

Operational Risk Management (ORM)

**Francis P. Sehn, MS, CSP, ARM
Assistant Vice President, Risk Management Services
Hilb, Rogal & Hobbs
Pittsburgh, PA**

Introduction

The ultimate goal of any business is to maximize resources, enhance profits, and continue operations in a safe and efficient manner. The important elements of this objective should include protecting people, property and the environment, and the EHS (Environmental, Health and Safety) professional must be a leader in this critical aspect of the business. To be acknowledged as that leader, the safety professional needs to be able to assess hazards in relation to the business. A tool for this action is the Operational Risk Management process. In this article, you will learn the six-step ORM process used by decision makers and how it can be used to integrate safety and health into the business goals of any organization.

The US Air Force has adopted this approach to risk management as discussed in Pamphlet 90-902, Operational Risk Management (ORM) Guidelines and Tools. This article will attempt to apply some of the concepts and steps in the process to a business model.

Key Concepts

Historically many businesses have functioned as so called top-down organizations. Top management makes the decision and the various levels of management and supervision essentially follow the decision makers lead. For a business to be successful in these decisions, management should consider or require that these decisions include both risk assessment and risk management. Each level of the organization should be responsible for identifying both actual and potential risks and for identifying appropriate corrective actions to minimize risk to an acceptable level. Applying the actions to minimize risk should take place both on and off the job.

1. Risk management should be an essential element of any business. Risk can be defined in a variety of ways. For the purposes of this article risk is defined as the probability and severity of failures or loss from exposure to various hazards. Identifying the hazard, analyzing the hazard and controlling the hazard to an acceptable risk are critical for success in any operation.
2. Risk management is defined as the process of identifying hazards and controlling the risks associated with them.
3. Risk management is not a new business process. It must be a key element that is fully integrated into the all aspects of any business. If done effectively risk management will have a direct impact on the bottom line and the culture of the organization. (1)

Business and the Safety Professional

If the above concepts are successful, needed changes in the organizational culture may take place. In his book titled “Organizational Culture and Leadership”, Edgar H. Schein defines culture as “a pattern of basic assumptions- invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration- that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems”. (2). The safety professional must become a team player in this culture development as it relates to the management of risk.

Traditional Risk Management

Risk management has also been defined as a process that uses physical and human resources to accomplish certain objectives concerning most pure loss exposures. There are both post loss and pre-loss objectives that must be considered. Post-loss objectives include: (1) survival, (2) continuity of operations, (3) earnings stability, (4) continued growth, and (5) good citizenship or social responsibility. Pre-loss objectives include: (1) economy, (2) reduction in anxiety, (3) meeting externally imposed obligations, and (4) good citizenship and social responsibility. The risk management process consists of four steps:

1. Identification and analyzing loss exposures.
2. Selecting the technique or combination of techniques to be used to handle each exposure.
3. Implementing the techniques chosen.
4. Monitoring the decisions made and implementing changes where appropriate. (Williams, et al 18).

The above model has been the foundation of risk management in many organizations for many years. Small to midsize companies have purchased insurance to meet the various economic/financial needs and may or may not incorporate an environmental safety and health program to minimize the possibility of loss. Success in minimizing loss problems is largely a result of dedicated human capital and enlightened management. As noted the safety professional must be a leader in a successful EHS process as it relates to risk management. In order to accomplish this goal of minimizing losses an ORM approach to risk management is recommended.

Operational Risk Management Governing Principles

The following principles should govern all actions associated with a successful business.

- Accept no Unnecessary Risk. All activities of daily life or daily operational routines involve some level of risk. All employees should have a basic understanding of hazards and risks as well as appropriate corrective actions.
- Make Risk Decisions at the Appropriate Level. Making decisions at the appropriate level will establish accountability. Those individuals who are held accountable must be included in the risk decision process. These individuals must have the authority to allocate resources to reduce the risk and implement corrective actions or control measures.
- Accept Risk when Benefits Outweigh the Costs. Benefits should be compared to costs. Balancing costs and benefits may be a subjective process and open to interpretation.
- Integrate ORM into all levels of the business. Time and resources are needed to adequately incorporate risk management principles into the planning process. Retrofitting the process has minimal benefits and is often costly.

Feedback is important at all times to enhance the process.

The ORM Process

ORM is a continuous process designed to identify, assess, and control risk while enhancing business performance and maximizing business goals and objectives. ORM provides a basic structure for the identification, assessment and the control of risk. Individuals/employees at all levels are trained to identify and control risks in the ORM process. The traditional four or five step methods for risk management have frequently steps 3 and 4 of the ORM and combined them into one step.

Six Step Process of Operational Risk Management

1. Identify the Hazard. A hazard can be identified as any actual or potential condition or action that can cause downgrading of an operation or task. These downgrading incidents can include injury, illness, and damage of property, equipment, the environment or material.
2. Assess the Hazard. Risk is defined as the probability and severity of loss from exposure to the hazard. The assessment step is the application of either qualitative or quantitative measures to determine the level of risk associated with a specific hazard. This process defines the probability and severity of an incident that could result from the hazard based upon the exposure of personnel, equipment, materials and the environment to that hazard.
3. Analyze Risk Control Measures. Investigate specific strategies and tools that reduce, mitigate, or eliminate the risk. Effective control measures can reduce or eliminate one of the three components, probability, severity or exposure of risk.
4. Make Control Measures. Decision makers at the appropriate level chose the best control or combination of controls based on the analysis of overall costs and benefits.
5. Implement Risk Control measures. Once the control strategies have been selected, an implementation strategy needs to be developed and then applied by management and the entire workforce. Implementation commitment from management of both time and possibly financial resources.
6. Supervise and Review. Risk management is a process that continues throughout the life cycle of the system, task, operation, process, or activity. Leaders at every level must fulfill their respective roles in assuring controls are sustained over time. Once controls are in place, the process must be periodically reevaluated to ensure their effectiveness.

How to Use the ORM Process Model

To get the maximum benefit from this process there are several factors that should be kept in mind.

- Apply the Steps in Order. Each of the steps is a building block for the next step.
- Maintain Balance in the process. All six steps are important. If an hour is available, apply the ORM process.

- Apply the Process in a Cycle. The “Supervise and Review” step feeds back into the first step.
- Involve People Fully. The only way to assure the ORM process will succeed is to provide for the full involvement of people actually exposed to the risks.

Management should revalidate the ORM process and procedures to assure that all personnel are supportive and positive.

Step 1

Hazard Identification

This first step in hazard identification is to focus on the critical components of the operation. There are several methods to accomplish this objective. There are 7 primary hazard ID tools described in the AFP AM 90-902. These include:

- Operations Analysis
- Preliminary Hazard Analysis or Job Hazard Analysis
- What If tool
- Scenario Process Tool
- Logic Diagrams
- Change Analysis
- Cause and Effect Tool

When used effectively these tools will help us determine the basic sources of hazards in the workplace and to ultimately develop corrective actions to minimize or eliminate risk. The 5M Model is recommended to detect root (systemic) causes factors. The factors include:

1. Man root causes
2. Machine
3. Media
4. Management
5. Mission

This process will involve full engagement of the work force to appropriately detect the systemic issues associated with downgrading incidents.

Step 2

Risk Assessment

This step in the process will associate “hazard” with “risk”. It involves assessing hazard exposure, hazard severity, and the impact on the operation or task. A risk matrix can be used to quantify risk by applying severity and probability in a systematic fashion.

SEE Matrix on next page.

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HAZARD SEVERITY	MISHAP PROBABILITY			
	A	B	C	D
I	1	1	2	3
II	1	2	3	4
III	2	3	4	4
IV	3	4	4	4

1. Imminent Danger
2. Serious
3. Moderate
4. Minor

Hazard Severity

Category I - *Catastrophic*: The hazard may cause death, or property loss greater than \$1,000,000

Category II - *Critical*: May cause severe injury, severe occupational illness, or property loss greater \$100,000.

Category III - *Marginal*: May cause minor injury, minor occupational illness, or property loss greater then \$10,000.

Category IV - *Negligible*: Probably would not affect personnel safety or health, but is, nevertheless, in violation of a standard, or property loss less then \$10,000.

Mishap Probability

- u Subcategory A - *Likely* to occur immediately or within a short period of time.
- u Subcategory B - *Probably* will occur in time.

- u Subcategory C - *May* occur in time.
- u Subcategory D - *Unlikely* to occur.

Step 3

Analyze risk control measures

In this step the emphasis is on identifying the control options, determining the control effects and prioritizing the risk control measures. Risk control options include traditional safety measures including engineering, guarding, limiting exposure, training and education, warn, motivate, and

improve the task design. Operator input is critical and the control measures should be focused where they have the maximum impact.

Step 4

Select or make the risk control decision

This step involves making decisions at the right time, at the right level, and always makes the decision that supports the process and the organizational culture. The EHS leader should endeavor to push the average risk decision down the chain of command over time.

Step 5

Implement risk controls

The risk controls must be integrated fully within the plans, processes and operations with which they are associated. The controls must be compatible with the safety management system. The implementation should be clearly understood by all operational personnel. In addition, accountability must be established and be vertically integrated. Sustained feedback on results should be provided routinely.

Step 6

Supervise and review

Supervision of the risk controls is exactly the same as supervision of any leadership action. The review process should be based on direct measures of risk that are statistically valid. Feedback should include both success and failure including significant discussion of lessons learned. This step should in turn be tied to Step 1 above.

The safety professional of the future must gain a clear understanding of risk management to enhance his/her leadership role in any organization. Obtaining the skills and knowledge of the risks of doing business is imperative to the personal growth of this position. Being a team player will provide insight into the goals and objectives as well as the strategic plans where the safety professional can have an impact on the bottom line.

Bibliography

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