

# A Review of Enterprise Risk Management Practices among Malaysian Public Listed Companies

Fong-Woon Lai

**Abstract**—The risk sphere in business is fast changing and expanding. Almost anything has become a risk factor that will have potent, direct, and far reaching impacts on business. This paper examines the intensity of enterprise risk management (ERM) practices among the Malaysian public listed companies. The paper espouses a ERM framework comprising fourteen important implementation elements and processes. Results of the analysis indicate that the intensity of ERM implementation among the respondents is in the ‘good’ category of the semantic scale, which is deemed encouraging vis-à-vis the country’s regulatory regime.

**Keywords**—Enterprise risk management, implementation framework, ERM practices.

## I. INTRODUCTION

IN an age of frequent spates of terrorist incident occurrences, fierce global competition, economic shocks and corporate governance challenges, business risks have never been greater. This adverse environment compounded with an increasing number of high-profile corporate governance scandals have resulted in corporations facing huge amount of financial losses globally. In the aftermath of which have even threatened the solvency of the corporations concerned. A case in point is the recent United States financial meltdown in 2008 triggered by the sub-prime mortgage crisis had seen the tumbling of giant institutions like the Fannie Mae, Freddie Mac, Lehman Brothers, Merrill Lynch, and the American Insurance Group. The consequences of the crisis were far reaching and cross-boundary. Although it started out as the “sub-prime crisis” in the United States in 2007, the impacts mushroomed into a full-blown global recession in 2008 and the remnant effects of which could still be felt in 2010. These incidents have highlighted the urgent need for global corporate entities to put in place a strong and effective risk management mechanism within their business models to ensure minimum loss and business continuity disruption in the event of similar incidents recurring. The aim of this paper is to examine how public listed companies (PLCs) in Malaysia perceive and manage those risks that emerge in their enterprises by examining the intensity of enterprise risk management practices among the PLCs.

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For this, the paper espouses an enterprise risk management (ERM) framework which comprises fourteen implementation elements and processes that are deemed crucial for a successful and effective management of enterprise risks.

## II. THE CONCEPT OF ENTERPRISE RISK MANAGEMENT

The risk sphere in business is fast changing and expanding. Almost anything has become a risk factor that will have potent, direct, and far reaching impacts on business. For instance, risks have also emerged from the operations side of business processes. They are as significant, if not more, as those emerging from the financial side of the business transactions. These operational risks range from anything such as a computer meltdown, human error or fraud, to a terrorist attack [1]. This expanded spectrum of risks in the business activities vindicates its existence through a spate of corporate scandals and financial mismanagement incidents that had started to be uncovered since the end of 2001. For examples, the incidents include the systematic accounting fraud and financial irregularities seen in US corporations such as Enron, Worldcom, and Tyco; Italian firm Parmalat; and Chinese firm China Aviation Oil. Enron, Worldcom, and Barring have since gone bankrupt. The dangers posed by these expanded risk factors that were not looked seriously into and addressed adequately by the traditional risk management efforts are in fact, clear and present. In effect, it will not be a surprise if some would see these newly recognized risks as much more important these days than the financial risks where the likelihood for them to occur is rather high. Thus, it is imperative to incorporate a more dynamic approach in corporate risk management to heed the new challenges brought by the constant and fierce changes in the business operating environment.

The above scenario highlight the importance of addressing enterprise risks and demand that corporations to put in place a functional yet dynamic risk management model within their operating structure. Such a model can be manifested in a concept known as *enterprise risk management* or *ERM*.

The concept of ERM implementation framework advocates a holistic method to risk management that enables the firm to stabilize earnings and reduce the expected costs of external capital, thus improving the firm’s capital efficiency. This in turn, will result in the enhancement of the firm’s value.

[2] introduced the concept of strategy risk management (SRM). Reference [2] proposed that SRM to be developed and pursued so that the key drivers that determine the firm's success and value can be identified and are actively being managed upon.

Despite that the concept of ERM is widely cited today, there is no unified definition of the terminology nor is there a standardized operational framework. There remain great variations in terms of how firms define, measure and implement ERM. Nonetheless, at the broader level, there are commonalities in the way institutions define and perceive ERM. In general, ERM can be defined as a standard corporate risk management process which undertakes an integrated approach in viewing and treating all risks. ERM focuses on relating risks and aligning risk management initiatives to business objectives and to the overall corporate strategy in order to attain competitive advantages [3].

### III. ERM AND ITS RELEVANCY TO CORPORATE MALAYSIA

The 1997-98 Asian financial crises had exposed the inherent internal vulnerability of Corporate Malaysia in weathering external shocks. The outlook for Corporate Malaysia will even be more challenging with the expected worsening of operating environment due to intense competition brought about by globalization and market liberalization. The demanding environment will be compounded by the unpredictable market conditions and future economic performances due to the aftermath of terrorist attacks in New York and London in 2001 and 2005 respectively and the rise of commodities prices such as that of petroleum prices. Malaysia operates in an open market economy with its total trade volume amounting to twice of its annual growth domestic product (GDP). This signifies companies operating in Malaysia are exposed and susceptible to various forms of shocks, internally or externally, in the nature of economic, political, religious, cultural, technology, natural disaster etc.

The Malaysian PLCs are not oblivious to the new and heightened challenges facing them in today's business environment and operating landscape. Many PLCs are in fact constantly in search for a new ERM model to address these additional risks that are either inadequately or not duly addressed by the conventional corporate risk management mechanism (e.g. through hedging activities with derivative contracts). For instance, some risks are not transferrable to the counter parties by way of engaging in derivative contracts. Neither can those risks be cost effectively transferred to insurers through purchasing insurance policies. Examples are the operational risks mentioned above. By simply ignoring these risks whilst having the full knowledge of their very existence does not seem to conform to best practice of managerial accountability and fiduciary responsibility. Due to this reason, many PLCs feel the pressure to find a solution (new orientation to CRM) in addressing such risk factors by operationalizing what they deem are the necessary processes to tackle these idiosyncratic or strategic risks facing them.

However, due to the novelty in the concept as well as the lack of process standardization of ERM implementation, many PLCs may not be aware that they are actually attempting to implement ERM program let alone to ascertain if they are implementing it effectively.

### IV. THE MALAYSIAN REGULATORY REGIME

#### *A. Quantifying Transactional Risk in Company's Annual Report*

In the light of corporations facing an array of risks in their day-to-day operations, the consequences of which could potentially reduce or eliminate investment return to shareholders, Malaysian regulators, i.e. Securities Commission and Bursa Malaysia, have compelled public listed companies to quantify their transactional risk exposure in the companies' annual reports, including that of off-balance sheet activities.

This is an example of Malaysian regulators safeguarding the interest of investing public through regulating accounting standards approach. However, looking from a more macro level of Malaysian regulatory framework, there is no specific piece of law that imposes the need for a rigorous corporate or enterprise risk management program to be implemented by the public listed companies (PLCs). The closest reference in the Malaysian regulatory framework demanding Malaysian PLCs to manage risk resides within the *Malaysian Code on Corporate Governance*.

#### *B. The Malaysian Code on Corporate Governance*

The Malaysian Code on Corporate Governance (Code) was first issued in March 2000. It codifies the principles and best practices of good governance and describes optimal corporate governance structures and internal processes [4]. Looking from the perspective of enterprise risk management, the Code asks for public listed companies to institute a formal risk management program to mitigate their business risk. The Code also entails a mandatory reporting of PLCs' corporate risk management framework in their annual reports.

The Code set out broad principles and best practices of good corporate governance for Malaysia. Among other things, companies are required by the Listing Requirements of Bursa Malaysia to include in their annual reports a narrative statement of how the companies apply the relevant principles of corporate governance to their particular circumstances. This is to ensure investors have sufficient disclosure by the listed companies for assessment of companies' performances and governance practices.

Below are some key milestones of the securities commission's corporate governance reform effort and its consequences, which to a certain extent, encompasses the corporate or enterprise risk management agenda in Malaysia.

#### *C. Regulation for IPO Prospectus*

In the case of initial public offering (IPO) exercises, the SC in July 2000 amended the securities and company law aimed at harmonizing the regulatory regime for issuing listing prospectuses. As a result of this effort, companies poised for listing are required to include a section of risk factors analysis in their prospectuses that serves as a reminder to investors on

how their investment in the companies' IPOs can potentially be undermined. The typical risk factors being described in the prospectuses are (i) investment risks (which include credit, interest rate, liquidity, market), (ii) risk relating to the shares (which include market history of shares being offered, shareholding structure, post-listing price movement, possible failure of share trading, underwriting risk), (iii) risk relating to the applicability and timeliness of information being furnished, (iv) business risk caused by political, economic, environmental and social development landscapes, (v) regulatory risk, (vi) branding risk, and (vii) profit forecasting risk.

#### *D. The Roles and Responsibilities of Company Directors*

This followed in January 2001 whereby Bursa Malaysia undertook a major revamp of its Listing Requirements which saw the insertion of new Chapter 15 that clearly defined the roles and responsibilities of company directors in relation to corporate governance. In February the same year, the SC issued guidance for directors of company on *Statement of Internal Control*. In July 2002, the Institute of Internal Auditors issued guidelines on internal audit function. In August 2004, the SC issued guideline on "Best Practice in Corporate Disclosure". In October 2007, the SC further revised the Code in a bid to bring Malaysia's corporate governance framework in line with global best practice. The SC's main revisions were to strengthen the roles and responsibilities of Board of Directors and Audit Committees to ensure the effective discharge of their duties. The amendments also spelt out the eligibility criteria for appointment of directors and the role of the nominating committees. On audit committee front, it touched on the composition of audit committee, its meeting frequency and the need for continuous training. In addition, the revised Code required internal audit functions in all public listed companies. It also clarified the reporting line for internal auditors [5].

#### *E. In Comparison to Sarbanes-Oxley Act*

Albeit the corporate governance reform efforts undertaken by the SC since the year 2000 to date, the fact remains that the requirement for PLCs to institute a formal corporate/enterprise risk management framework to manage their business risks has been modestly set within the corporate governance best practices regime. In other words, the corporate risk management requirement does not come from a specific piece of law whose rigor is comparable to that of the United States or the Japanese Sarbanes-Oxley Act (SOX). Nor is it comparable to the Australian and New Zealand risk management standards (i.e. AS/NZS 4360:2004).

For instance, the Malaysian Code of Corporate Governance (Code) describes six principal responsibilities of the Board. Out of the six principal responsibilities, one is directly linked to corporate risk management requirement, namely "identifying principal risks and implement appropriate systems to manage risk". The other five principal responsibilities are (1) "reviewing and adopting a strategic plan for the company", (2) "overseeing the conduct of the company's business to evaluate whether the business is being properly managed", (3) "succession planning, including appointing, training, fixing the

compensation of and where appropriate, replacing senior management", (4) "developing and implementing an investor relation program or shareholder communications policy for the company", and (5) "reviewing the adequacy and the integrity of the company's internal control systems and management information systems, including system for compliance with applicable laws, regulations, rules, directives and guidelines" [5].

#### *F. ERM vs. Internal Control*

At first glance, the last mentioned principal responsibility above (i.e. reviewing the adequacy and the integrity of the company's internal control systems and management information systems...) seems to be also linked to enterprise risk management. Nonetheless, internal control system relates more towards internal auditing exercise which is to ensure that enterprise's business transactions that have taken place comply with the stipulated standard operating procedures or SOP. On the other hand, corporate or enterprise risk management in its stricter sense entails a more forward looking perspectives in managing risk where its initiatives are deemed to be more preemptive in nature. The fact that corporate risk management requirement in Malaysia does not come from a dedicated law which ideally would codify clearly its principles, framework, methods and processes has resulted in it not being able to render a severe legal consequences for non-compliance of its implementation by the PLCs. Hence, it gives rise to the issue of penetration level and effectiveness of corporate/enterprise risk management practices among the PLCs.

This regulatory scenario is in stark contrast to that of under the law of SOX. In the United States for instance, public listed company officials such as CEOs, financial controllers, and external auditors are required to sign-off under oath confirming the accuracy and validity of information provided in the financial statements issued to the public. The law also asks for confirmation on the effectiveness of internal control system and risk management processes that are being implemented by the enterprises. Failing which, harsh punishment including imprisonment awaits those company officials. Such is the severity of the consequence of breaching the SOX law that corporate risk management has become a crucial and integral part and the preoccupation of the day-to-day managerial function among Corporate America's top executives.

## V. THE RESEARCH DESIGN AND METHODOLOGY

### *A. The Measurement and Scales of ERM*

This paper proposes an ERM framework which comprises fourteen elements and processes which are deemed crucial for a successful implementation to bring about the desirable results in managing risks facing the firm. Empirically, the ERM implementation framework is measured by a measurement metric made up of fourteen survey statements presented to respondents for their assessment in the form of 5-point Likert's scale.

These statements gauge respondent's agreement ratings in regard to the description of various elements found in the

respondent's ERM process. These statements are proxies to the intensity and effectiveness in implementing ERM program in the PLCs.

The statements are (whether ERM): (1) provides common understanding of the objectives of each CRM initiative, (2) provides common terminology and set of standards of risk management, (3) Identifies key risk indicators (KRIs), (4) Integrates risk with key performance indicators (KPIs), (5) provides enterprise-wide information about risk, (6) Enables everyone to understand his/her accountability, (7) Reduces risk of non-compliance, (8) Enables tracking costs of compliance, (9) Integrates risk with corporate strategic planning, (10) Integrated across all functions and business units, (11) CRM strategy is aligned with corporate strategy, (12) Aligns CRM initiatives to business objectives, (13) Provides the rigor to identify and select risk responses (i.e. risk- avoidance, reduction, sharing and acceptance), (14) Quantifies risk to the greatest extent possible.

Table I summarizes the fourteen elements of ERM implementation framework, with their corresponding questionnaire statements and item codes.

TABLE I  
 ELEMENT OF ERM IMPLEMENTATION FRAMEWORK

Item	Statement
i1	Provides common understanding of the objectives of each CRM initiative
i2	Provides common terminology and set of standards of risk management
i3	Identifies key risk indicators (KRIs)
i4	Integrates risk with key performance indicators (KPIs)
i5	provides enterprise-wide information about risk
i6	Enables everyone to understand his/her accountability
i7	Reduces risk of non-compliance
i8	Enables tracking costs of compliance
i9	Integrates risk with corporate strategic planning
i10	Integrated across all functions and business units
i11	CRM strategy is aligned with corporate strategy
i12	Aligns CRM initiatives to business objectives
i13	Provides the rigor to identify and select risk responses (i.e. risk- avoidance, reduction, sharing and acceptance)
i14	Quantifies risk to the greatest extent possible

### B. The Population

The target population for this study was the companies listed on the Malaysian stock market (Bursa Malaysia), or the PLCs. PLCs were chosen for this study because compared to non-listed firms, they were more aware and sensitive to the need for formalizing risk management program within the enterprise. This is due to the fact that as public listed entities, PLCs are subjected to statutory regulation from the Securities Commission, market regulation from the Bursa Malaysia, and face more pressure to impose self-regulation for corporate best practices of good governance from the shareholders and interest groups such as that of Minority Shareholders Watchdog Group (MSWG). The research elements (respondents of survey) on the other hand, were the PLCs' senior officials who were in-charge of the firms' ERM program.

These senior officials took the designations of chief executive officer (CEO), managing director (MD), chief risk officer (CRO), chief financial officer (CFO), general manager (GM), senior manager, and manager of the firms. Questionnaires were sent to the sampled PLCs with directed attention to these officials for their responses to agreement for the various statements presented in the questionnaires in relation to their firms' ERM program. As of June 2009, there were a total of 960 companies listed on the Bursa Malaysia [6].

### C. The Sampling Frame and Sampling Size

The sampling frame consisted of 960 elements (public companies listed on Bursa Malaysia) [6]. The sampling frame is a list of all public listed companies' correspondence contact details provided by the Bursa Malaysia. As such, this sampling frame of 960 elements also represents the target population under study. The number of sampled elements was kept at 400. This number represents a sampling rate of 42 percent against that of the population under study.

### D. The Stratified Sampling Method

This study adopted a probability sampling technique called the stratified sampling technique. Stratified sampling "is a two-step process in which the population is partitioned into sub-populations, or strata" [7]. The criterion, or stratification variable, that was used to stratify the sample was the market capitalization of the PLCs. Market capitalization is defined as the total market share value of the PLCs. The value was computed by multiplying the share price with the total common share outstanding of the PLCs. Under this stratification condition, the PLCs in the Bursa Malaysia were divided into two sub-groups, or stratum. The first stratum was the top 100 companies with the largest market capitalization listed on the Bursa Malaysia. The second stratum was the remaining PLCs. This also means that the required sampling elements of 400 were thus divided into 100 elements for the first stratum and 300 elements for the second stratum. The largest PLCs by market capitalization of the top 100 were chosen to be in the first stratum because until 6 July 2009, these top 100 PLCs by market capitalization were the component stocks in the Bursa Malaysia's Kuala Lumpur Composite Index, or popularly known as the KLCI. KLCI was the market barometer index whose daily movement was used as the proxy for the entire stock market performance for Malaysia then. The 100-stock KLSE index's computation was replaced by the 30-stock FTSE Bursa Malaysia KLCI on 6 July 2009 which adopts the FTSE global index standard.

The main reasons for using stratified sampling were "to increase precision without increasing cost" and to obtain greater "effectiveness in controlling extraneous sampling variation" [7]. For instance, by targeting the top ranking PLCs by market capitalization in the survey, the study practically believes that more information were available for extraction due to the fact that the chances are higher for this cluster of the PLCs having instituted proper and formal ERM programs.

In the same light, the chances were also higher that this stratum of PLCs would have gained more experiences in terms of their own ERM implementation processes as well as their ERM outcomes. Table II presents the summary of the sampling design.

TABLE II  
 SUMMARY OF SAMPLING DESIGN

Target population	All public listed companies (PLCs) on the Malaysian stock market (Bursa Malaysia)
Sampling frame	Correspondence list of public listed companies provided by Bursa Malaysia
Sampling technique	Stratified sampling by market capitalization with 2 stratum (i.e. stratum 1: top-100 largest PLCs by market capitalization; stratum 2: the remaining PLCs)
Sample size	400 (100 for stratum 1 and 300 for stratum 2)
Execution	Allocate sample by strata, select random company name from list for stratum 2 (cover the entire elements for stratum 1), initiate contact through phone calls or emails, send questionnaires to those agree to participate in the survey

## VI. THE FINDINGS

### A. Results of the Survey

From the research population of 960 public listed companies (PLCs), a total of 400 telephone and email contacts were made to the selected PLCs (the elements) identified through stratified sampling process to solicit their participation in the survey. Out of the 400 contacts made, 100 were to the top-100 largest PLCs by market capitalization, i.e. the stratum 1 of the stratified sampling, and the remaining 300 contacts were made to the randomly selected elements (PLCs) of the stratum 2 sampling. Out of these contacts made, 200 questionnaires were sent out through either postal mail or email to the respondents following their verbal agreement to participate in the survey. The telephone calls made and the emails sent out to the selected respondents in the sampling were meticulously done in such a way that they reached the 'right persons' within the selected companies to answer the questionnaires. The 'right persons' means senior company officials (managers and above) who had had experiences in implementing or participating in enterprise risk management initiatives within their organizations.

### B. Survey Execution: The Targeted Respondents

The execution of the survey was carried out to deliberately target the firms' *chief risk officers* or *enterprise risk managers*. However, it was noted that not all targeted firms had the above position designations created within their organizational hierarchy. Neither did all firms have a dedicated risk management department within their corporate structure. Nevertheless, this did not mean that enterprise risk management initiatives were absent from the organizations' managerial activities. In such instances, ERM initiatives were usually carried out together or embedded with other corporate initiatives.

Furthermore, the ownerships of such ERM programs were also assumed by a department other than a dedicated enterprise risk management department. The reason for not having a dedicated enterprise risk management department within the organizational structure was mainly to conserve corporate financial and human resources.

For instance, this study found that it was rather common in some firms that the function of ERM resided in the firms' internal audit department. There were also instances where the role of the chief risk officer was assumed by the chief executive officer. As such, the definition of the above 'right persons' profile was the next best alternative available to otherwise the ideal chief risk officers or enterprise risk managers to answer the survey questionnaires.

### C. Respondents' Designation Profile

From the questionnaires sent out (totaling 200), a total of 128 questionnaires were returned, constituting 32.0% response rate of the telephone calls made and 64.0% of the questionnaires sent out respectively. Out of these questionnaires received, 22 of the respondents (17%) carried the position designations of, or similar to that of (senior) risk manager; 18 of them (14%) were internal auditors; 6 of them (5%) were either chief financial officers (CFO) or financial controllers; another 6 of them (5%) were either executive directors or vice presidents (VC); 4 of them (3%) were either chief operating officers (COO) or general managers (GM); 2 of them (1%) were either managing director (MD) or chief executive officer (CEO); and the rest 70 of them (55%) were managers or senior officials of the surveyed firms holding various titles such as senior process engineer, operations manager, group planning manager, senior finance manager, corporate planning manager, customer service manager, and compliance manager. Fig. 1 presents the graphical breakdown of the respondents' position designations in their respective organizations.

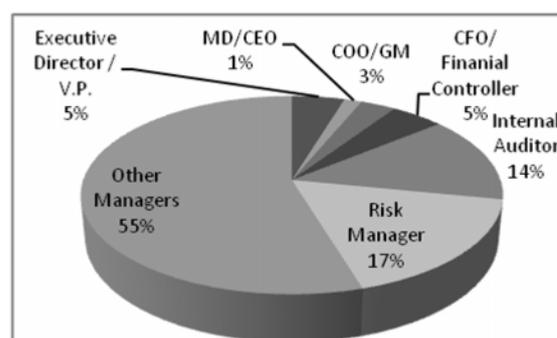


Fig. 1 Survey respondents' designation breakdown

### D. Surveyed Firms by Market Sectors

The PLCs on the Bursa Malaysia's main market are categorized into market sectors in accordance to the industries in which these firms conducted their main business activities.

Among others, the main purpose of this classification is to facilitate the computation of stock indices along these market sectors. There are eleven market sectors as per the Bursa Malaysia's classification, namely (1) construction, (2)

consumer product, (3) finance, (4) industrial product, (5) mining, (6) plantation, (7) properties, (8) technology, (9) trading/service, (10) hotels, and (11) infrastructure project. From the questionnaires received, 48 of the surveyed firms were in trading/services sector; 23 were in consumer product and industrial product sectors respectively; 16 were in finance sector; 5 were in construction sector, 7 were in properties sector; 3 were in plantation and technology sectors each; and none was in mining, hotels, and infrastructure project sectors. The distribution of the surveyed firms in each market sector generally reflects the population distribution of the PLCs on the Bursa Malaysia's main market. Names of the companies participated in the survey are not presented to maintain the confidentiality of them as a condition agreed upon during the survey exercise. Fig. 2 portrays the breakdown of the received questionnaires by Bursa Malaysia's market sectors.

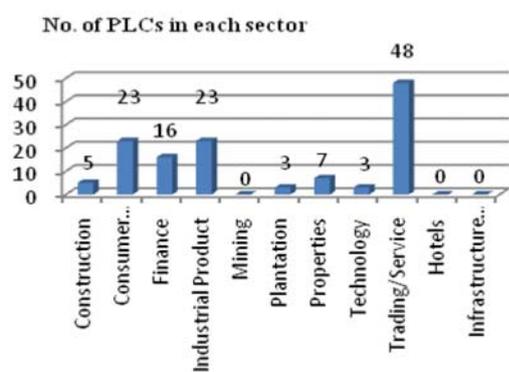


Fig. 2 Breakdown of surveyed PLCs in each market sector

#### E. Accepted Questionnaires by Sampling Stratum

Of the 122 accepted questionnaires, 42 of them were from the top 100 largest listed companies in Bursa Malaysia by market capitalization, i.e. the stratum 1 sampling. These respondent companies were also component companies in the 100-stock Kuala Lumpur Composite Index (KLIC) before the index's computation was replaced by the 30-stock FTSE Bursa Malaysia KLCI on 6 July 2009. The remaining 80 were from elements in the stratum 2 sampling. Together, these 122 questionnaires constituted about 13% sampling size of the total 960 listed companies (the population) on the Bursa Malaysia [6] (see Table III). Fig. 3 depicts the information on the number of questionnaires received and the number of questionnaires accepted for data analysis.

TABLE III  
SURVEY RESPONDENTS' INFORMATION

	Sampling		Total
	Stratum 1	Stratum 2	
Targeted Population	100	860	960
Phone calls / email made	100	300	400
Questionnaires sent	100	100	200
Questionnaires returned	42	86	128
Questionnaires accepted	42	80	122
Sampling rate			
- by stratum	42.0%	9.3%	25.7%*
- by overall population	4.4%	8.3%	12.7%

\*average

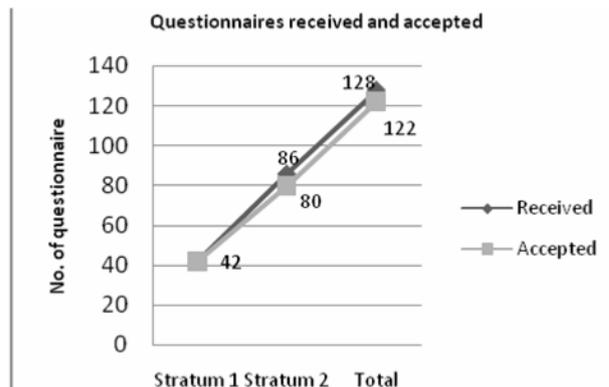


Fig. 3 Information on questionnaires received and accepted

#### F. Descriptive frequency Distribution Analysis of ERM Penetration

The objective of this paper is to examine the penetration level of ERM practices among the PLCs in Malaysia. To this end, this paper analyzes the frequency distribution of mean scores for the individual and summated scales of the fourteen elements of the ERM implementation intensity metric provided by the PLCs through questionnaires. To provide a clearer perspective and better interpretation of the PLCs' ERM implementation intensity, this paper develops a descriptive semantic scale as shown in Table IV to provide a reference to the corresponding ranges of mean scores of the summated scales that are computed from the 5-point Likert's scale.

TABLE IV  
SEMANTIC SCALE FOR ERM IMPLEMENTATION INTENSITY

Mean score (on 5-point Likert's scale)	Semantic scale (ERM Implementation Intensity)
4.0 – 5.0	Excellent
3.5 – 4.0	Good
3.0 – 3.5	Satisfactory
< 3.0	Poor

Table V presents the mean scores for each item (statement) in the questionnaire and the summated scale that are measured in 5-point Likert's scale gauging the fourteen items embodying ERM implementation framework.

TABLE V  
MEAN SCORES OF INDIVIDUAL ITEMS OF ERM IMPLEMENTATION FRAMEWORK

Item	Statement	Score
i1	Provides common understanding of the objectives of each CRM initiative	3.83
i2	Provides common terminology and set of standards of risk management	4.06
i3	Identifies key risk indicators (KRIs)	3.98
i4	Integrates risk with key performance indicators (KPIs)	3.70
i5	provides enterprise-wide information about risk	4.02
i6	Enables everyone to understand his/her accountability	3.93
i7	Reduces risk of non-compliance	3.78
i8	Enables tracking costs of compliance	3.26
i9	Integrates risk with corporate strategic planning	3.90
i10	Integrated across all functions and business units	3.80
i11	CRM strategy is aligned with corporate strategy	3.93
i12	Aligns CRM initiatives to business objectives	3.74

i13	Provides the rigor to identify and select risk responses (i.e. risk- avoidance, reduction, sharing and acceptance)	3.77
i14	Quantifies risk to the greatest extent possible	3.69
<b>Summated scale</b>		<b>3.82</b>

International Association and Malaysian Association of Risk and Insurance Management.

## VII. CONCLUSION

The mean scores of each of the fourteen statements in the questionnaire measuring ERM implementation intensity (i.e. items i1, i2, i3, i4, i5, i6, i7, i8, i9, i10, i11, i12, i13, and i14) were computed. The average mean score (summated scale) was examined for the depth of penetration of ERM practices among the respondents. Results of the analysis indicate that the intensity of ERM program implementation among the respondents is in the 'good' category of the semantic scale, with the average mean score of 3.82 on the 5-point Likert's scale.

It can be concluded that the penetration level of ERM practices among Malaysian listed companies are relatively encouraging. This is so considering that Malaysia does not have specific laws governing corporate risk management like that of SOX in the United States. Obviously, it would seem to be in the best interest of shareholders if the results would have been in the category of "excellent". Nonetheless, by placing the findings in a bigger scheme of things (vis-à-vis the regulatory requirement for ERM in Malaysia), it seems that ERM practices among the PLCs are heading in the right and desirable directions.

## REFERENCES

- [1] D. Thompson, "Risk Management: A brief history", Journal of Banking + Financial Services, vol.117, no.3, 2003, pp.30-32.
- [2] G.J. Bierc, "Risk management infrastructure can boost corporate performance", Financial Executive, vol.19, no.3, 2003, pp.59-61.
- [3] M.A. Bailey, L. Bloom and E.T. Hida, "Assessing the Value of Enterprise Risk Management", Deloitte Development LLC, 2004.
- [4] MICPA [The Malaysian Institute of Certified Public Accountants], "Key Amendments To The Malaysian Code On Corporate Governance", 2008. [Online] Available from [http://www.micpa.com.my/micpamember/document/Code\\_of\\_Corporate\\_Governance.pdf](http://www.micpa.com.my/micpamember/document/Code_of_Corporate_Governance.pdf) [2009, June 24].
- [5] SC, "Malaysian Code On Corporate Governance (Revised 2007)", Securities Commission of Malaysia, 2007.
- [6] Bursa's Bulletin "BursaBytes", Issue 2, Vol 1, July 2009.
- [7] N.K. Malhotra, "Marketing Research: An Applied Orientation", 4th edition, Pearson-Prentice Hall, 2004.

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