

# **Determine the Enterprise Risk Management Factors Affecting the Performance of Malaysian Technical University Network (MTUN)**

**Saleh Nasser Abdullah Al-Subari,**  
Faculty of Technology Management and Business,  
Universiti Tun Hussein Onn Malaysia  
86400 Parit Raja, Batu Pahat, Johor,  
Malaysia.

[snalsubari@gmail.com](mailto:snalsubari@gmail.com)

**Rumaizah Binti Ruslan,**  
Faculty of Technology Management and Business,  
Universiti Tun Hussein Onn Malaysia  
86400 Parit Raja, Batu Pahat, Johor,  
Malaysia.

[rumaizah@uthm.edu.my](mailto:rumaizah@uthm.edu.my)

**Shafie Bin Mohamed Zabri,**  
Faculty of Technology Management and Business,  
Universiti Tun Hussein Onn Malaysia  
86400 Parit Raja, Batu Pahat, Johor,  
Malaysia.

[shafie@uthm.edu.my](mailto:shafie@uthm.edu.my)

## **Abstract**

Recommendations from previous research report that risk management practices in non-profit institutions, including universities and higher education, are less developed than in many business communities. The extent to which Malaysian universities, especially MTUN universities, have implemented risk management policies is unclear. Similarly, when there are risk management policies, it is not known whether these policies reflect enterprise risk management practices and principles, and to what extent these ERM principles have impacted the organizational performance of MTUN University. Therefore, the purpose of this study is to determine the impact of enterprise risk management on the organizational performance of MTUN University in Malaysia. Data will also be collected from academicians' and scholars from the Malaysian Technical University Network (MTUN), which brings together four technology universities' in Malaysia, University Malaysia Perlis (UNIMAP), Technical University of Malaysia Malacca (UTEM), University Tun Hussein Onn Malaysia (UTHM), and University of Pahang Malaysia (UMP). More specifically, academicians and scholars at MTUN universities in Malaysia are the main respondents to this study because their experience in the management field has made them more familiar with risk management, and the researcher will be able to obtain accurate data for excellent results.

## **Keywords**

ERM, MTUN, Malaysia, UTHM, UTEM, UMP, UNIMAP

## **1. Introduction**

Higher education institutions (HEI) have been struggling to survive in a changing competitive environment, especially in developed countries. For example, many colleges and universities are threatened by declining student enrollment rates due to low birth rates and reduced state subsidies. In addition, unpredictable events such as natural disasters and terrible accidents can cause significant damage to HEI, just as Japan did when it suffered a major earthquake in 2011.

In addition, today's higher education institutions have established relationships with various types of public stakeholders, which require them to provide a variety of services related to their central education, research and public service tasks. In these cases, HEI faces great anxiety and uncertainty in its environment and must know how to deal with any adverse event that can cause serious harm. This seems to be common in the United States, UK and Japan, and some HEIs have begun implementing strategic and organizational risk management called Enterprise Risk Management (ERM).

In Malaysia, some basic research has been carried out to explore the implementation of enterprise risk management. Soltanizadeh, Zaleha, Rasid, Golshan, & Quoquab, (2014), conducted a study to determine the level of Enterprise Risk Management implementation for Malaysian companies using a sample of 199 companies listed on the Malaysian Bursa. ERM implementation in the industry is different accordingly, compared to other companies, companies in the infrastructure; hotel and technology industries have a higher level of ERM framework implementation. The education sector, especially the higher education sector, is clearly not on the list of industries surveyed. As a result, the lack of an education sector suggests that enterprise risk management may still be in its early stages or has never been done in higher education in Malaysia.

Similarly, Sum & Saad, (2017) studied the importance of risk management to academia, especially the factors that drive the emergence of risks and the benefits of managing them. In addition, the study highlights risk management processes in the university environment. The authors conclude from their analysis that risk management is not only another layer of bureaucracy within HEI, but also an effective management tool to help universities achieve their strategic goals.

According to (Ahmad, Isa, & Tapa, 2016 and Sum et al, 2017), they surveyed the extent to which 20 public universities in Malaysia communicated their risk management policies through the information on their website. Of the total of 20 public universities in Malaysia, 10% (two universities) have posted their risk policies on their website. The remaining 90% (18 universities) did not post any information on risk policies or frameworks on their websites. 15% (3 universities) stated that their risk management framework is based on ISO31000: 2009. Another 85% (17 universities) did not indicate the type of risk management framework anywhere on their website. Eleven universities have risk managers or formal institutions to manage risk. Ten universities have appointed a risk manager to oversee risk management activities, and one university has appointed a risk management committee.

However, the recommendations Ahmad, Isa, & Tapa, (2016) and Sum et al, (2017) report that in Malaysia, the risk management practices of non-profit institutions, including universities and higher education, are underdeveloped than most companies around the world. The extent to which Malaysian universities, especially MTUN universities, have implemented risk management policies is unclear. Correspondingly, if there are risk management policies, it is not known whether these policies reflect enterprise risk management practices and principles, and to what extent these ERM principles affect organizational performance in MTUN universities. Therefore, it is important to establish empirical evidence to support the state of ERM practice among MTUN universities and determine the impact of ERM factors on MTUN university performance.

## **2. Literature Review**

The University Good Governance Index (UGGI) launched in 2011 requires Malaysian public universities to implement organized risk management. The purpose is to give universities autonomy. Since 2012, five public universities, University Teknologi Malaysia, University Kebangsaan Malaysia, University Sains Malaysia, University of Malaya and University Putra Malaysia have gained autonomy (Da Wan, & Morshidi, 2018). Da Wan & Morshidi, (2018) mentions that when self-sufficient status is obtained; universities will compete fiercely in the higher education market, thereby increasing publicity on multidimensional risks. These dangers are related to the uncertainty of the future funding of the authorities, the increase in the number of graduate students, the search for high qualifications in the world rankings of universities, the competition for research, education, and learning to gain global outstanding students and increase competition in global competition condition. Also, Ahmed et al. (2016) mentioned that public universities cannot avoid risk management. The growing need for independent governance, especially when making economic and aid decisions, makes it clear that they must be convicted for giving them freedom. Therefore, the

establish and complete opportunity management framework as one of the requirements for granting independent status to public universities in Malaysia.

According to Ahmed et al. (2016), since the Malaysian Higher Education Blueprint 2013-2025 was launched in 2013, six public universities have obtained autonomous position. The revised Malaysia Higher Education Blueprint Plan 2015-2025 (MEBHE) proposes greater autonomy over public universities. Because evidence of a comprehensive risk management framework must be available during the award process, Ahmad et al. (2016) studied the existence of formal risks.

Ahmad et al. (2016) use the following representatives as evidence of risk management: there is a risk policy or risk management framework, and there is a formal structure for managing risk, such as a risk management committee or a risk manager. The study examined university websites to find evidence of any power. The results are listed in Table 1. Of the survey results observed on April 22, 2015, 10% (two universities) of a total of 20 public universities in Malaysia posted their risk policy on their website. The remaining 90% (18 universities) did not post any information on risk policies or frameworks on their websites. 15% (3 universities) stated that their risk management framework is based on ISO31000: 2009. The remaining 85% (17 universities) did not indicate the type of risk management framework anywhere on their website. Eleven universities have risk managers or formal institutions to manage risk. Ten universities have appointed a risk manager to oversee risk management activities, and one university has appointed a risk management committee. The study was initiated by (Da Wan & Morshidi, 2018 and Ahmad et al. 2016). The purpose of this research is to bring risk management into academia. Its purpose is to improve knowledge and understanding of risk and risk management in the context of higher education. This study focuses on adjusting individual recognition of risk management. Risk management is not another layer of bureaucracy. Perhaps it is an effective management tool to help universities achieve their key goals. Universities have been teaching students risk management, so they need to practice what they teach.

Table 2.3: Universities in Malaysia with Autonomy Status, Risk Policy, Risk Framework, Risk Manager and Risk Committee

University	Autonomy Status	Risk Policy	Risk Management Framework	Risk Manager	Risk Committee
UTM	Yes	Yes	ISO31000:2009	Yes	Yes
UKM	Yes	Yes	ISO31000:2009	Yes	No
UUM	Yes	No	ISO31000:2009	No	Yes
USIM	Yes	No	No	Yes	No
USM	Yes	No	No	Yes	No
UTEM	Yes	No	No	Yes	No
UiTM	Yes	No	No	Yes	No
UMT	Yes	No	No	Yes	No
UPM	Yes	No	No	Yes	No
UIA	Yes	No	No	Yes	No
UM	Yes	No	No	No	No
UNIMAS	Yes	No	No	No	No
UMP	Yes	No	No	No	No
UPNM	No	No	No	Yes	No
UPSI	No	No	No	No	No
UNIMAP	No	No	No	No	No
UTHM	No	No	No	No	No
UMS	No	No	No	No	No
UMK	No	No	No	No	No
UNISZA	No	No	No	No	No

Reproduced from Sum & Saad (2017)

## 2.1 ERM Process

Over the past two decades, business risk management (ERM) in organizations has grown rapidly, and its shareholders, regulators, professional institutions, and rating agencies have sought to improve corporate governance, risk management, and internal control (Tricker, 2015 ). ERM is defined by several different entities and basically means the same concept. COSO ERM (2004) was extended from the COSO Internal Control Framework (1992) to provide a more robust and comprehensive approach to a wider range of ERM issues. Prior to the introduction of the COSO

ERM 2004 framework, discussions on ERM had been held between HEI and relevant organizations, which led to the distribution of a document by the National Association of University and College Business Staff (NACUBO) and PricewaterhouseCoopers. The study "proposes a model to manage the entire company's risk in higher education at MTUN University in Malaysia". The COSO ERM framework (2004) adds strategic objectives to the new framework. Therefore, it can be determined that COSO ERM (2004) is effective on four types of goals, including strategy, operations, reporting and compliance.

The third dimension is a vertical column. COSO (1994) 's internal control exist within specified functions or activities; at the same time, COSO ERM (2004) applies to multiple levels of the company, from the entity level to individual departments, business units and subsidiaries. COSO defines Enterprise Risk Management as: "A process performed by an entity's board of directors, authorities, and others to identify strategies and processes across the enterprise to identify potential events that may affect business processes. Entities and manage risks are within risk tolerance, so as to provide a reasonable guarantee for achieving the entity's goals". COSM ERM is a complete and holistic way for enterprises to manage risks across the organization to achieve their goals (Beasley et al., 2018). In addition, the risk management process allows managers to perform appropriate risk management and resolve and contribute to possible problems before they occur (Kerzner, H. and Kerzner, 2017). Therefore, all these risk management processes in Malaysia's autonomous public universities have assumptions that have a positive and significant impact on risk management practices.

Abraham (2013) noted that many higher education institutions recognize that with the full support of the board of directors, effective risk management programs will increase the likelihood that universities will implement plans, increase transparency and allow for better distribution scarce resources. Good risk management is good governance for Abraham (2013, p. 5). Overall, risk management helps universities maintain a competitive advantage, strengthen their integrity and reputation, respond effectively to major events, avoid financial surprises and effectively manage all of their resources.

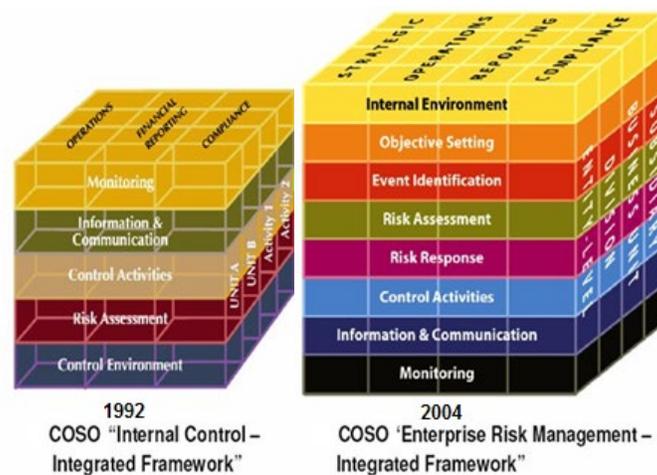


Figure 2.1 Comparison of the COSO ERM framework (Colour differentiate horizontal dimension)

## 2.2 Conceptual Framework and Hypotheses Formulation

The conceptual framework of the study provides a map or plan for the study. It provides a structure to obtain evidence to support or reject hypotheses in research. The conceptual framework of this study is based on the synthesis of several frameworks and will be discussed in detail. Several frameworks have been proposed for Enterprise Risk Management and organizational performance in higher education settings.

The COSO framework suggested eight management processes working as independent variables constituting ERM, these include (1) internal environment (2) objective setting (3) event identification (4) risk assessment (5) risk response (6) control activities (7) information and communication and (8) monitoring. Arguably, these eight processes can help organizations reduce risk and provide the greatest opportunity for the organization's success, which are the eight components used in previous research conducted by (Ariff, et al, 2014; Teoh & Muthuveloo, 2017 and Maruhun, & Said, 2018). On the other hand, MTUN University's performance indicators (dependent variables) are adopted according to the University Performance Indicators Framework (PM) proposed by

(Wang, 2010). Therefore, Wang (2010) proposed that university performance should constitute two main aspects of academic and administrative aspects. The academic aspect constitutes research and education, while the management aspect constitutes finance and human resources. Therefore, indicators that reflect these aspects will be selected, and patents and publications will be added, as these two indicators are important for measuring university performance.

However, these studies are conducted in different departments and environments than education. Therefore, there is limited research on the management support of the education sector as the host. Therefore, this gap must be filled. This study will try to fill this gap; the model's gaps and test "management support" as "moderators" in the education sector. Also in the figure, the lines of linked variables indicate the number of research hypotheses, and there are six hypotheses to test in this study. Based on these processes, a scheme for researching the conceptual framework is proposed, as shown in Figure 1.

#### Hypothesis

- H1: Internal environment significantly effects the performance of MTUN universities.
- H2: Objective Setting significantly effects the performance of MTUN universities.
- H3: Event Identification significantly effects the performance of MTUN universities.
- H4: Risk Assessment significantly effects the performance of MTUN universities.
- H5: Risk Response significantly effects the performance of MTUN universities.
- H6: Control Activities significantly effects the performance of MTUN universities.
- H7: Information and Communication significantly effects the performance of MTUN universities.
- H8: Monitoring significantly effects the performance of MTUN universities.

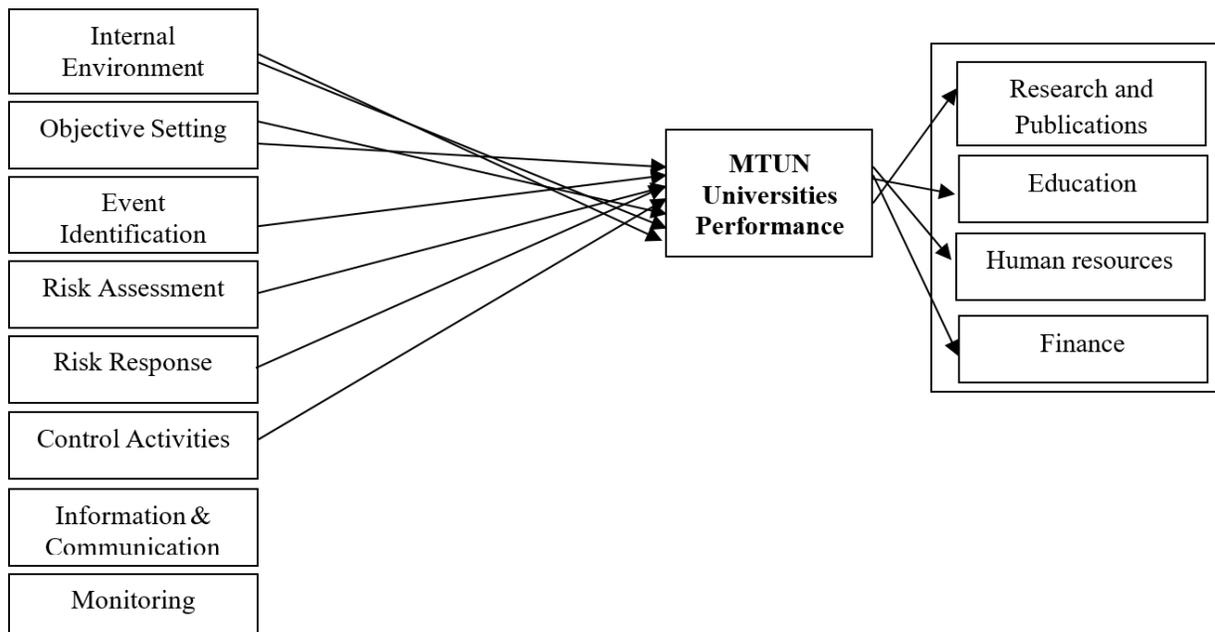


Figure 1: Conceptual Framework of the Study

### 3. Discussion and Conclusion

The lack of a unified definition of the enterprise risk management framework poses severe challenges for those conducting empirical research in risk management. This study has reviewed and proposed a unified definition of ERM, and integrated several ERM definitions based on past literature. The components of effective enterprise risk management are based on some frameworks and previous literature Lundqvist, (2014). In addition, as with previous enterprise risk management studies, it can be concluded that the quality of these research is not sufficient. The conclusion of the nature of the relationship between the enterprise risk management process factors and university performance is not enough conclusive for generalization.

The review of the implementation of enterprise risk management in the service industry shows that the comprehensive risk management frameworks COSO (COSO, 2004) and ISO 31000: 2009 are widely used by service companies. These risk management frameworks describe the principles, practices, general guidelines and processes involved in risk management. ERM is able to unify and coordinate efforts and risk management practices to establish risk context and parameters, identify risks, analyze risks and develop risk profiles and determine risk treatment strategies. However, there is currently no reliable model for risk management through academic research and higher education processes. An analysis of the use of COSO (2004), ISO 31000: 2009, AS / NZS 31000: 2009 and MS ISO 31000: 2010 helps to develop risk management practices in higher education. The basic idea of risk management is to identify important risks and develop mitigation measures. Step-by-step detailed risk management is an eight-step process (Chapman, 2011).

The internal ERM support environment is an environment in which ERM functions that affect the effectiveness of the entire ERM system are implemented. Therefore, this is a basic requirement for successful implementation of an effective enterprise risk management approach. According to the COSO report on enterprise risk management, the internal environment represents the "keynote of senior management", which includes management's attitude and awareness of the importance and relevance of enterprise risk management to creating and maintaining company value. Kinyua et al. (2015), recognizing that there is a significant correlation between the internal control environment and financial performance. According to Bailey et al. (2017), they confirmed that the presence of the risk director enhanced the company's internal enterprise risk management environment and added value to the company. In this case, it is believed that the internal support environment for enterprise risk management is conducive to the formation of a decision-making culture consistent with risk, and risk will have a positive impact on the company's performance, and draw the following assumptions.

According to Gates et al. (2012) most ERM frameworks state that risks must be determined based on company goals. The comprehensive ERM framework of COSO (2014) recognizes that the company's goals must be consistent with the company's risk appetite and level of risk tolerance. According to Lebedeva et al. (2016), ERM strategies aim to reduce volatility by avoiding the sum of risks from different sources. By establishing goals that are consistent with risk, senior management can consider risk when determining the company's long-term goals. Therefore, they must consider the risks associated with achieving the goals to establish them.

The changing environment has produced many events that may have a positive or negative impact on the achievement of company goals. Most of these external environmental changes will bring threats or opportunities to the company and directly affect the company's risk exposure. Due to the broader nature of the company's diverse identification of business events, the successful implementation of an integrated ERM system is critical. According to Bravo (2016), minimizing business contingencies will minimize the volatility of returns and increase the value of the company. Lagat & Tenai (2017) pointed out that there is a positive correlation between risk identification and the performance of financial institutions. The identification of events enables organizations to anticipate favorable and unfavorable internal and external events that affect the achievement of corporate goals, thereby minimizing the risk of facing business accidents that negatively affect performance. Joos & Srinivasan (2016) pointed out that a company-based risk assessment based on behavioral coefficients is necessary for conducting expected behavioral analysis to estimate future results. According to Arras, M. (2016), risk assessment is important because it is a way for a company to manage the importance of each risk to achieve its overall goals.

Based on the risk assessment and in the context of the company's risk tolerance and risk tolerance, management must decide on an appropriate strategy based on the level of risk assessed. These strategies include choosing between avoiding risk, accepting risk, sharing risk, and reducing risk. These are the key factors to effectively respond to risk, according to (Alawattagama et al. 2018). Information processing and control activities in this area include verifying the accuracy and completeness of company transactions to determine whether they have been properly authorized. Control activity in the information area is broadly measured in two ways: general controls and application controls. General controls include monitoring of data center operations, spoofing of mainframes and servers, and acquisition, maintenance, and access to system software.

The organization's information and communication channels support the submission of complete, accurate and timely financial reports by making all relevant internal process instructions and policies available to all relevant employees. These include analysis and comment on financial performance and risk. The university's top managers receive monthly financial reports. The audit committee has established procedures of whistle blower to report violations in accounting, internal control and auditing materials.

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## **Biographies**

**Saleh Nasser Abdullah Al-Subari** is from IBB state and was born in 1987 at IBB state of Yemen. He attended Al Wahda Primary School, then to Kuwait High School. He did his bachelor's degree at University Tun Hussein Onn Malaysia (UTHM) from the faculty of Technology of Management and Business in 2015. He started working and thereafter, he applied and later gains admission for master's degree in Technology Management at University Tun Hussein Onn Malaysia (UTHM). He finished his master's degree in June 2017 and after which he immediately starts his PhD in the same university at the same faculty. The author published 2 papers.

**Rumaizah Binti Ruslan** did her PhD in University Tun Hussein Onn Malaysia in 2018, her area of research interest includes occupational health and safety, OSH Risk Assessment & Management, Environmental Health and OSH Training & Education. She is the author of many journals and attended many international and local conferences.

**Dr. Shafie Mohamed Zabri** is an Assoc. Prof. in the Department of Business Management, Faculty of Technology Management & Business at the University Tun Hussein Onn Malaysia (UTHM). His Bachelor Degree was in Business Administration (Banking) from University Utara Malaysia (UUM), Malaysia and his Master Degree was also in Business Administration (Finance) from University Kebangsaan Malaysia (UKM), Malaysia and his PhD was in Business Administration (Management) from University of Plymouth, United Kingdom. He published many papers in conferences and reputable journals.