The Impact of Enterprise Risk Management Practices on Malaysian Public Higher Educational Institution Performance: A Literature Review

Mariam Setapa
Faculty of Business Management
Universiti Teknologi Mara
UiTM Cawangan Kelantan
maria135@kelantan.uitm.edu.my

Mohd Shoki Md Ariff
Faculty of Management,
Universiti Teknologi Malaysia (UTM),
Skudai, Johor, Malaysia
m-shoki@utm.my

Norhayati Zakuan
Faculty of Management,
Universiti Teknologi Malaysia (UTM),
Skudai, Johor, Malaysia
norhayatimz@utm.my

Norzaidahwati Zaidin
Faculty of Management,
Universiti Teknologi Malaysia (UTM),
Skudai, Johor, Malaysia
nzw@utm.my

Muhamad Zameri Mat Saman
Faculty of Mechanical,
Universiti Teknologi Malaysia (UTM),
Skudai, Johor, Malaysia
zameri@fkm.utm.my

Zuraidah Sulaiman
Faculty of Management,
Universiti Teknologi Malaysia (UTM),
Skudai, Johor, Malaysia
zuraidahs@utm.my

***Abstract*—Presently, all organizations are facing by various types of risk. The risk can be occurred anywhere and to anyone. Therefore, they need to manage risk properly to reduce cost and other consequences. Enterprise Risk Management (ERM) was introduced many years ago and currently implemented by many countries as well as organizations due to positive impact especially in their performances. In Malaysia, it was first implemented around ten years ago and the organizations are recommended to use it as a tool or basis to recover any potential risks. There are many factors drive to ERM adoption in organizations that gave big impact on their performances. A part of that, the aim of this paper is to construct a conceptual framework that describes the relationship between factors or drivers to ERM adoption and ERM impact on performance. This relationship will moderate by two other factors which are quality of Board of Directors (BOD) and quality of internal audit. The area of this paper will be focus on Malaysian Public Higher Educational Institution (IPTA) which is only five institutions will be selected as respondents. The selection of these institutions was made based on top five ranking university in Malaysia. The potential respondents among higher and middle level management were identified and they will answer a set of questionnaire and the data will be analyze using Statistical Package for Science Social (SPSS) and Structural Equation Modeling (SEM). The expected finding from this paper is there are positive significant relationship between both independent and dependent variables moderated by both parties which is BOD and internal audit.**

Keywords-Enterprise Risk Management; Drivers to ERM; Performance; Educational Institution, Malaysia

I. INTRODUCTION

All organizations are in the business of placing capital at risk in pursuit of ventures which are uncertain. This includes financial institutions, governmental bodies, corporations and non-profit organizations. They all have goals and they allocate resources to pursue them. Because all organizations face uncertainty in achieving their goals, they all face risk.

Risk management as a formal part of the decision-making processes within companies is traceable to the late 1940s and early 1950s [1]. This traditional risk management was practiced in "silo" or "stovepipe" approach in which risks are often handled individually without acknowledging the interrelationship of each risk.

Enterprise Risk Management (ERM) is about optimizing the process with which risks are taken. It has become a critical issue for the 1990s because organizations have started suffering spectacular losses often from risks they never should have taken in the first place. Many companies throughout the world faced big losses in 1990s. For instance, Orange County (November 1994) lost $1.7 billion, Barings Bank (February 1995) lost %1.5 billion, Daiwa Bank (September 1995) lost

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$1.1 billion and Sumitomo Corp (June 1996) was lost $1.8 billion. In recent years, numerous organizations have suffered staggering losses such as these [2,39].

Nowadays, organizations across the world are applying ERM concept to deal with risks rationally and effectively[3,4,5,40]. ERM is the series of process of risk identification, assessment and prioritization to handle uncertainties that arise in organization development.

II. Literature Review

ERM is the name for an overall risk management approach to business risks. According to the Casualty Actuarial Society (CAS), ERM can be defined as "the process by which organizations in all industries assess, control, exploit, finance and monitor risks from all sources for the purpose of increasing the organization's short and long term value to its stakeholders" [3].

Lam [4], President of James Lam and Associates, a founder of E-Risk, defined ERM as a management process focused on risk/return dynamics of customers, products, pricing and costs.

Risk is also viewed as a potential profit opportunity, rather than as something simply to be minimized or eliminated. The level of decision making under enterprise risk management is also shifted, from the insurance risk manager, who would generally seek to control risk, to the chief executive officer, or board of directors, who would be willing to embrace profitable risk opportunities [5].

Baskerville *et al*. [6] claimed that systematic risk management operates in four stages; identifying risk, analyzing risk, risk treatment and monitoring risk.

Zadeh [7] believed that the implementation of risk management could minimize the consequences of unfavorable events and it would motivate the decision-making process by managers. Study by Manab *et al*. [8] recommended that it is compulsory to implement ERM effectively in the organization to guarantee a sustainable and continuous growth in the competitive era of business activities.

A recent study conducted by Beasley *et al*. [9] at North Carolina State University suggested that current stage of ERM implementation in most organization is under developed and still relatively immature. In the study, only 28 percent of respondent described ERM adoption in their company as systematic, robust and repeatable with regular reporting process, 60 percent of them indicated it as informal and unstructured with minimal and ad hoc reporting process, while the other 12 percent said that their company has no structured process for identifying and reporting process. Sabato [10] postulated that the improper ways while practicing ERM program such as lack of a defined capital allocation, disaggregated vision of risks and inappropriate risk governance factor also may lead to the failure of risk management at most banking institution.

Shafiq *et al*. [11] in their reveals the differences of risk management application among public sector commercial banks and local private banks as well as disclose the difference of the financial soundness indicator. Finding from Jalal *et al*. [12] conclude that financial sectors in Bahrain have awareness for the importance of ERM but did not implement it due to the lack of information and knowledge of ERM framework. The Federal Reserve Board and all twelve Banks are implementing ERM initiatives. In 1996, the First Bank System conducted its first external audits as an optional exercise, but now it is a requirement.

For instance, as a developing country, Malaysia is still lacking of research toward ERM. It is not surprising given the fact by Razali *et al*. [38] that the levels of awareness and understandings are still considered low among Malaysian public companies. Daud [13] in the research of the level of ERM adoption claims that only 43 percent of public listed companies in Malaysia had a complete ERM adoption in their place and 57 percent may consider as partially adopted. Despite, study by Rasid *et al*. [14] on financial services firms in Malaysia is reported that have almost equal proportion of a complete and partial ERM framework in their place.

Therefore, by adopting of ERM in organization effectively, it might be a benchmark for other followers in ensuring the environment of workplace is free from risks and uncertainties. Finally, organizations are embracing ERM because it makes good business sense. Today, they actively make the decision to change the way they take risks. They implement innovative procedures, install new technology, and actively reshape their corporate culture to facilitate better risk taking. Implementing an effective strategy of ERM is not easy and for each organization, it is different [2].

As the conclusion, ERM is risk management applied to the entire organization. The basic approach, the goals and the focus of ERM are the same as those have worked so effectively since the field was first developed. Whether this approach succeeds will depend on the ability of those involved in the separate risk categories to develop an integrated approach and extend it to other areas of risk. The new focus on the concept of ERM provides an opportunity for risk managers to apply their well established and successful approaches to risk on a boarder and more vital scale than previously.

III. A Proposed Conceptual Model

Since ERM has not been fully implemented in majority of the companies, some authors were attracted to investigate factors that influence the adoption of system to manage uncertainties arises within company. In short, the driving force for ERM adoption would be within the company itself whether from the workforce or the organization features. The supportive top managements' and personnel collaboration strengthen the capability of Chief Risk Officer (CRO) to identify, analyze and treat the uncertainties as well as the auditor influence and encouragement from corporate governances. Instead, firm characteristics itself being the determinant to induce ERM development in organization. External factors, such as corporate governance, regulation compliance and external auditors also bring on a sense to firms to implement effective ERM program as part of step towards firm's success.

The review from theoretical and empirical literatures indicates that the above issues have been widely studied. However, only certain firm had completely implemented it while others decided not to adopt ERM program. Recent literatures had suggested influence factors for firm to implement this program and the positive impact to firm's performance. Hence, internal factor, firm and industry characteristic and external factors seems to be the indicators for company to apply a structured approach system and provide a positive impact on company's performance in managerial, financial compliance and marketing aspects. Figure 1 below illustrates the proposed conceptual framework regarding drivers to ERM adoption, its impact on performance and moderated by both parties.

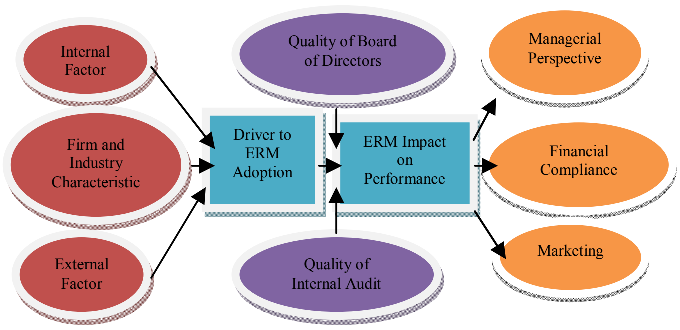

Figure 1: A Proposed Conceptual Framework for ERM Adoption in Organization

A. Internal Factor

In order to commence the ERM system in organization, Daud *et al.* [13] noted that someone has to be the indicator to initiate and the monitor the risk related activities. CRO was identified as the specialist expertise to identify, control and manage the risks within the company. Pagach *et al.* [15] and Razali *et al.* [38] in their studies claimed that hiring the CRO is the determinant for an organization to implement ERM program. From the result, Razali *et al.* [38] found the CRO hiring firms have a tendency to be larger, more levered and have lower cash ratio. Moreover, the firms also tend to have less volatile stock prices and more well-known compared to other financial firm.

Daud [13] agreed that there is also a significant positive relationship between level of ERM adoption in Public Listed Companies in Malaysia to the quality of CROs' and quality of Board of Directors. References by Dickinson [1] and Harner [16] also lent evidence to support the encouragement from Board of Directors and audit committee as additional responsibilities in ensuring the accomplishment of company's objectives.

The finding by Beasley *et al.* [17] appoint that the presence of Chief Risk Officers, Chief Executive Officers, Chief Finance Officers, board independence and entity size would align with the implementation of ERM system in organization. Furthermore, Beasley *et al.* [18] also suggested that internal audit role give the greater impact when it come the involvement of Chief Audit Executives and audit committees as well as its own responsibilities that provide ERM leadership.

B. Firm and Industry Characteristic

The typical and characteristics of firms provide a view of challenges in their organization. The proper and dynamic management system enables them to confront with it and consequently achieve firm's appetites. Firm and industry characteristics itself also play its role as the determinant factor to implement ERM. Manab *et al.* [8] in their study indicated that ERM implementation in financial firms higher than in non-financial firms. This is proves by the proportion of financial sector that have risk management linked to decision making process higher than non-financial sector as well as the internal risk reporting process. Paape *et al.* [19] verify the finding that financial industries tend to have more sophisticated ERM system. Beasley et al. [17] claimed that financial industry and educational institution which are running in complex and dynamic environment of high uncertainties are apparently seem to propose the effective risk management. Beasley *et al.* [18] further found the significant regulation in educational institution has been the encouraged factor to adopt ERM whether the risks faced differs from other business world.

Recent study by Paape et al. [19] claimed that public sector organizations have more mature ERM system implementation. Findings by Razali *et al.* [38] in the research with Malaysian Public Listed Companies proposed the variable factors such as size of assets, leverage, international diversification, ownership and turnover and profitability coefficient may influence the ERM practices. The result showed that regardless of the share of the companies, ERM seems not to be important. Companies also tend not practice ERM when management does not perform in terms of yearly sales. However, company that engaged with ERM system are found positively associated with high turnover because company can support ERM programs when their annual turnover is greater than cost.

C. External Factor

Decision for ERM implementation in organization also lay on the external surrounding circumstances such as corporate governance, law and regulation compliances and external auditors. According to Manab *et al.* [8], approach by the corporate governance is the key driver to implement ERM in companies. Nonetheless in Malaysia, risk management is known as best corporate governance practices is part of the Malaysian Code on Corporate Governance (MCCG) and Bursa Malaysia Listing Requirement become compulsory for the Public Listed Company. As the crucial role that would affect the stability of the whole economy, financial institution are governed by both local and international regulation framework to have more effective risk management system [14].

Study by Simkins *et al*. [20] found that U.S publicly traded corporations were recommended to utilize a control framework and the vital responsibilities of board of directors as being pointed in Sarbanes-Oxley Act 2002 in fulfillment of their management and oversight function respectively. Moreover, the study findings also stated that corporate governance law gives autonomy to corporate management whether to implement ERM or not implement it at all. Mandatory application of a set of governance rules does not affect ERM development. Consistent with this notion, Paape *et al*. [19] suggested that this might be caused by relatively the voluntary adoption of governance regulation.

D. Managerial Perspective

Empirical study by Lai *et al.* [21] claimed that ERM is not just to ensure the reduction of the likelihood that would interrupt the performance, but it also will build up the confident and collaboration of management team to the successful of institution. Consistent with this notion, Hussin *et al.* [22] found that application of ERM in workplace would provide management attention and motivation of manpower at all times. Study by Ryu [23] suggested that ERM implementation can increase firm value as a result of lowering the interest conflict between managers and shareholder and decreasing the deadweight losses thus impact on reducing manager's risks. The findings also noted that an effective risk management program present enhancement of shareholder value and company survival.

Furthermore, Ryu [23] also reported companies that associate with risk management activities able to improve management's decision making by improving their capabilities to exploit risk, thus reduce agency cost of underinvestment problem. Another study on financial industry by Baiquan *et al.* [24] postulated that is a guarantee for a financial bank to extract systematic measure and gain sustainable reward by applying the integrated risk management model and knowledge management while managing risk.

E. Financial Compliance

From financial perspective, Aabo *et al*. [25] reported that ERM would give impact in lowering cost of debt. The finding emerge with the evidence from Hydro One's 2003 Annual Report that conservatively credit ERM for reducing the company's debt costs which was the first issue as a new company. Study by Yow *et al*. [26] claimed that implementation of ERM in organization reduces the volatility of financial performance and the impact of frictional cost. In addition, Hoyt et al. [27] viewed that ERM serves the identification of such interdependencies through a structure of an integrated framework that combines all risk management activities.

Stephen [28] reported that, for performances based results, ERM can reduce costs through cost saving consolidations as well as ensuring a stable operating environment though financial instruments such as hedging and derivatives. It can also help to coordinate resources or reduce redundancies.

F. Marketing

A disciplined approach that balances objectives with the management practices are required for successful marketing in order to develop expectations, plan expenditures and monitor key activities. Thus, Manning [29] claimed risk management would allows marketing to take on the numerous market obstacles necessary to facilitate business growth within this complex environment. Refer to Anderson [30], ERM implementation in addition to old risk management practices increases the firm's ability to respond with a superior ability to identify market risks and stabilize earnings.

McAlister et al. [31] postulated that systematic risk reflects the extent to which firm stock return responds to movement of the average return on all stocks in the market. It suggests that greater systematic risk is related to smaller assets size because smaller firms have grater default risks. Therefore, study by Ryu [23] found that firm that engaged with ERM achieve a reduction of firm's systematic risk in comparison to market and hence lessen firm exposure to market and environmental changes. In a similar note, a case study on Europe's largest engineering conglomerate also presented their effective response to systematic risk by ERM's top down approach. Moreover, reference by Pagach et al. [15] provides evidence of a reduction in the market to book ratio lead to a decrease in market valuation as firm appoint CRO around the ERM adoption.

G. Quality of Board of Directors (BOD)

ERM is the process by which the board of directors and executives of a corporation define the firm's strategies and objectives so as "to strike an optimal balance between growth and return goals and related risks" [28]. The board of directors has the ultimate responsibility for the enterprise risk of the company. The BOD is responsible for ensuring that the corporation has established appropriate risk management programs and for overseeing management's implementation of such program.

The board's role in risk management if the board has been described as one of ensuring that the corporation has put into place an effective risk management program with procedures "for identifying, assessing and managing all types of risk, such as operational risk, market risk, liquidity risk and credit risk". The board's role thus includes "making sure that all the appropriate policies, methodologies and infrastructure are in place" [28]. In particular, a corporation's failure to adopt effective ERM may often be attributable to resistance by the CEO and top management. Because boards can use ERM not only to manage risk, but also as a monitoring device, CEO therefore may resist implementation or effective operation of risk management programs. The board of directors appropriately is charged with oversight over them all.

Daud and Yazid [32] examined the level of ERM adoption among Government-Linked Companies (GLCs) that influenced by the Quality of Chief Risk Officer (QCRO) and Quality of Board of Directors (QBODs) to the extent of companies involvement in ERM, and finally examined whether Quality of Internal Audit Support (QIAS) influence the relationship between appointment of QCRO and QBODs on the level of ERM adoption. Based on the research, the authors proposed a conceptual framework to relate the level of ERM adoption to the influence of three (3) variables, namely QCRO, QBODs and QIAS.

In a recent research by Daud [13], he defined Chief Risk Officer (CRO) as someone who has the overall responsibility for monitoring progress of relevant risk information across the entire business entity. Daud and Yazid [32] also reaffirm the finding by Aabo and Simkins [25] that declared the rising of CRO position in organization is reasonable to guide the implementation of ERM process in avariety of tools and techniques, such as risk trends, risk maps, risk tolerances, risk profile and risk rankings. Nonetheless, they further believed that elements and procedure of ERM implementation are directly proportional to the responsibility of board such as the determining of organizational structure and the setting policy of risk appetite. Moreover, Krisnamoorty and Maletta [33] claimed that the encouragement by the top management entity such as Board of Directors (BODs) would influence the adoption and implementation of ERM effectively.

H. Quality of Board of Directors (BOD)

On the whole, quality of internal audit in organization seems to be the moderating factor to adopt and implement ERM in organization. Finding by Krisnamoorthy and Maletta [33] indicate that the greater quality of internal audit is influence by the strength of governance and the expertise of audit committee.

The audit committee was always been allied to the financial reporting, risk management and internal auditing of an organization. The study by Mohiuddin and Kalbhari [34] confirmed that an effective audit committee would minimize the information unevenness between owner and management, enhance quality of financial reporting and thus boost up the corporate governance practice in the company.

Therefore, Brown *et al*. [35] conducted a research within public listed Australian biotechnology companies to identify the relationship between corporate governance and risk management of high technology firms. They claimed that the traditional governance model is insufficient enough to be applied in today's complex business environment. For example, the Traditional Risk Management Model shows that the workload is laid only upon the audit committee. The broadness of audit committee scope can be reduced by the separation of risk management committee from audit committee and varies the composition depends on industries and organization complexity.

However, the new Risk Management Model that relates the board, audit committee and risk management committee in organization was introduced. The application of this new model might be appropriate in handling financial and non-financial risk in the high technology firms and complex risk environment. The presence of risk management committee would be the risk expertise in each division and thus enables a direct contact of board to ERM at the group management level. This finding is in line with Subramaniam *et al*. [36] that perceived a separate risk management committee promote a better quality oversight of risks in order to deal with greater complexity of risks at different level.

It is clear that there are enormous benefits to adopting an ERM. These include improvements within governance, strategy and performance [37]. But Dafikpaku [37] also claimed that the implementation of ERM is not too easy. Trained and willing employees serve as link to a successful ERM. Clearly, ERM can be a positive investment and serve as a competitive advantage when properly executed.

IV. Conclusion

The success for an institution depends on how the management identifies, classify, analyze and react effectively to the risks that arise within the organization. It is clear that there are enormous benefits on ERM implementation for all organization. This study reveals that ERM system would eliminate the gap for achievement of company's goals and create value in enhancing the economic value. It ensures a revolutionary change in the risk management discipline that broadens the scope of risk management behaviors. However the adoption is still lack of identified factors are the reasons for some company not aware to the important of ERM system. In conclusion, the proposed conceptual model represents the significant relationship between the drivers to ERM adoption and its impact organizational performance outcomes.

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BIOGRAPHY

Dr. Norhayati is a Senior Lecturer in Universiti Teknologi Malaysia. She obtained her first degree in Mechanical Engineering from Universiti Teknologi Malaysia, MSc in Engineering and Manufacturing Management from Coventry University, United Kingdom and PhD in Mechanical Engineering (Quality) from Universiti Teknologi Malaysia. She is a Graduate Member of the Institute of Engineering Malaysia (IEM) and Member of the Board of Engineers Malaysia (BEM). She has more than 10 year's industrial experience before joining UTM. After graduating from her first degree, she spent 7 years in Mitsubishi Electric Malaysia as a Senior Mechanical and Quality Engineer. Then, she joined COLAB Printing Ltd., United Kingdom for 4 years as a Technical Specialist before pursue her master degree. Dr. Norhayati current research interests are Quality Engineering and Management, Quality Control, Performance Measurement, Industrial Engineering, Risk Management Lean Manufacturing, Sustainable Manufacturing and Supply Chain Management.