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# Starting The Implementation of Risk Management in a Higher Education Institution: The Case of IPB University

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**Abstract.** This paper shares an experience of implementing risk management in a public university in Indonesia. The shared experience is focused on the triggers for starting the implementation, the critical first steps, and the strategy or approach utilized in the implementation. One of the remarkable findings is the importance of human resource development as a necessary step in the implementation. Another important approach is the pilot project, i.e., instead of implementing parts of risk management system in all units of the organization, the approach takes a limited number of organization units to implement the whole risk management system. The findings are then internationally compared with reports of risk management implementation in other universities. Several recommendations concerning risk management implementation and topics for future research are provided in the concluding remarks.

## 1. Introduction

Risk management has been implemented in many organizations, both private enterprises and public institutions, all over the world [1][2]. The fact that the number of organizations implementing risk management increases rapidly indicates that they have benefitted or at least have expected to benefit from the implementation.

Risk management was implemented in Indonesia relatively much later than it was in advanced developed countries. It was first implemented in private enterprises especially in financial sectors such as banking, insurance, and stock market. They are known as high risk business and therefore heavily regulated by public authorities like the Finance Service Authority (*Otoritas Jasa Keuangan*) and the Central Bank (*Bank Indonesia*). More recently risk management has also been implemented in non-financial sectors such as manufactures, transportation, mining, and other high-risk sectors.

In the public sectors or government agencies in Indonesia risk management is very rarely implemented, despite the fact that in 2008 the government stipulated that government agencies conduct risk assessment as part of internal control system [3]. Among the very few government agencies that have implemented risk management is Ministry of Finance. It initiated the implementation in 2016 [4]. Other government agencies have also started to implement the initiative but they are still at the very early stages.

While major universities in advanced developed countries implement risk management, almost none of universities in Indonesia have implemented it [5][6][7][8][9]. To the best of our knowledge, there are only three universities in Indonesia that have started to implement risk management, i.e. Bogor Agricultural University (*Institut Pertanian Bogor* or IPB University), Diponegoro University and University of Indonesia.



This paper intends to report the experience of starting the implementation of risk management in a public university in Indonesia, namely IPB University. The methodology of this study is mainly a literature survey and in-depth interviews with key persons who are members of top management in the university. The experience is then compared with the experience of several other major universities in the implementation of risk management. From the results of the comparative analysis several lessons can be drawn to formulate recommendations for other universities that intend to initiate the implementation of risk management. This might be the first paper to report experience in risk management implementation in higher education institution in Indonesian context. This paper is one of a series of studies on how to implement risk management in a higher education institution.

IPB University can be categorized as an old one (established in 1963) relative to other universities in the region, with student body of more than 27000. Since its establishment, it has always been in the list of five top universities in Indonesia. It has nine faculties (Agriculture, Veterinary Medicine, Fisheries and Marine Science, Animal Husbandry, Forestry, Mathematics and Natural Sciences, Economics and Management, and Human Ecology) plus School of Business and School of Vocational Studies. The number of faculty members is approximately 1300, including about 240 full professors.

## **2. The Triggers for Starting the Implementation**

In less than five months, there were two accidents involving IPB University students and researchers in 2018. In the accidents, four people died. The reports were published by thenational mass media (*see* <https://www.thejakartapost.com/news/2018/02/26/two-bogor-university-students-drown-in-river.html>. and <https://www.thejakartapost.com/news/2018/07/22/two-die-on-boat-trip-to-research-primates-in-banten-waters.html>). Those two accidents apparently triggered the Rector to set a general policy that requires every IPB University project involving outdoor activities be preceded by a risk analysis. In a private conversation he revealed that he was impressed by risk management systems implemented in very high-risk oil and mining projects for which he served as an expert consultant. In his opinion, if risk management could save dangerous projects from fatal accidents, it must be able to save a university from unnecessary accidents too.

Of course, it is also realized that risk management is not only about ensuring safety in sea transportation, or outdoor activities, or dangerous projects. It has much greater function in the process of an organization. More generally, risk management is a tool for assisting leaders of an organization to achieve its objectives more effectively [7]. This definition is very relevant to IPB University that is currently pursuing ambitious objectives such as to become a world class university (to become a member of the world top 500 universities), to transform the university management into modern information and communication technology (ICT) based management, to utilize industry 4.0 approach for the teaching and learning activities, to improve agro-maritime sciences and technology for entrepreneurship development[10], and so on. With this new context, the function of risk management has shifted from merely a tool for avoiding safety related accidents to a main instrument for strategic decision making. A good metaphor of risk management is the spotlight of a car when it travels in a dark night. The spotlight (risk management) guides the car (the organization) and directs it to its destination (the objective).

The broader functions of risk management as a tool for strategic decision making, however, are more abstract than the function of risk management in saving lives or protecting projects from accidents. Therefore, in the case of this university, it can be said that risk management implementation was triggered by the two consecutive serious accidents.

Risk management implementation that is triggered by safety related concerns is not uncommon. Another important trigger is government regulation where organization implements risk management to comply with government regulation [14]. The more mature organizations may be triggered by self-awareness, which is probably less frequently observed. The initiator of the University of Twente Centre for Risk Management, Safety, and Security is Prof. Pieter van Vollenhoven. He is currently most well known in The Netherlands for having been the chairman of the Dutch Safety Board from which he retired in February 2011. This fact may suggest that the center was initially established with

a major concern about safety related problems (see [www.utwente.nl/en/risk-safety/whatwedo/comprehensive-safety-and-security-strategy/](http://www.utwente.nl/en/risk-safety/whatwedo/comprehensive-safety-and-security-strategy/)).

Prior to the establishment of the Centre for Risk Management, on 20 November 2002 a fire was deliberately started in the University of Twente complex. It devastated the university's computing centre and reduced to ashes the rooms of dozens of members of staff belonging to three faculties. The damage was put at forty to fifty million euros. This is a part from the loss of data collected in years of experiments which were stored by individual members of staff in their rooms. For the country's insurers, the fire was the signal to review policies throughout the Netherlands and scrutinize the risk assessments of universities, colleges and research establishments [6].

### 3. The Commitment Stated and the First Steps

Ensured that risk management is essential for the success of an organization process to achieve its objectives, the Rector of IPB University was determined to implement risk management in the university. This commitment was followed by the establishment of a risk management team. A professor of the Faculty of Economics and Management who is also a member of the national Technical Committee for Risk Management Standard of the National Standardization Agency (*Badan Standardisasi Nasional*) was assigned to chair the team. The members of the team were recruited from among lecturers of Faculty of Economics and Management, Faculty of Agricultural Technology, and School of Business of the university. Some of them are lecturers of risk management in the undergraduate as well as masters' programs.

It was not easy to put the Risk Management Team in the organizational structure of IPB University. The Rector wanted the Team to directly report to him. This might imply that the Government Act on the university establishment had to be changed – something that might take months or even years to make. As a result, it was decided that the status of the Team was an *ad hoc* unit. With this status, the Team could immediately function effectively without having to go through the long process of changing the Government Act.

The first agreement among the Team members consists of two points. Firstly, the prerequisite of the implementation is an adequate awareness of risk management among the stake holders. Secondly, the standard that will be used for risk management implementation is ISO 31000. In other words, the first priority is put on the human resource development, especially for developing awareness of risk management among the stake holders based on risk management standard of ISO 31000.

In Malaysia, among thirteen top universities that had autonomy status, there were only two that had risk policy and there were three that had risk management framework [9]. In the two universities (Universiti Teknologi Malaysia and Universiti Utara Malaysia) risk management committees were assigned to analyse and quantify risks, to manage all risks, and instil risk management culture.

In Auburn University, Alabama USA, risk management is part of university culture and is incorporated into the strategic planning process and goals of every department [16]. Individual departments and divisions at the university know what their risks are, take responsibility for managing those risks, and measure their performance in managing their risks. With risk management, the departments take the responsibility for managing their risks through their strategic planning process and hold themselves accountable for their risk management performance.

### 4. Setting the Platform: ISO 31000

There are two widely adopted standards of risk management, i.e., COSO (Committee of Sponsoring Organizations of the Treadway Commission) Enterprise Risk Management Framework and ISO (International Organization for Standardization) Risk Management Standard 31000. COSO ERM and ISO 31000 have many common elements, including a definition of risk, discussion of the scope of risk management within an organization, and how that ties to strategic objectives, delineation of the risk management process and steps, and a set of risk management principles [11][11]. IPB University adopts ISO 31000 as the standard for risk management implementation. In Malaysia all universities

that have risk policy also adopt ISO 31000. The standard is also adopted in major universities such as University of Adelaide, Australia [13].

The ISO 31000 standard is more focused on defining high-level concepts such as the risk management and risk assessment process, security policies and risk evaluation criteria as well as discussing the different phases involved in implementing these. The concepts are described with a management audience in mind and as such, do not go into much detail when discussing the concept of risk itself. While it also neither offers definitions for common terms used in the field or risk management (e.g. event, consequence, likelihood or vulnerability), it does not describe causal relationships between these concepts, nor does it suggest a decomposition or factorization of risk [14].

One major benefit of adopting ISO 31000 as the standard of risk management is that it can be easily integrated with other standards such as quality standard (ISO 9001), cyber security standard (ISO 27032), environment management standard (ISO 14000), and so on. This may be one of the main reasons for the universities to adopt ISO 31000 as their standard of risk management.

### **5. The First Priority: Human Resource Development**

In line with the ISO 31000 risk management principles, it is believed that human and cultures are very important success factors. Accordingly, in the implementation of risk management in IPB University the highest priority was given to human resource development. The first target of human resource development was to develop awareness among members of top management leaders on the importance of risk management. Secondly, target was set for training program to introduce the principles and frame work as well as to develop skills for implementing the process of risk management. Thirdly, official assessment of risk management competence was scheduled for top management personnel.

To achieve the targets, the Risk Management Team arranged a seminar for top management (rector, vice rectors, directors, deans, department heads, and other staff). The speaker was the Chairman of Technical Committee for Risk Management Standardization of the National Standardization Agency. In this three-hour event the main concepts and the role of risk management in organizations were introduced.

The seminar was followed by a two-day (16 hour) training program that consisted of three batches. The first batch was mainly for the rector, vice rectors, and deans. The training was designed to equip the participants with competencies in risk governance. The second and third batches (designed for chief risk officers) were for directors, department heads, and members of the Risk Management Team. The trainers were risk management experts from the Indonesian Centre for Risk Management Studies ([www.crmsindonesia.org](http://www.crmsindonesia.org)).

After each batch there was a 90-minute assessment (oral examination) for each participant. The assessments were held by the Indonesian National Agency for Profession Certification (*Badan Nasional Sertifikasi Profesi* or BNSP). The total number of participants of these examinations (for *Qualified Risk Governance Professional* and *Qualified Chief Risk Officer* certifications) was about fifty persons. Some of the participants thought that they did not need assessment. However, the Risk Management Team insisted and tried to convince them that assessment was necessary for measuring the effectiveness of the training program.

### **6. The Strategy for Setting the Risk Management Organization: A Three-Level Hierarchy**

The organizational structure of risk management in the university was designed to consist of a three-level hierarchy. The top level is for the university wide risk management. It is headed by the rector with the vice rectors and deans as the members. Its main responsibility is to develop and establish the risk policy, and manage the university strategic risks. The top-level risk management arranges official meetings at least quarterly. The meetings are also attended by members of Risk Management Team who can function as risk advisors or risk specialists.

The units in the second level are faculties (each is headed by a dean) or units under a vice rector. The main responsibility of this level is to coordinate risk management of departments or directorates. It identifies the risks reported by its sub-units and may take over their ownership if the risks need

interdepartmental or inter-directorate coordination. This level may also define additional risks that are specific or strategic from the view point of the dean or the vice rector. The second level risk management arranges official meetings at least once in two months. The meetings are also attended by members of Risk Management Team who can function as facilitators.

The lowest level is departmental or directorate level. This is the smallest organization unit (risk owner) that manages risks. It is headed by a department head or a director. Each unit is supported by a “risk champion” whose competency is certified as *Qualified Risk Management Professional* (QRMP). The third level units arrange official meetings at least once in a month.

## 7. The Pilot Project

The available resource limits the scope risk management implementation. Therefore, instead of implementing risk management in all units in the university, the team selects several units to participate in a pilot project of risk management implementation. For the first batch, two faculties, i.e., Faculty of Agricultural Technology and Faculty of Economics and Management plus the School of Business participate in the project. Units under two vice rectors (vice rector for academic and students’ affairs, and vice rector for administration, planning, and finance affairs) also participate in the pilot project.

Following the standard of risk management process, each unit (the risk owner) establishes the context in which it manages its risks. This step results in a list of points that define the strategic environment of the unit, e.g., the objectives of the unit, the key performance indicators, and other factors that affect the unit in achieving its objectives. Based on this context, the unit identifies the risks and lists them in a risk register. The register should be updated regularly.

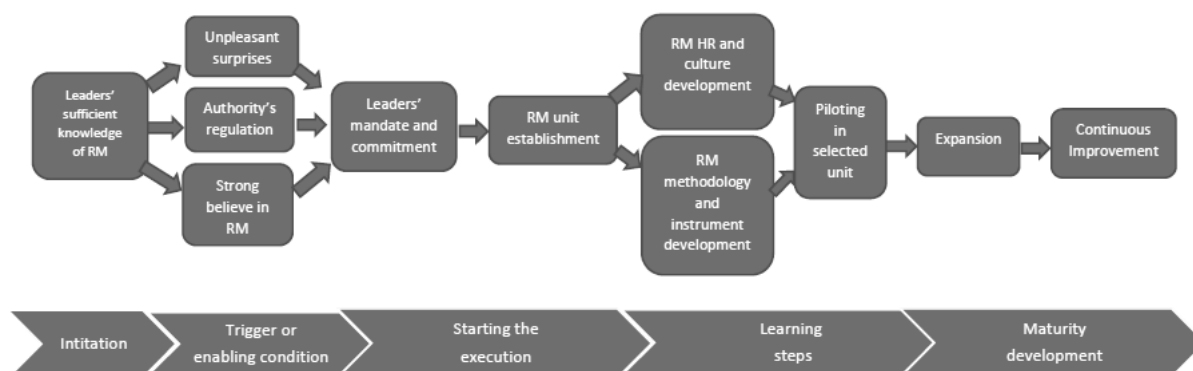
The risks in the register are then analysed and evaluated to produce a risk map, i.e., to group the risks based on two aspects (the probability and the impact). There are at least three categories of risks, the red risks (high probability to occur and high impact severity), the yellow risks (high probability to occur and low impact severity, or low probability to occur and high impact severity), and the green risks (low probability to occur and low impact severity). More risk groups can be created by making more levels of probability and impact.

Risk treatments have to be defined for each risk category. The green risks are given acceptance treatment, whereas the red ones are given rejection treatment. The yellow risks are either given risk mitigation treatment or risk transfer treatment. Based on this evaluation a document of risk report (that also includes action plan or contingency plan) can be made and communicated to relevant units.

Along the process of risk management communication and consultation among the relevant units should be conducted. The Risk Management Team should facilitate the whole process and be ready to function as risk consultant.

## 8. Concluding Remarks

Some organizations are triggered to implement risk management because of some major accidents. Some others may be inspired by implementation experience of other successful organizations. In the case of Indonesian universities, the trigger may be the government regulation. However, in the case of IPB University, the trigger was the two consecutive accidents. Shown in Figure 1.



**Figure 1.** Stages of Risk Management Implementation

The most important key success factor of implementing risk management is leadership. This point is not only formulated in the standard but also confirmed by empirical observation. Leadership manifests in the commitment of top management to fully support the implementation with necessary organizational resources. Top down approach is the most suitable strategy for implementing risk management.

In many universities ISO 31000 is used as the standard for implementing risk management. One obvious benefit of using the standard is its compatibility with other standards that makes it easy to integrate the standard into one system of management.

Human resource development should be given first priority in initiating the implementation of risk management. The implementation can be divided into stages based on organizational scope (starting from a small number of units, dealing with all risk types) or based on functional scope (starting from a small number of risk types, involving all units in the whole organization).

Future research should be able to answer the following questions: What are the success factors and major obstacles in implementing risk management in universities? What is the best approach to cope with the obstacles? What are the critical steps in initiating the implementation of risk management in a university? What are the unique characteristics of risks of a university? When is pilot project approach applicable in implementing risk management? Some of the questions are already analyzed [11]. However, some others need further research projects to answer.

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