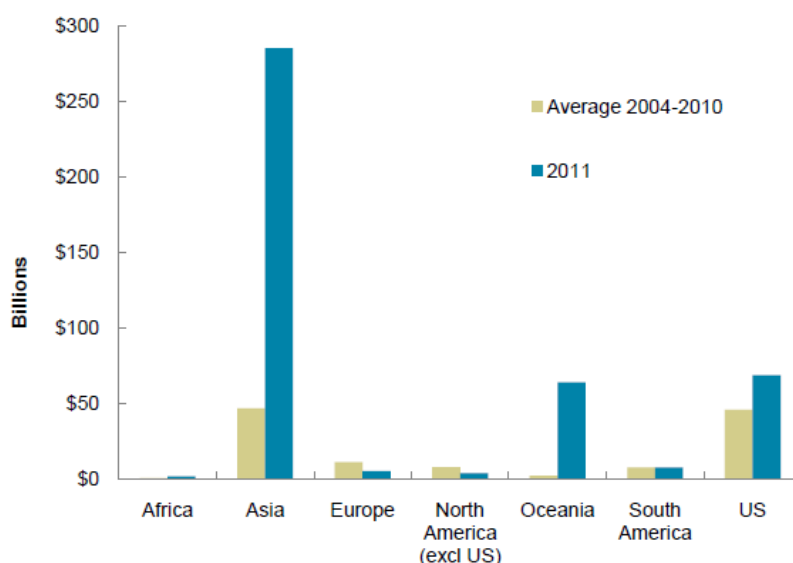
Figure 1.1: Economic losses in billion in year 2011

Source: Reinsurance Market Outlook- Value Creating Capital, Aon Benfield (January 2012)

1.2 Performance Measurement System (PMS)

Performance is the action of company to achieve objectives and target based on the decision made earlier. Lebas (1995) mentioned that the main objective of an organization is to reach targets, time required and how the preference ordering to achieve the target. Performance measurement is the tool to ensure accurate and timely strategy in an organization. There are various definitions of performance measurement by researchers. Performance measurement defined by Franco et al. (2004) as below:

" *a set of processes an organization uses to manage its strategy implementation, communicate its position and progress, and influence its employees' behaviors and actions. It requires the identification of strategic objectives, multidimensional performance measures, targets and the development of a supporting infrastructure.* "

Neely et al. (1995) and Kennerly and Neely (2002) defined performance measurement system as an individual performance or a set of people, methods and tools that used internal and external factor to generate, analyze, diagnose data.

Traditional performance measurement system in the preliminary stage only focused on financial measure, it has been criticized by various researchers as they are only focusing on short-term measure rather than long-term measure, focusing the historic measurement rather than the future measurement. It fails to fulfill customers' needs and unable to analyze how the reaction of competitors. As a result, traditional performance measurement system is unable to provide accurate and latest information for organization in order to continue meet the demands of customers and stakeholders.

1.3 Introduction of Balanced scorecard

Kaplan and Norton (1992, 1996a, b, c, 2001) recognized the shortcomings of using traditional performance measurement system and they introduced balanced scorecard to combined financial and non-financial measure of performance. Balanced scorecard is claimed to be a leading performance measurement system in the world. (Silk, 1998; Malmi, 2001; Kald and Nilsson, 2000; Rigby, 2001; Hallman, 2005) Although balanced scorecard have been implemented by a large number of organizations worldwide and widely cited in the previous literatures but there are very few articles published in journal to examine how balanced scorecard is implemented in reinsurance industry in Malaysia and Singapore region. According to Hsiao (2012), only few empirical studies have been done in insurance industry and most of the previous researches were focused on bank. (Morium, 2002; Chen, 2005; Kim and Davidson, 2004, hospital (Chang et al. 2008), local government (Chan,

2004) and most study have been conducted in manufacturing industry. (Jusoh et al., 2008; Ong et.al.,2008; Smith, 1999).

The balance scorecard (BSC) introduced by Kaplan and Norton in 1992 is a new framework which assess company's past and future performances towards company's objective. It was integrating financial measures with three additional non-financial measures namely customer, internal process and long-term learning and growth perspectives. Based on Kaplan and Norton's (1992) research, balanced scorecard is a performance management tool that helps companies to balance the lagging and leading indicators in order to improved problem solving and decision making in the organization. Balanced scorecard is a new communication tool to translate company's goals, values, and beliefs into a tangible set of performance measures. (Malina and Selto, 2001)

Although the use of balanced scorecard has gained increasing popularity and attention among industry practitioners and researchers over the years but balanced scorecard approach is not a popular method to measure performance in reinsurance industry.

Based on the various study of researchers, the adoption rate of balanced scorecard by countries are tabled as below:

Countries	Adoption rate	Source	Industry
USA	50-60%	Silk,1998; Kaplan & Norton,2001;Karathanos, 2005; Paladino, 2000	Fortune 1000 companies in USA
Europe	40-45%	Brewer, 2002	Publicly traded firms
German	26%	Speckbacher et al. 2003	
Australia	88%	Chenhall & Langfeild-	

	30%	Smith, 1998 McCunn,1998	- Australia's top 1000 companies
Finland	31%	Malmi, 2001	
Canada	17.8%	Gosselin 2005	Manufacturing firm
India	45.28%	Anand et al. 2005	Manufacturing and service organizations
Malaysia	8.7% 30%	Jusoh et al. 2006 Jusoh et al. 2008	Manufacturing firm
Thailand	40%	Youngvanitch & Guthrie 2007	Diverse industries

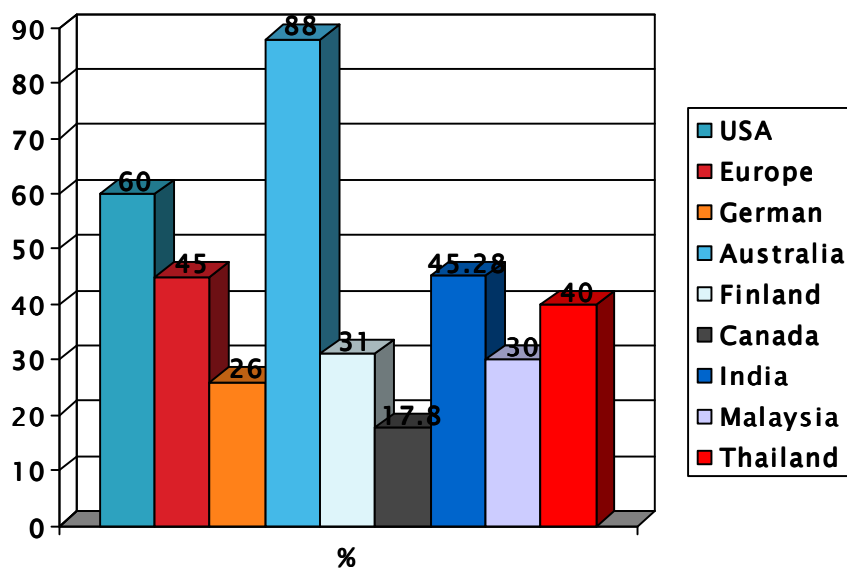*Table 1.0 Adoption rate of Balanced Scorecard by countries*

Figure 1.2 Adoption rate of Balanced Scorecard by countries

1.4 Research problem statement

In Asia region, there are 365 reinsurance and broker firms in Asian region. Malaysia and Singapore consist of 104 reinsurers and brokers, they represent 28% of market share as compare to Asian region. Below is the table and chart show the total of 104 companies in the region:

Countries	reinsurers	brokers	Total
Malaysia	28	24	52
Singapore	28	24	52
Total	56	28	104

Table 1.1 : 104 of reinsurers and brokers in Malaysia and Singapore

Source: Reinsurance Directory of Asia 2013, published by Asia Insurance Review
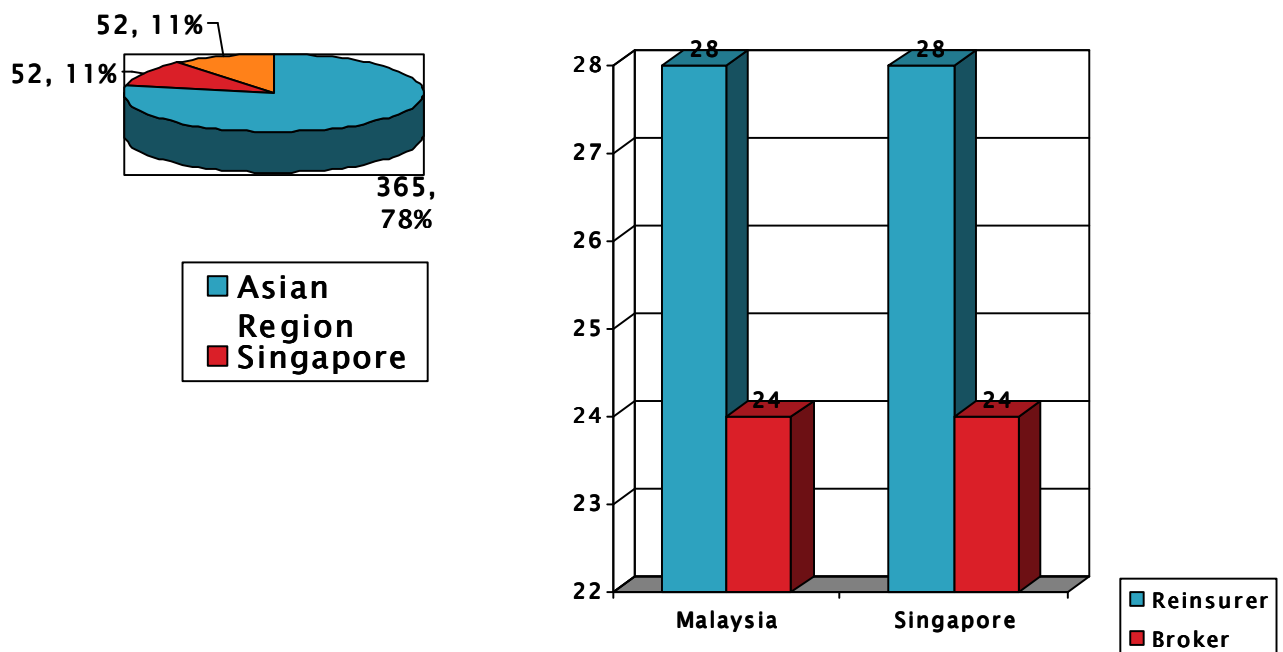

Figure 1.2 104 of reinsurers and brokers in Malaysia and Singapore

Source: Reinsurance Directory of Asia 2013, published by Asia Insurance Review

Today, reinsurance industry is competing in dynamic, complex, globalize and high catastrophe losses from natural disaster. The balanced scorecard converts organization's vision, mission and strategy into objective and measure in four perspectives area. The implementation of the balanced scorecard is an innovative way to create strategic awareness in the organizations. The balanced scorecard has successful application across the globe in diverse organizations. Several organizations have implemented the balanced scorecard as an effective instrument of measuring organizational performance. Globally, the scorecard was created to develop a comprehensive system of performance measurement, which not only serves as a device to guide strategy formulation, implementation and effective communication but also tracks the business for proper control and evaluation and to serve.

1.5 Research questions

The research questions deal with performance measurement using four perspectives, namely financial, customer, internal business process and learning and growth perspectives of balanced scorecard. The research questions in this paper are structured as follow:

RQ 1: What is the relationship of reinsurance performance between four perspectives (financial, customer, internal business process and learning and growth) in Balanced Scorecard?

RQ 2: Is the cause-and-effect relationship in the four perspective of the balanced scorecard linked together?

RQ 3: What are the limitations faced by reinsurance industry in the implementation of the balanced scorecard?

1.6 Objectives of the research

Balanced scorecard provides insight for organizational to face future challenges. It is necessary for reinsurance industry to understand the current economic and demands of insurance and reinsurance products and service and gain effective information to reach organizational goals. The present study is conceived with the following objectives:

RO1: To examine the relationship of reinsurance performance between four perspectives (financial, customer, internal business process and learning and growth) in Balanced Scorecard.

RQ2a: To identify whether learning and growth will drive to improve internal business process.

RQ2b: To examine whether the improvement in internal business process will eventually lead to customers' satisfaction.

RQ3b: To study whether customer satisfaction will improve the financial performance of the organization

 RQ4: To investigate the limitations faced by reinsurance industry when implementing balanced scorecard.

1.7 Significant of the study

High catastrophe losses occurred in the world has affected the performance of the reinsurance market in Malaysia and Singapore. Catastrophe losses such as Tornado, hail, Japan tsunami, Thailand flood and even Sandy flood happen in America recently forced reinsurance industry to seek more capital, new measurement to cover the significant

retained losses and aiming to increase the earning and capital. The drawbacks of the traditional performance measurement are not sufficient for reinsurance companies in Malaysia and Singapore to improve their services and increase the market competition in the global.

The motivation of the current study is driven by several reasons. Despite of the benefits of the implementation of balanced scorecard and many studies on balanced scorecard in various industries, however there were very limited studies on balanced scorecard in reinsurance industry. Most of the studies focuses on develop countries. (Punniyamoorthy and Murali,2008; Braam and Nijssen, 2008). Balanced scorecard is not a popular method for strategic performance management tool for reinsurance companies especially in Malaysia and Singapore region. With greater liberalization and catastrophes losses occurred in recent years, reinsurance industry has come to play a much larger role in the allocation of resources than in the past and its role in future can be expected to much larger than at present. Given the significance of the reinsurance industry in the allocation of resources, this study serve as a contribution to literature by addressing on a major issue in reinsurance companies in Malaysia and Singapore that has been less investigate and intends to recognize the importance and the inter-relationship of performance measurement using the four perspectives measurement in balanced scorecard. This study also reveals the balanced scorecard limitation and obstacles faced by reinsurance companies in Malaysia and Singapore.

1.8 A guide to the remaining chapters of this study

The paper is constructed into five chapters as follows: the first section start with introduction of performance measurement in reinsurance industry, introduction of balanced scorecard and historical review of reinsurance industry in Malaysia and Singapore. The upcoming section contains a literature review to provide an overview of various aspects, issues and limitation through in depth review in the relation to the performance measurement using balanced scorecard. Next in third section, the research methodology covers research design, scope of the study, sample and sampling design, research hypothesis and theoretical framework. The forth section includes the analyzed of the survey results and findings about reinsurance performance measurement system and the implementation of the balanced scorecard. The conclusion of the implications of the research findings pertaining to performance measurement systems, as well as research limitations of the current study, conclusion and scope for the future research has also been presented in the final sections.

CHAPTER 2

LITERATURE REVIEW AND HYPOTHESIS

2.0 Trends in Performance Measurement System

According to Ittner and Larcker (1998a) performance measurement system plays an important elements in the process of implement strategic plan, evaluating organizational objective, and compensating managers. Performance measurement is the objective to be achieved by organizational and it helps to provide a summary review of how effectiveness the organization's plan. It enables organizations to measure historic performance which is mainly focus on financial measures such as sales growth, profits, return on investments and cash flow. In the recent years, there were many researches put greater emphasis in non-financial measures as compare to financial measures to evaluate organization performance. (Abernethy and Lilis, 1995; Anderson et al., 1994; Banker et al., 2000; Droge et al., 2000; Ittner and Larcker, 1998b; Said et al., 2003; Bryant et al., 2004) Non-financial measures such as customer satisfaction, employee learning and innovation were found in the research from Kaplan and Norton (1992); Itter and Larcker (1998). There were also empirical evidence from the literature Amir and Lev (1996) linked financial measure and non-financial measure together.

Observing the limitation of traditional performance measurement system, Kaplan and Norton (1992) introduced balanced scorecard as a new performance measurement system (PMS) to overcome the traditional performance measurement system. They added non-financial measures such as customer relationship, innovative products and services, high-quality and responsive operating processes to translate companies' mission and strategy

into a balanced set of integrated performance measures. Financial indicators cannot reflect the whole performance of an organization in a volatile environment.

Balanced scorecard consists of financial and non-financial measures; it links each of the perspective together in a series of cause-and-effect relationships. This assumption of causality enables customer, internal business process and learning and growth to predict financial results. (Norreklit, 2000). The cause-and effect relationship for each of the perspectives will be further discuss in chapter 2.

2.1 Leading and Lagging Indicators

Financial measure is a lagging indicator which measures the performance of the historic period. It focuses input rather than output and only access task. Non-financial measure such as customer, internal business process and learning and growth are leading indicators which measure processes that have significant effect on future performance. Kaplan and Norton also mentioned that a good balanced scorecard should included mixture of lagging and leading indicators in the performance measurement.

Prior studies have shown how non-financial performance measures harmonized with financial performance measures which enable help management to obtain the best measurement to setup their strategy in a competitive environment. (Hemmer, 1996; Shields, 1997; Hoque and James, 2000). Hoque and James (2000) found that the used of balanced scorecard is linked to improved performance and further create a balance between financial and non-financial measures.

2.2 The Concept of Balanced Scorecard

According to the balanced scorecard model of Kaplan and Norton (1996), the effectiveness of the balanced scorecard is based on its ability to translate a firm's mission and strategy into a comprehensive set of performance measures. The balanced scorecard (BSC) framework is a business management concept that measures both current performance and future performance. The balanced scorecard approach involves identifying the key components of operations, setting goals for them, and provides a detailed roadmap that helps to measure organizational progress toward achieving both long and short term goals. Thus, balanced scorecard provides a holistic view of what is happening in both internal and external of the organization or at the departmental level. It allows each operational of the organization to see how their activities contribute to achieve organization's overall mission (Kaplan and Norton, 1992).

Chan (2004) also described that balanced scorecard emphasis on translating strategy into a linked set of financial and non-financial measure, he further explained that balanced scorecard is an integral part of the mission identification, strategy formulation and process execution in order to sustain company improvement efforts.

Below exhibits the balanced scorecard framework and the performance measures are classified into four perspectives which provide a comprehensive view of performance.
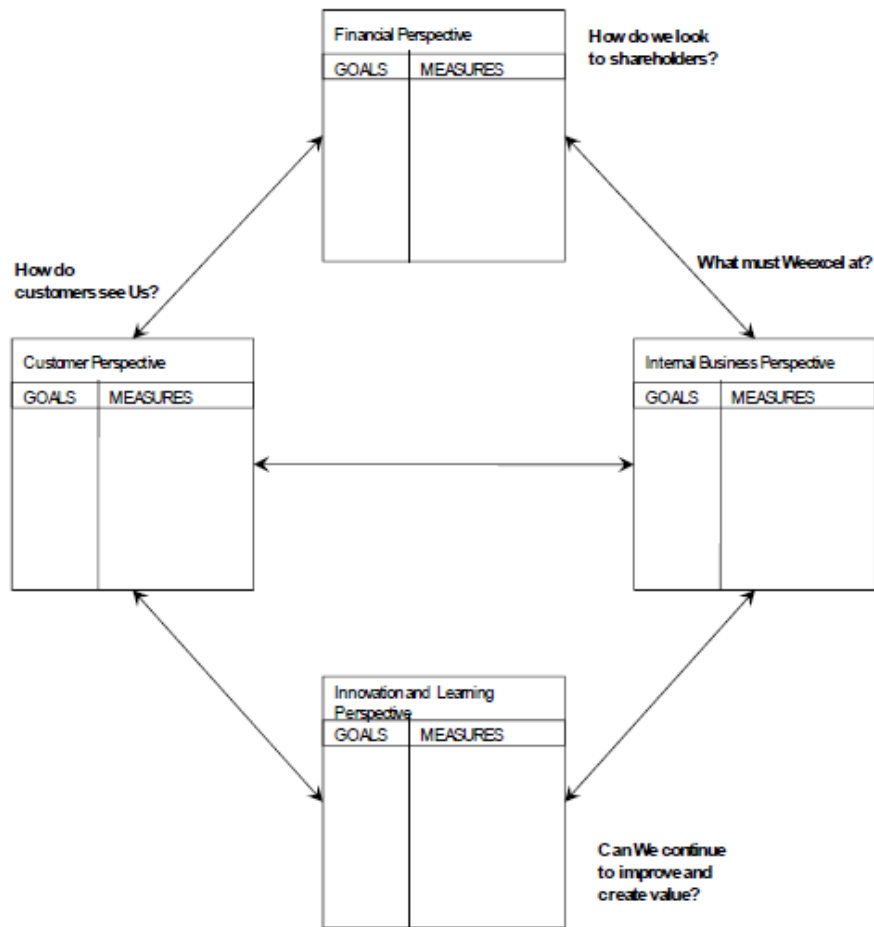
Financial Perspective

GOALS	MEASURES

How do we look to shareholders?

How do customers see Us?

Customer Perspective

GOALS	MEASURES

What must We excel at?

Internal Business Perspective

GOALS	MEASURES

Innovation and Learning Perspective

GOALS	MEASURES

Can We continue to improve and create value?

Figure 2.0 Balanced Scorecard framework

Adopted from Kaplan & Norton (1992)

The experts, Hoque and James (2000); Kaplan and Norton (1996b); Luneborg and Nielsen (2003); David and Albright (2004); Juhmani (2007); Dehning et al., (2007); Lee et al., (2008); Petal et al., (2008) provide evidence that balanced scorecard is positively affect organizational performance. Balanced scorecard can significant improve organization's short term financial as well as long term goal and further increase business opportunity and improve efficiency. (Malina and Selto 2001)

There are four perspectives of balanced scorecard, financial, customer, internal and business and learning and growth perspective. Financial perspective evaluates the profitability element of strategy and customer perspective identifies the targeted market, segments and measures the company's success in these segments. Internal and business perspective focuses on internal operations while learning and growth perspective identifies the capabilities in which the organization must excel in order to achieve superior internal process that creates value for customers and shareholders. The hypothesis of each of the characteristic will be described as below:

2.3 Financial Performance Perspective

Financial measures are the most traditional and commonly used as measurement tool to meet shareholders' need. They considered as "lagging" indicators as the performance measurement are based on the consequences of action already taken (Cohen et al. 2008). This perspective usually focused on profitability, operating income, return on investment, return on assets, return on equity, productivity measures, return on capital employed, residual income, economic value added, sales growth, cost control, cash flow, market share and various ratios etc (Atkinson, 2006; Fitzgerald, 2007; Jusoh et al., 2008).

Based on the above researches, we expect that financial perspective has a relationship with performance measures. Thus, we hypothesize **a positive relationship between financial perspective and performance measurement. (H1)**

2.4 Customer Value Perspective

This perspective capture value proposition in order to generate sales and loyalty from targeted customers (Kaplan and Norton, 1996). It provides organization to identify the quality products and services in order to effective deliver the value to customer and increase customer satisfaction. The core measures in customer value perspective include customer satisfaction, market share, customer complaints, customers' retention, introduction of new products, and on-time delivery, customer profitability, market penetration, multiple delivery channels etc. The customers' measurement can be obtained from customer surveys (feedback), business from repeat customers, and customer profitability. Krishnan et al. (1999) and Rust et al. (1995) found that the level of service quality determine overall customer satisfaction in service industry. The drop of satisfaction level of customers will result a decline in future financial performance.

Many studies have demonstrated a positive relation between customer satisfaction and firm performance. It is reported that improvement in customer satisfaction is positively related to the financial performance in relation with profitability, (Banker et al., 2000) revenues (Rucci et al, 1998), return on investments (Anderson, Fornell and Lehmann, 1994) and stock returns (Ittner and Larcker, 1998).

Therefore, we hypothesise that there is a **positive relationship between customer value perspectives is positively related to performance measurement**. (H2)

2.5 Internal Business Process Perspective

Internal business process measures relate to the operational processes of the organizations. It emphasizes the creation of customer value proposition in the business process. The key performance measures under this perspective include cycle time, efficiency, defect rate and quality. It also identifies the critical processes, skills, competencies and technologies that will deliver a value proposition to customers, current and future organizational success (Atkinson, 2006). Gartrell (1990) reported that investment on research and development (R&D) is a critical factor in contributing to superior economic performance. On the other hand, Aboody and Lev (1998) observed that capitalization on R&D is significantly positive associated with firm future earnings. Bhagat and Welch (1995) found that two-year lagged stock return is direct associate with the current R&D expenditures.

The majority of the process improvement studies attempted to associate quality management and firm performance. However, Ittner and Larcker (1997) pointed that operational indicators may vary according to industry and they are not identical related to firm performance. The case studies conducted by Gebgert et al. (1996) and Krupnicki et al. (1997) revealed that organizational which applied activity-based costing (ABC) enable management to control cost effectively and further increase the profitability of the company. Another finding from Jacobson and Aaker (1987) also reported that improve in product quality will directly increase the market share of the organization.

This study expects **internal business process perspective has positive relationship with performance measurement.** (H3)

2.6 Learning and Growth Perspective

This perspective emphasized how an organization reacts and makes an improvement to formulate and implement strategy. It involves innovation, system and procedures, creativity, competence and capability of employees and represents most important intangible assets for an organization. The innovation and learning perspective is all about developing the capabilities and processes needed for the future. Measures such as employee capabilities, information systems capabilities, training, employee retention, and employee productivity are use in learning and growth perspective. (Kaplan and Norton (1996). According to Cohen et al. (2008), the objectives of this perspective are to identify the human capital, information capital and the organizational culture required to support the internal processes. It also focuses on people and their attitude, knowledge, development and ability to learn and improve.

The development of human capital, increase the capability of learning and growth in the organizational, it can further increase the competitive advantage and increase employees capability who can generate superior ideas in order to improve organizational process and delivered higher customer value. Johnson et al. (2005) insists that by enhancing employee capabilities will enable organizations to serve customers well. Activities such as selective hiring and training, investments in information systems, increase employee motivation and etc can increase employee job satisfaction, which in turn reduce the turnover rate of employee and increase productivity. Heskett et al. (1994) found that employee satisfaction derives from high quality support services provided by the firm, for instance, human capital development. Employee training has been empirically linked with a number of other balanced scoarecard measures. Studies have documented a positive association between

skill development training and employee retention (Wah, 1998; Lynch and Black, 1998). Training has also been linked to innovation, process improvements and customer service quality (Lewis and Gabrielsen, 1998; Johnson, 1996). Brown, Gaitian and Hicks (1995) observed that developing technical competency was important to create innovations and result to be more profitable than those organizational that did not invest in strategic information systems. In summary, it is supported that there is significant relations of learning and growth activities in contribution to the internal business process improvement.

From the above discussion, we hypothesize the **positive relationship between learning and growth perspective is positively associated with performance measurement**. (H4)

2.7 Cause-and-Effect Relationships

There were studies provide empirical studies about the linkage of balanced scorecard and performance. (Hoque and James, 2000; Sim and Koh, 2001, Davis and Albright, 2004; Maiga and Jacobs, 2003). The balanced scorecard linked financial measures with other three key performance indicators namely, customer, internal and business process, and learning and growth perspectives in a cause-and-effect relationship. (Aidemark, 2001; Norreklit, 2000).

Cause-and-effect relationship in balanced scorecard is the main approaches introduced by Kaplan and Norton (1996a) and these four perspectives are correlated with each other:

Measures of organizational learning and growth → *measures of internal business processs* → *measures of the customer perspective* → *financial measures.*

They further explained that financial measures are not sufficient to measure organizational performance, it must integrated with non-financial measures in order to achieve company's target and objective.

A cause-and-effect relationship exists in a sequential manner as shown in figure 1. The connection between four perspectives enable organizations to translate vision and strategy into objective and let companies to have broader view on how one perspective will influence other perspective ultimately leading to improved financial results.
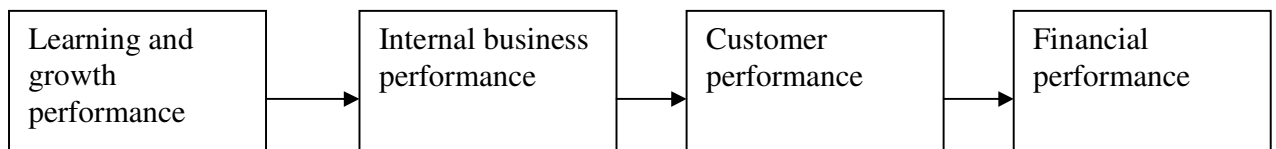
Figure 2.1 cause-and-effect concept in balanced scorecard

Based on the above figure, Cohen et al. (2008) concluded that improved performance in the learning and growth perspective will result in the improvement of performance in the internal business process perspective. The improvement in internal business perspective will positively affect company's performance in relation to customer and it will eventually influence financial performance (financial perspective). The statement is also supported by Kaplan and Norton (1996); Jones and Sasser (1995); Reichheld and Sasser (1990). Customer perspective determines financial results and result a positive relationship between customer satisfaction and financial returns. (Banker et al. 2000)

As conclusion, it can be concluded as financial measures are determined by the measurement of customer, internal business process and learning and growth measures. The

causality assumption in non-financial measures enables the prediction of financial results. Greater emphasize on non-financial measure found by Baines and Smith (2003) reflects positively on organizational performance.

By tying these four perspectives, the balanced scorecard provides a holistic view of the whole operation of companies. The entire chain of cause-and-effect relationships can be established through four perspectives of balanced scorecard as illustrated in figure 1.

In learning dimensions, the improvement of information assessment and organizational structure will improve the status of innovation in the internal business process. The hypothesis for the causal relationship can be developed as below:

Learning and growth drive to improve internal business process (H5)

Customer and internal business process influenced each other. Internal business process focuses the internal value of an organization in order to increase customer value through customer satisfaction. According Kaplan and Norton (1992, p.78)

" A failure to convert operational performance, as measured in the scorecards, into improved financial performance, should send executives back to their drawing boards to rethink the company's strategy or its implementation plan."

According to Rust, Zahorik and Keiningham (1995), the level of service quality affects customer satisfaction, acquisition and retention. There is a positive relationship between customer service and customer retention (Friedman,1992; Rust, Zahorik and Keiningham,1995; Ennew and Binks 1996). It provides empirical evidence of post sales service quality has a positive relation with market share.

Overall, the empirical studies based on the literatures supported the notion that organizational learning and growth activities drive to improve internal business processes and appear to be directly related in contributing to greater customer value. The causal relations of productive employees will increase the level of innovativeness, customer service and process improvement.

Hence, the improvement of business process will improve customer value and the hypothesis is constructed as below:

Improve in internal business process will lead to improve in customer value. (H6)

Based on Kaplan and Norton (1996) assumption, measures of the customer perspective determine financial outcomes are based on the work of Jones and Sasser (1995) and Reichheld and Sasser's (1990) research. Banker et al (2000) also found there was a positive relationship between customer satisfaction measure and future accounting returns. Anderson et al. (1994) also supported that customer satisfaction is positively influence accounting return on investment. Hence, the hypothesis between customer perspective and financial performance can be developed as below:

Customer satisfaction will increase the profitability of the organization. (H7)

In summary, it is necessary for reinsurance industry in Malaysia and Singapore recognize extend the usage of balanced scorecard by linking performance measures to a business strategy and associated with cause-and-effect relationships. This will enable reinsurance industry in these two regions to develop a balance performance measurement system which can be best suite the industry needs.

2.8 Limitation of the Balanced Scorecard

Although researchers promoted the use of balanced scorecard to evaluate organizational performance and show positive relation between the uses of non-financial measures with performance measure, there are also arguments that balanced scorecard is difficult to implement effectively. (Paranjape et al., 2006; Chang, 2007)

There are several inconsistencies in balances scorecard. (Rillo, 2004). The cause-and-effect relations are not time-wise proven. (Norreklit, 2000). Time dimension is not considered in balanced scorecard as in many circumstances a time lag exist between cause-and-effect in balanced scorecard perspectives.

Another problem identified by Rillo (2004) is that balanced scorecard does not consider outsiders like supplier, partners of competitors; they only focus shareholders and consumers. (Neely, 2002). Other researchers also argued there is little attention to government, local communities and environment. (Otley, 1999; Norrklit, 2000; Bourne, 2000).

A third limitation addressed by Rillo (2004) is that the balanced scorecard framework didn't work well in all organizational types. Large and complex organizations were the pre-methodology test but small and medium size organization also proven that they can provide more consistent and rational result against large organization.

Anand et al. (2005) also argued that balanced scorecard critique is difficult to implement and achieve a balance between financial and non financial measures. According to Strack

and Villis (2002), the selection of key variables in the balanced scorecard is not systematic and there is no sensitivity or scenario analysis.

There are also obstacles faced by organizational. For example:

(i) Lack of management concern and support-According to Kaplan & Norton (2001); Braam and Nijsen (2004) ; Schneiderman (1999), the reason of non-adoption of balanced scorecard is lack of management commitment and support. The management has other priority projects and there is not sufficient leadership from most of the senior manager to implement balanced scorecard.

(ii) Lack of clear ideas in strategies- Kaplan and Norton (2000) emphasized that employees' understanding of strategy is critical to the success of the balanced scorecard. A better understanding of the firm strategy by the employees would lead to the right choice of strategically linked performance measures for guiding their decisions and actions.

(iii) Too costly / revenue constraints-Time to implement balanced scorecard is too consuming and management have not considered it as priority in the company's strategy.

(iv) Lack of clear ideas in concept-Organization does not fully understand how it works and how it would be benefit the organization.

(v) Lack of sufficient information-There is not enough research into the advantages benefits for organizational. It is also difficult for organizational to identify the performance indicators to be used in the balanced scorecard.

(vi) Too time consuming in developing balance scorecards-The process of the development and implementation of balanced scorecard takes too long. If the process of implementation takes too long, some of indicator may become obsolete and organizational needs to replace with new indicators.

(vii) Lack of skill and know-how-Meyer (2002) argued against the balanced scorecard that non financial indicators are too difficult to measures. Balanced scorecard does not provide guidance on how to combine similar measures into an overall appraisal of performance.

(viii) Lack of linkage of balanced scorecard to employees' rewards- Balanced scorecard also difficult to link employees' compensation with the balanced scorecard until the firms are certain about the right choice of measures in their performance scorecard based on their experience with it for several months. (Colabro, 2001)

Not only that, the selection of variables in the balanced scorecard is not systematic and lack of sensitivity analysis and scenario analysis. (Strack and Villis, 2002). Meyer (2002) also supported this fact that balanced scorecard methodology doesn't provide clear road map to guide organization on how to combine the dissimilar variables into an overall performance measurement.

Overall the Balanced Scorecard is considered difficult to implement. Balanced scorecard needs in-depth review and modifications in order to suite the unique requirements of organization. (Noel and Lund, 2002)

2.9 Literature Review: A summary

The balanced scorecard approach to performance management is an attempt to achieve different kinds of balance between short and long run, between different perspective of the scorecard, between measuring change and present position, and between market image and internal focus. It is useful for both strategic and operational purposes. To implement it successfully, it must enjoy widespread support from the company. The history of the

Balanced Scorecard is short with mixed experiences, On the other hand, while it is widely accepted as a management tool, critics have challenged its basic assumption of cause and effect relationship and the right choice of measures.

In Malaysia and Singapore of reinsurance context, there have been limited studies on Balances Scorecard.

CHAPTER 3

RESEARCH METHODOLOGY

3.0 Introduction

This chapter covers the research methodology and the design of the study. This chapter also presents the explanation and discussion of the theoreticial framework and the research hypothesis. At the same time, the sampling, data collection, validity and reliability as well as the methods of statistical analysis utilized in the study are discussed.

3.1 Theoretical and Conceptual Framework

This theoretical framework is the foundation on which the entire research project is based. The literature review in the previous chapter has characterized financial and non-financial measures into four perspectives, namely financial, customer, internal process and learning and growth perspective. We have selected a number of financial and non-financial variables that are found that are relevant in the three non-financial perspectives in balanced scorecard that are found in the research of Aidemark, 2001; Banker et al., 1999; Chenhall, 2005; DeBusk et al., 2003; Evan, 2004; Ittner et.al., 2003; Johnson et al., 2005; Kaplan and Norton, 1996a; Laudon and Laudon, 2004; Lipe and Salterio, 2002; Malina and Selto, 2001; Pandey, 2005).

3.2 Research Hypothesis

Figure 1 provides the theoretical framework used to test the relationship of the balanced scorecard to performance measurement. The framework is designed to examine the significance of the balanced scorecard in linking four perspectives in reinsurance

companies. The framework also examine the cause-and-effect relationship of non-financial measures to financial measure.

Based on the theoretical framework, 7 hypothesis have been developed for this research. The variables that will be used in the hypothesis are :

Independent Variables   **Dependent Variable**
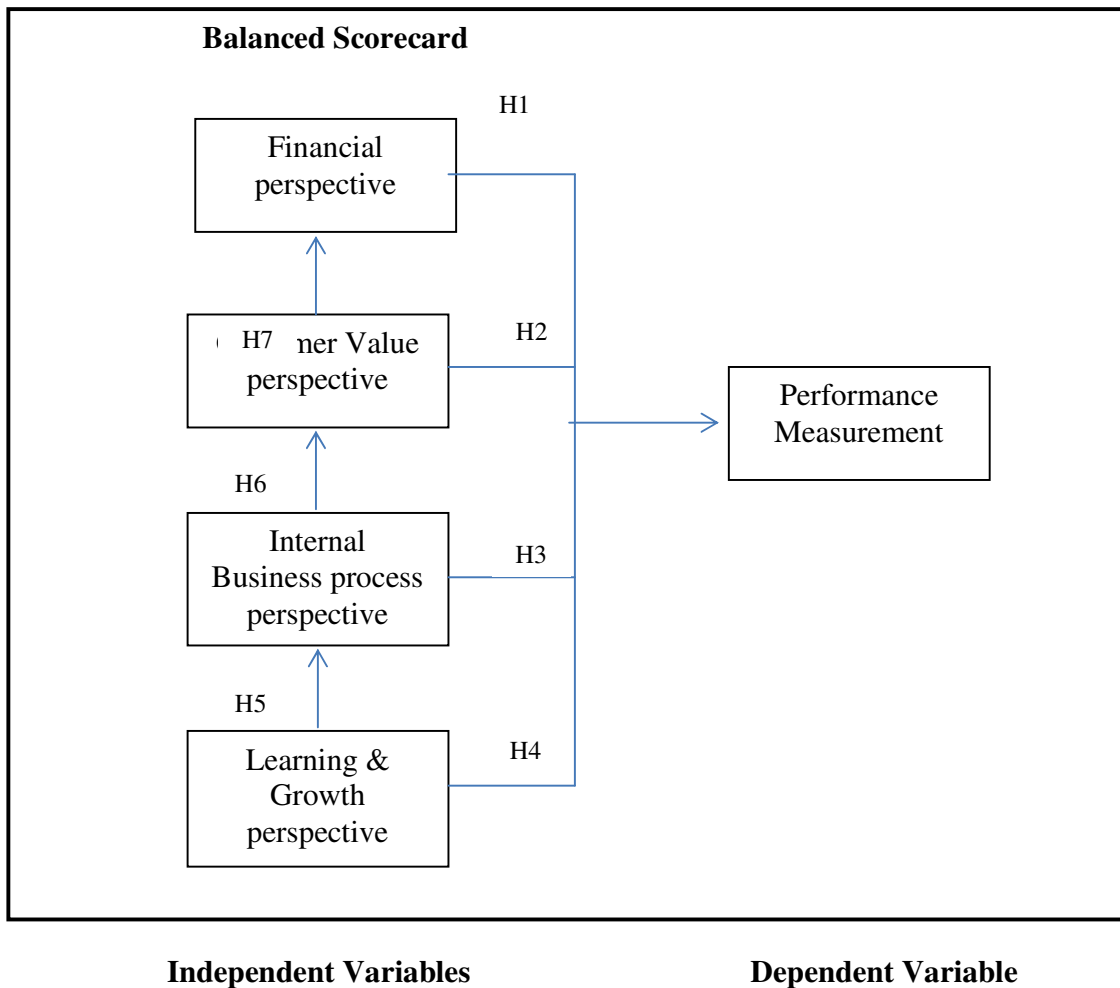
Figure 3.0: Theoretical Framework

The hypotheses that are going to be examined for this research are as follows:

Hypothesis 1	The relationship financial perspective and performance measurement is positive.
Hypothesis 2	Customer value perspective is positively related to performance measurement.
Hypothesis 3	Internal business process perspective has positive relationship with performance measurement
Hypothesis 4	Learning and growth perspective is positively associated with performance measurement.
Hypothesis 5	Learning and growth drive to improve internal business process
Hypothesis 6	Improve in internal business process will lead to improve in customer value.
Hypothesis 7	Customer satisfaction will increase the profitability of the organization.

3.3 Research Design

The basic purpose of this research is to examine whether the four perspective of independent variables influence performance of reinsurance amd brokers firms. This research was conducted in reinsurance industry in Malaysia and Singapore. The targeted sample were executive, manager, CEO or Managing Director of reinsurance industry consist of reinsurance and brokers. A questionnaire was designed based on discussion with reinsurance brokers CEO and Managing Director in Malaysia and Singapore. Based on the pre-test result, several items on the questionnaire were revised. The final version of the questionnaire was sent to the respondents using the survey method. Statistical Package for

Social Science (SPSS) was used to analyze the survey data. Primary data and secondary data were used.

3.4 Sampling Design

This study focuses on organisation in reinsurance indusrty in Malaysia and Singapore. Reinsurance industry involved reinsurance and brokers firms. Reinsurance industry has been choosen because there were very little empirical study on the use of balanced scorecard in performance measurement system in this industry.

The data used in the analysis were obtained from Reinsurance Directory of Asia 2013 published by Asia Insurance Review. There are 104 reinsurers and brokers in Malaysia and Singapore. Although Malaysia and Singapore is relatively small market share of 28% as compare to Asia Pacific region, it is a complete economic entity as in other countries. 200 questionnaire were sent to reinsurers and brokers through email. Email addresses were obtained through Reinsurance Directory of Asia 2013 and Malaysia Insurance Directory. Reinsurance company selected to be survey does not necessarily adopt or fully use of balanced scorecard as a tool for performance measurement system as there may not be common in reinsurance industry. A total of 31 completed questionnaires were received which made the the response rate of 15.5%.

3.5 Measurement of Variable

Independent variable

Using the balanced scorecard framework, questinnaire was developed in the aspect of

of financial and non-financial measures. 10 performance measures in financial perspective

were identified and 7 indicators for each of the non-financial measures in customer

perspective, internal business process and learning and growth perspective. Hence, a total

of 31 performance measures indicators were identified. (see table I). A five-degree Likert

scale ranging from 1 (Always) to 5 (Never) was used to access the extent to which

reinsurers and brokers used to each peformance measure.

The variable of four perspectives in balanced scorecard is adapted various researches as

below table:

Perspectives	Variables	Literature
Financial	Net Profit	Kordbaeij et al. (2011)
	Total premium	Kordbaeij et al. (2011),
	Financial revenue	Kordbaeij et al. (2011)
	Receivable collection period	Kordbaeij et al. (2011)
	Return on assets	Evans (2004) & Ittner et al. (2003)
	Return on equity	Hsiao (2012); Evans (2004); Kaplan & Atkinson (1998); Kaplan & Norton (1996a)
	Days of working capital	Anad et al.(2005)
	Current ratios	Anad et al.(2005)
	Operating profit margin to net written premium ratio	Hsiao (2012)
	Net written premium to earning ratio	Hsiao (2012)
Customer	Average waiting time for customers	Hsiao (2012)
	Convenience for customer to provide feeback	Hsiao (2012)
	Ability to provide customers with information and technical support	Hsiao (2012)
	Customer attitude toward after-sale services	Evans (2004); Kaplan and Norton (1996a); Kordbaeij et al. (2011)
	Time required to resolve issues for customers	Anad et al.(2005)

	Percentage of customers who complaint (among all customers)	Hsiao (2012); Lipe & Salterio (2002); Kaplan & Atkinson (1998), Kaplan & Norton (1996a); Kordbaeij et al. (2011)
	Customer satisfaction survey	Kaplan & Norton (1992);Ong & Teh (2012)
Internal Business Process	Ratio of orders and transaction processed	Anad et al.(2005)
	IT system integration capability for business premises	Hsiao (2012)
	Synchronization of knowledge and skills of employees and corporate training and curricula	Hsiao (2012)
	Regular assessment of effectiveness of knowledge sharing within the organization	Hsiao (2012)
	Whether customer relationship management has changes in the operation flows	Hsiao (2012)
	Unit of output per labour hours	Anad et al.(2005)
	Total premium of previous customers	Kordbaeij et al. (2011)
Learning and Growth	Employees' accessibility to training	Hsiao (2012); Kordbaeij et al. (2011)
	Stability of software	Hsiao (2012)
	Updating frequency of software	Hsiao (2012)
	Whether the company has establish an independent training department	Hsiao (2012)
	Turnover rate of the employees	Hsiao (2012), Ong & Teh (2012)
	Employee satisfaction	Kaplan & Norton (1992); Ong & Teh (2012); Kordbaeij et al. (2011)
	Team performance	Ong & Teh (2012)

The structured questionnaire consists of 4 parts. Part 1 collected information about the respondents and company's information. Part 2 consist of 2 sections; section 1 consist the financial measures and section 2 consist a series statement to measure non financial. Part 3 related to the performance measurement.

Dependent Variable

Firm Performance

Firm performance was measured using five-degree Likert scale ranging from 1 (Strongly Agree) to 5 (Strongly Disagree) was used to access the the performance meaurement. The combination of financial and non-financial measure variables have been access whether those variable will improve organisational performance:

Performance measurement variables

New technology speeds up innovation
New technology improbe internal process
New technology improve customer service
Speedy in innovation, produces innovative products/services
Innovative product/service meets customer demand
Innovative product/service improves customer service
Employees trainning improves innovation adoptions
Employees training improve employee productivity
Human capital development improves customer service
Technology innovation improves product/service quality
Technology innovation affects sales margin
Innovation product/service retains customers
Process improvement increases product/service quality
Process improvement increases sales margin
Internal process improvement retains customers
Improvement in customer service increase product/service quality
Quality of customer affects sales margin
Prodcut/ Service quality influences rate of return on assets
Better quality results in greater market share
Better quality improves profit margin
Sales margin (Net Premium) influences return on assets
Sales margin (Net Premium) influences market share
High sales margin (Net Premium) increases profit margin
High customer retention increases market share
High customer retention increases profit margin

Adopted from: Ong et al. (2010)

3.6. Data Collection and Analysis

The collected data were edited to check for the consistency to ensure that the statements given were not contradicting each other. Factor analysis was carried out to regroup the elements of the dimension. Descriptive statistics including frequency distributions for the variables, means, standard deviation were used. Range and variance on the dependent and independent variables were carried out to describe the characteristics of the population.

3.7 Validity and Reliability

Validity refers to the ability of the scale or measuring instrument to measure what is intend to measure . Sekaran (2003) As mentioned in the research objective, this study intend to find out relationship between four financial and non-financial perspective and performance measure. Organizational performance in this study refers to reinsurance and brokers' performance. For the purpose of this study, reinsurers and brokers in Malaysia and Singapore has been determined as our target sample. We obtained a reinsurance directory of Asia 2013 with Asia Insurance Review. In their database, they have 104 companies in Malaysia and Singapore.

In order to test how well the questions are positively correlated to one another. Cronbach's coeeficient alpha is computed separately for each perspective in this study. The result of the finding will be presented in chapter 4.

CHAPTER 4

EMPIRICAL RESULT AND ANALYSIS

4.0 Introduction

This chapter discusses the findings of the study through statistical analysis. The chapter begins with an overview of the data collection and description of the demographic profile of the respondents and the results of the hypotheses. In this chapter, the reliability test, multicollinearity test, and the normality of the instruments are also discussed. This chapter also will be explaining in detail the analysis of the findings. This is systematically presented through addressing the formulated research questions. All the survey data is analyzed using the Statistical Package for Social Science (SPSS) Version 18.0 program. The survey data is coded, categorized and input into SPSS.

The results and findings were presented in the same way as laid out in the survey questionnaire. The organization of this Chapter is as follows. Firstly, the researcher explained the profile of the respondents and followed by analysis of the variables. Next, the results of hypotheses testing are elaborated.

4.1 Description of the Sample

Several questions were asked in this section with regards to the demographic profile of the respondents. Individual questions were asked on gender, education level, position Held, country, number of years in operations, and size of the company.

This demographic information of the respondents was considered one of the most important factors. A total 200 questionnaires were randomly distributed to the target population and the response rate of 17.5% produced 35 questionnaires was received. 3 incomplete questionnaires were excluded from the data analysis. Therefore, a total of 31 questionnaires

were accepted for the final data analysis. Table 1 shows the results of the descriptive statistics for the respondents are presented as follows:

Demographic Variable	Frequency	Percentage (%)
Gender		
Male	14	45.2
Female	17	54.8
Total	**31**	**100.0**
Education		
Diploma / Certificate	4	12.9
Bachelor's Degree	14	45.2
Master Degree	13	41.9
Total	**31**	**100.0**
Position		
Executive	9	29.0
Manager / Assistant	10	32.3
Senior Manager / General Manager	8	25.8
CEO / Managing Director / Director	4	12.9
Total	**31**	**100.0**
Country		
Malaysia	20	64.5
Singapore	11	35.5
Total	**31**	**100**
Number of Years in Operations		
Less than 10 Years	12	38.7
11 - 20 Years	12	38.7
21 - 30 Years	2	6.5
30 Years and above	5	16.1
Total	**31**	**100.0**
Size of the Company		
Less than 50 Employees	22	71.0
50 - 150 Employees	3	9.7
More than 150 Employees	6	19.4
Total	**31**	**100**

Table 4.1: descriptive statistics

4.1.1 Gender

Among the 31 respondents, the majority of the respondents are female, making up 54.8% of the respondents of the population and 45.2% respondents are male. Graphs showed in Appendix 1.

4.1.2 Education Level

The education distribution of the respondents was categorized into three groups. The group with the most respondents is the education level of Bachelor's Degree (45.2%), closely followed by the education level of Master Degree (41.9%). The smallest group of the respondents in the education level is Diploma / Certificate level, only accounting for 12.9%. Graphs showed in Appendix 2.

4.1.3 Position Held

The table 1 shows that most of the respondents are Manager / Assistant level as this group respondents are 32.3%. On the other side 29.0% respondents are holding Executive level, 25.8% are Senior Manager / General Manager level employees. Only 12.9% respondents are CEO / Managing Director / Director / Management level. Graphs showed in Appendix 3.

4.1.4 Country

Majority of the respondents are from Malaysia as result shown that 64.5% of respondents under this country. Compare to Malaysia respondents, half of the respondents for Singapore (35.5%). Graphs showed in Appendix 4.

4.1.5 Number of Years in Operations

Refer to number of years in operations, the result shows that 38.7% companies are less than 10 years in the business & also same percentage for 11 – 20 years group of companies. 16.1% companies are 30 years and above in the operations. Only 6.5% companies are 21 – 30 years in the operations. Graphs showed in Appendix 5.

4.1.6 Size of the Company

Company size was categorized into three groups. The frequency result shows that 71.0% of the companies have less than 50 employees. 19.4% companies have more than 150 employees. Only 9.7% companies have 50 – 150 employees.

4.2 Normality Test

The assumption of normality is a prerequisite for many inferential statistical techniques (Coaked and Steed, 2007). Table 2 shows that the skewness and kurtosis values for all the variables are within the range (-2 to 2), thus data distribution for the sample is considered normal (Chua, 2008).

Measurements	Mean	Std. Deviation	Skewness	Kurtosis
Financial Perspective	1.88	0.49	0.03	0.28
Customer Value Perspective	2.28	0.79	0.47	-0.19
Internal Business Process Perspective	2.29	0.59	0.07	-0.45
Learning & Growth Perspective	2.28	0.86	0.27	-0.56
Performance Measurement	1.94	0.40	0.49	1.71

Table 4.2: Test of Normality

Table 3 shows the results of statistical tests for financial perspective, customer value perspective, internal business process perspective, learning & growth perspective, and performance measurement. The mean of average value is the most commonly used measure of tendency.

Skewness shows the tendency of the deviation from the mean to be larger in one direction than in the other. The skewness values negative for all variables. The negative value means that the distribution is flatter than Normal.

The Kurtosis is a measure of the relative peakness or flatness. The kurtosis of a normal distribution is zero. Here most of the variable's kurtosis values are negative. The negative value means that the distribution is flatter than a normal distribution.

According to Hair et. al. 2006, Skewness and Kurtosis value of ±1.96 indicates rejecting the normality assumption at 0.05 probability level, I can't reject the normality of distribution. In other words, the data is normally distributed.

The histogram of the normality test is shown in the Appendix 5.

4.3 Reliability

According to Chatterji (2003), reliability refers to the degree of consistency or reproducibility of an assessment's results under different conditions, assuming that random error always affects scores. To empirically examine the reliability of the survey instruments used in this study, Cronbach's alpha test was calculated for each of the variables. According to Nunnally and Berstein (1994), an internal consistency greater than .70 is reasonably reliable. Cortina (1993) suggested that alpha coefficients for scales with few items (six or less) can be much smaller (0.6 or higher) and still be acceptable.

The reliability coefficients for each of the five variables' scales are as follows: Financial perspective (0.83), Customer value perspective (0.89), Internal business process perspective (0.83), Learning & growth perspective (0.91), and Performance measurement (0.92).

Since all of the Cronbach's alpha coefficients for the items scales were greater than 0.8 the scales were deemed acceptable.

The results of the test are shown in Table 3 all the dimensions are reliable for this study.

Measurements	Alpha
Financial Perspective	0.83
Customer Value Perspective	0.89
Internal Business Process Perspective	0.83
Learning & Growth Perspective	0.91
Performance Measurement	0.92

Table 4.3: Reliability Analysis

4.4 Correlation Analyses

To study the correlation between variables, Pearson coefficient was selected. In particular,

the result is in the Table 4.

	Financial Perspective	Customer Value Perspective	Internal Business Process Perspective	Learning & Growth Perspective	Performance Measurement
Financial Perspective	1				
Customer Value Perspective	0.20	1			
Internal Business Process Perspective	0.23	0.67**	1		
Learning & Growth Perspective	0.14	0.57**	0.82**	1	
Performance Measurement	0.10	0.65**	0.37**	0.39**	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 4.4: Correlation between each variable

Table 4 shows the correlations between all the independent and dependent variables. The purpose of correlations analysis is to measure and interpret the strength of a linear or non-linear relationship between two continuous variables. The output shows that there is no significant relationship between Financial Perspective and other nonfinancial perspectives like Customer Value, Internal Business process, Learning & Growth, Performance Measurement. The highest correlation is between the Learning & Growth Perspectives and Internal Business Process Perspectives (r=0.82, p=0.01). The lowest significant level correlation is between the Performance Measurement and Internal Business Process Perspectives (r=0.37, P=0.01).

However, there is significant and positive correlation between all variables and dimensions except financial perspective. Hence, the result does not support the earlier study that financial is associated with increasing organizational performance.

4.5 Multicollinearity Analysis

 Table 5 presents Tolerance and VIF values for Financial Perspective, Customer Value Perspective, Internal Business Process Perspective, and Learning & Growth Perspective (independent variable) and Performance Measurement Perspective (dependent variable). When variables are highly correlated in a multiple regression analysis it is difficult to identify the unique contribution of each variable in predicting the dependent variable because the highly correlated variables are predicting the same variance in the dependent variable. According to Gujarati, D. (2003), Multicollinearity exists when tolerance is below .1; and VIF is greater than 10. In this case, there is not multicollinearity.

Measurements	Tolerance	Variance Inflation Factors (VIF)
Financial Perspective	0.94	1.06
Customer Value Perspective	0.55	1.82
Internal Business Process Perspective	0.26	3.81
Learning & Growth Perspective	0.33	3.06

Table 4.5: Multicollinearity Analysis

4.6 Testing the Hypotheses

This section will include the multiple regression analysis for the seven hypotheses developed for this study. In order to test hypotheses H1, H2, H3, H4, H5, H6, and H7 multiple regression analysis was conducted.

4.6.1 Hypothesis 1: The relationship financial perspective and performance measurement is positive.

In order to evaluate the relationship between Financial Perspective and Performance Measurement a correlation analysis was deployed. The correlations analysis was produced results as shown in the Table 4. The Pearson Correlations showed a no significant positive correlation between financial perspective and performance measurement. The lowest correlations of financial perspective with performance measurement are ($r = 0.10$, $P = 0.59$).

Additionally, a regression analysis was also conducted to test the effects of financial perspective on performance measurement. The results are as shown in Table 6. Here it was found that financial performance explained -2% (Adjusted R Square) of the variance associated with Attitudes. Also the analysis showed no significance, as indicated by F value from the ANOVA table with ($F = .29$, $P = 0.00 > 0.05$).

Table 4.6: Multiple Regression Analysis of Financial Perspective and Performance Measurement

Model Summary					ANOVA	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig
1	0.10a	0.01	-0.02	9.75	0.29	0.59a

a. Predictors: (Constant), Financial Perspective
b. Dependent Variable: Performance Measurement

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	42.76	7.10		6.02	0.00
	Education Quality	0.19	0.37	0.10	0.54	0.59

a. Dependent Variable: Performance Measurement

However, based on the research results, the hypothesis H1 is rejected. The overall financial perspective is found to have no significant relationship with performance measurement.

4.6.2 Hypothesis 2: Customer value perspective is positively related to performance measurement.

The regression analysis result in Table 7 shows that customer value perspective has a significant positive correlation with performance measurement (r = 0.65, p < 0.00). Here it was found that customer value perspective explained 40% (Adjusted R Square) of the variance associated with performance measurement. Also the analysis showed high significance, as indicted by F value from the ANOVA table with (F = 21.24, p = 0.000 < .05).

Therefore the hypothesis 2 is accepted.

Table 4.7: Multiple Regression Analysis of Customer Value Perspective and Performance Measurement

Model Summary					ANOVA	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig
1	0.65a	0.42	0.40	7.44	21.24	0.00a

a. Predictors: (Constant), Customer Value Perspective
b. Dependent Variable: Performance Measurement

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	28.49	4.13		6.91	0.00
	Institutions' Image	1.13	0.24	0.65	4.61	0.00

a. Dependent Variable: Performance Measurement

4.6.3 Hypothesis H3: Internal business process perspective has positive relationship with performance measurement

The Table 8 shows that internal business process perspective has a significant positive correlation with performance measurement ($r = 37$, $p < 0.00$). Here it was found that internal business process perspective explained 10% (Adjusted R Square) of the variance associated with performance measurement. Also the analysis showed significance, as indicted by F value from the ANOVA table with ($F = 4.47$, $p = 0.00 < 0.05$).

Therefore the hypothesis 3 is accepted.

Table 4.8: Multiple Regression Analysis of Internal Business Process and Performance Measurement

Model Summary					ANOVA	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig
1	0.37a	0.13	0.10	9.12	4.47	0.04a

a. Predictors: (Constant), Internal Business Process
b. Dependent Variable: Performance Measurement

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	33.04	6.57		5.03	0.00
	Service Quality	0.84	0.39	0.37	2.12	0.04

a. Dependent Variable: Performance Measurement

4.6.4 Hypothesis H4: Learning and growth perspective is positively associated performance measurement

The Table 9 shows that learning and growth perspective has a significant positive correlation with Positive Behaviour (r = 0.38, p <0.00). Here it was found that Learning & Growth explained 12% (Adjusted R Square) of the variance associated with performance measurement. Also the analysis showed the significance, as indicted by F value from the ANOVA table with (F = 5.11, p = 0.000 < .05).

Table 4.9: Multiple Regression Analysis of Learning & Growth and Performance Measurement

Model Summary					ANOVA	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig
1	0.38a	0.15	0.12	9.03	5.11	0.03a

a. Predictors: (Constant), Learning & Growth
b. Dependent Variable: Performance Measurement

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	36.64	4.65		7.88	0.00
	Satisfaction	0.62	0.27	0.38	2.26	0.03

a. Dependent Variable: Performance Measurement

However, based on the research results, the hypothesis H4 is accepted. The overall learning & growth are found to have positive and significant relationship with performance measurement.

4.6.5. Hypothesis H5: Learning and growth drive to improve internal business process

The Table 10 shows that learning and growth perspective has a significant positive correlation with internal business process ($r = 0.82$, $p < 0.00$). Here it was found that Learning & Growth explained 66% (Adjusted R Square) of the variance associated with internal business process. Also the analysis showed the significance effect on internal business process, as indicted by F value from the ANOVA table with ($F = 59.17$, $p = 0.000 < .05$).

Table 4.10: Multiple Regression Analysis of Learning & Growth and Internal Business Process

Model Summary					ANOVA	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig
1	0.82a	0.67	0.66	2.45	59.17	0.00a

a. Predictors: (Constant), Learning & Growth
b. Dependent Variable: Internal Business Process

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.95	1.26		5.51	0.00
	Satisfaction	0.57	0.07	0.82	7.69	0.00

a. Dependent Variable: Internal Business Process

However, based on the research results, the hypothesis H5 is accepted. The overall learning & growth are found to have positive and significant effect on internal business process.

4.6.6 Hypothesis 6: Improve in internal business process will lead to improve in customer value.

The Table 11 shows that internal business process perspective has a significant positive correlation with customer value perspective ($r = 0.67$, $p < 0.00$). Here it was found that internal business process perspective explained 43% (Adjusted R Square) of the variance associated with customer value perspective. Also the analysis showed the significance effect on customer value perspective, as indicted by F value from the ANOVA table with ($F = 23.42$, $p = 0.000 < .05$).

Table 4.11: Multiple Regression Analysis of Internal Business Process and Customer Value Perspective

Model Summary					**ANOVA**	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig
1	0.67a	0.45	0.43	4.21	23.42	0.00a

a. Predictors: (Constant), Internal Business Process
b. Dependent Variable: Customer Value Perspective

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.78	3.03		0.59	0.56
	Satisfaction	0.89	0.18	0.67	4.84	0.00

a. Dependent Variable: Customer Value Perspective

However, based on the research results, the hypothesis H6 is accepted. The overall internal business process is found to have positive and significant effect on customer value perspective.

4.6.7 Hypothesis 7: Customer Value Perspective will increase the financial perspective of the organization.

The Table 12 shows that customer value perspective has non-significant positive correlation with financial perspective ($r = 0.20$, $p = 0.28 > 0.05$). Here it was found that customer value perspective explained 1% (Adjusted R Square) of the variance associated with financial perspective. Also the analysis showed customer value have no significant effect on financial perspective, as indicted by F value from the ANOVA table with ($F = 1.24$, $p = 0.00 = 0.28 > .05$).

Table 4.12: Multiple Regression Analysis of Customer Value Perspective and financial perspective

Model Summary					ANOVA	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig
1	0.20a	0.04	0.01	4.84	1.24	0.28a

a. Predictors: (Constant), Customer Value Perspective
b. Dependent Variable: Financial Perspective

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.95	2.68		5.95	0.00
	Satisfaction	0.18	0.16	0.20	1.11	0.28

a. Dependent Variable: Financial Perspective

However, based on the research results, the hypothesis H7 is rejected.

Summary of the Findings

Hypothesis 1	The relationship financial perspective and performance measurement is positive.	**Rejected**
Hypothesis 2	Customer value perspective is positively related to performance measurement.	**Supported**
Hypothesis 3	Internal business process perspective has positive relationship with performance measurement	**Supported**
Hypothesis 4	Learning and growth perspective is positively associated with performance measurement.	**Supported**
Hypothesis 5	Learning and growth drive to improve internal business process.	**supported**
Hypothesis 6	Improve in internal business process will lead to improve in customer value.	**Supported**
Hypothesis 7	Customer satisfaction will increase the profitability of the organization.	**Rejected**

CHAPTER 5

CONCLUSION

5.0 Introduction

All the results that presented and analyzed earlier in chapter 4 will be discussed and concluded in this chapter. From the findings, there are number of discussions and conclusions were drawn down together with some managerial practical implications. This chapter will also provide the suggestions and recommendations for future research.

5.1 Recapitulation of the Study

To recap, this study was conducted to determine the relationship of performance measurement using the balanced scorecard in reinsurance industry in Malaysia and Singapore. There are four perspectives in balanced scorecard as suggested by Kaplan and Norton (1992). The cause-and-effect relationships of the non-financial measures will lead to the improvement of financial measures. Surprisingly, the finding indicates that the financial measure is not significant to performance measurement and customers' satisfaction will not lead to the improvement of the financial performance. This could be due to the uncertainty and high catastrophe losses occurred in the world. It is suggested that other perspectives like environment, social and competitive perspectives should also to be considered in future research.

5.2 Discussion of the Results

This paper has examined the performance measurement using balanced scorecard in four perspectives. The results interpret that reinsurance industry in Malaysia emphasis the usage of non-financial measurement will experience the improvement in performance. Hence, this study conveys the message that reinsurers and brokers should pay attention to the measurement of customer, internal business process and learning and growth perspective as they have considerable effect on performance measurement. Reinsurance organization should use the non-financial areas to improvement future performance measures.

The finding also shows that there is no significant relationship between financial perspectives with performance measurement. The insignificant results financial perspective toward organizational performance is consistent with Maiga and Jacobs' finding (2003). The financial performance did not support reinsurance companies in Malaysia and Singapore to achieve objective in performance measurement. This could be due to environment uncertainty and unexpected large catastrophe losses occurred. According to Jusoh et al. (2008), the non-significant result in financial perspective is because of the limitations of traditional financial data to achieve reinsurance performance effectively and competitively. This is also supported by the research of Hayes, (1997).

Although this study found support for the positive relationship of performance measurement with non-financial perspective but the results of cause-and-effect relationship for each of the non-financial perspective against financial perspective is not consistent as supported by previous researches. The result reveals that customer satisfaction is not

positively influence financial perspectives. The correlation of learning and growth and internal business should also emphasis by management as it shows the highest relationship.

Customer satisfaction is not positively influence financial perspective may due to the limitation of time dimension as suggested by Norreklit (2000). There is time lag exist between cause-and-effect when large catastrophe losses occurred from natural disasters. This may due to a time gap between losses occurred and the notification and report to reinsurers and brokers. This result to the delay of claims settlement to insurers and reinsurance is exposing to the danger of undervaluation of claims in the reporting. Thus, the financial effect of the natural disaster will be impacted by the response time of customer (insured) notified to reinsurers or brokers.

Secondly, the assumptions of loyal customer will generate profitability is not supported by Norreklit (2000). The reason can be explain that there are categories of customers which are loyal but only willing to small premium (price) and only place specific reinsurance products at a lower premium. This will not provide high profitability to reinsurance, hence the result of our finding supported the assumption above: insignificant relationship of the customer toward financial measures. Therefore, Kaplan and Norton's (1996a) assumption of the customer measure will increase organizational profitability maybe misleading.

In summary, the current study lends some support that the organization may perform better if non-financial perspectives are used for performance measurement. It is contradict with the idea of Kaplan and Norton (1992) that the financial perspective will positively influence the organization performance. Balanced scorecard should consider new perspectives other than the four perspectives as suggested by Kaplan and Norton.

Although there were only 31 responses in this study, it cannot used to draw board generalization of reinsurance's perception in Malaysia and Singapore. The result brought the debate of the limitation of balanced scorecard as found in the research of Norreklit (2000, 2003).

5.3 Managerial Implication

The findings of this study have managerial implications:

Based on the result, this study found gaps in the literature. The absence of empirical research into the structure of balanced scorecard applied in reinsurance sector contexts. This study contributes to the further development of knowledge in management accounting.

The findings also suggested that the expected cause-and-effect relationships are not consistently present in Malaysia and Singapore reinsurance companies. This leads to question of the adoption of balanced scorecard as performance measurement system for reinsurance industry. The environment uncertainty of high catastrophe losses are also points to the potential of other perspectives of balanced scorecard to be included in the balanced scorecard which concerning the cause-and-effect relationship that will lead the performance improvement in the organization.

The financial perspective is not significant to performance measurement maybe due to the problem of "own theories" (Norreklit, 2003, p.610). Personal judgment and the flexibility and freedom in the implementation of balanced scorecard will lead to the malfunction of balanced scorecard. (Norreklit, 2003).   This brought to the implication that the refinement

of variables in the balanced scorecard should also be carefully selected in order for reinsurance organization to take appropriate measures toward performance measurement. It is also brought into discussion that in depth review of the refinement of the new financial indicators which can cater the needs of how reinsurance industry to residing the unexpected event such as catastrophe losses from natural disasters.

This study also emphasized the need to consider new perspective of performance measurement such as environmental, innovation technology and etc. There is also a need to analyze whether moderating factor affect customer relationship toward financial measures. It may due to the different perceptions perceived by customer across countries and cultural difference between Western, European and Asian countries.

5.4 Research Limitation

It is also important to stress that applying balanced scorecard in Malaysia and Singapore reinsurance industry is only at the preliminary stage and the research done by previous researchers were very limited. Therefore, there is limited experience in this area in Malaysia and Singapore. Also, the sample size of the study was relatively small and not comprehensive enough. The target sample may be limit to management level and above as executive level may not sufficient knowledge and whole operation view of reinsurance industry and how the reinsurance organization's performance is measure.

Second, this study only focuses the four perspectives (financial, customer, internal business process and learning and growth perspectives) of balanced scorecard as suggested by Kaplan and Norton (1992). It does not consider other modified or new perspective in the

balanced scorecard. There are also very little research done in reinsurance industry and may result the irrelevant variables used in the four perspectives in reinsurance industry. The refinement of variable in financial, customers, internal business process and learning and growth perspective to specific cater the needs of reinsurance industry could be identified in future research.

Further to this study, the moderating factors to the performance measures have not taken into consideration in this study. The relationship of financial and non-financial measures toward the performance measurement can be changed due to moderating factors such the cultural, age, innovation technology and etc.

5.5 Recommendation for future research

Reinsurance industry is encouraged to identify the role of the balanced scorecard as a performance measurement tool. Based on the findings, this study foresees a greater emphasis of non-financial measures as a performance measurement tool in Malaysia and Singapore reinsurers and brokers.

It is also suggested that future research should examine larger sample size and include insurance industry as well. In view of the low adoption rate of balanced scorecard by reinsurers and brokers in Malaysia and Singapore, identified balanced scorecard users with in-depth analysis would be more appropriate.

There is also a need for future research that balanced scorecard should identified wider measurement perspectives to suit the reinsurance's need and changing environment of

catastrophe losses event in the global. The suggested perspectives such as environmental and social perspective and also competitive perspective could lead to the refinement of balanced scorecard. Environmental and social perspectives refer to number of environment incidents/ accident while competitive perspective variable such as market share, company cost, new product development and etc. Environment perspective could be an important perspective measurement in the performance measurement. Modification of balanced scorecard's perspective will be best suit according to the needs of reinsurance industry.

In addition to widening the scope of the current study, moderating factor could also take into consideration in future study to test whether cultural, age and perception value perceive by customers will be positively influence the relationship of performance measures.

5.6 Conclusion

In the research, a structure questionnaire and data gathered from reinsurance industry in Malaysia and Singapore using four perspective of balanced scorecard. The results show that the components of non-financial measures proved to have significant relationship to performance measurement.

The empirical data verified that the four perspectives of balanced scorecard are correlated with each other at a statically significant level except for financial perspective. The evidence generally supports the theoretical framework of balanced scorecard that there is a sequential dependency among the non-financial perspective in balanced scorecard except the relationship of customer satisfaction toward financial perspective. However, the relation

between internal business process and learning and growth perspective seems to be stronger than the relation between internal business process and customer satisfaction.