



RISK MANAGEMENT AND PROPERTY PROTECTION: SAFETY PROFESSIONAL'S ROLE

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Risk Management



Risk is the possibility of a financial loss or gain.

Organizational Risks: Strategic
 Operational
 Financial
 Hazard

Risk management intends to reduce worry about:
The safety and health of employees
Spoiling the environment
Cost effectiveness of loss prevention and insurance programs
Earnings variability due to accidental losses
Financial survival of the business

Safety Professional's Role



Loss Prevention (pre loss)

Protection of personnel, property and the environment

compliance to laws, codes and standards

engineer solutions to eliminate or control risks

investigate failures

track performance

Safety Professional's Role



Loss Control (post loss)

Emergency Response

Crisis Management

Recovery

Remediation

Investigation

Business Continuity Management

Risk Management Role



Identify Loss Exposures

Analyze Loss Exposures

Identify and determine feasibility of risk management techniques

- Avoidance

- Loss prevention

- Loss reduction

- Separation, Duplication and Diversification

Select “appropriate” risk management technique

Implement

Monitor results

Risk Management Technique Goals



What is the “appropriate” risk management technique?

Chosen based on effectiveness and economy

Effective:

enables business to achieve pre-loss goals of:

economy of operations

tolerable uncertainty

legality

social responsibility

Risk Management Technique Goals



Effectiveness (cont.)

Post Loss goals:

Survival

Continuity of Operations

Profitability

Earnings Stability

Growth

Social Responsibility

Economic- least expensive of effective options

Analyzing Loss Exposures



What is needed to make “appropriate” Risk Management Technique Selection?

Values of assets

Costs, historical, replacement

Understanding of the business

Value add, margins, dependencies, redundancies

Potential for failure

Historical data, internal or external of like kind

Forecasting loss- empirical probabilities, loss scenarios

Value of money

Cash Flow Analysis

Value of Money



CASH FLOW ANALYSIS

Time Value of Money

ability to invest and generate income over time

Capital Investment proposal evaluation

Net Present Value Method (NPV)

Used when business's cost of capital (acceptable rate of return) is predetermined

$$\text{NPV} = \text{PV sum of future cash flows} - \text{PV (initial investment)}$$

Value of Money



EXHIBIT 14-3
Differential Annual After-Tax Cash Flows—Recognizing Expected Losses

NCF Calculations	
Differential cash revenues	\$60,000
Less: Differential cash expenses (except income taxes)	
Expected value of fire losses	(\$16,000)
Before-tax NCF	\$44,000
Less: Differential income taxes	
Before-tax NCF	\$44,000
Less: Differential depreciation expense (\$200,000 ÷ 10 years)	(\$20,000)
Taxable income	\$24,000
Income taxes (40% × \$24,000)	(\$9,600)
After-tax NCF	\$34,400

The annual expected value for fire losses reduces the after-tax NCF and the rate of return.

NCF Evaluation	
Factors:	
Initial investment	\$200,000
Life of project	10 years
Differential annual after-tax NCF	\$34,400
Minimum acceptable rate of return (annual)	10.00%

Evaluation by NPV Method:
 Present value of differential NCF (\$34,400 × 6.145) \$ 211,388
 Less: Present value of initial investment (\$200,000)
 NPV: \$ 11,388

The annual expected value for fire losses reduces the after-tax NCF and the rate of return.

Evaluation by IRR Method:
 Present value factor = Initial investment ÷ Differential NCF
 = (\$200,000 ÷ \$34,400)
 = 5.814.

Interpolation to find the IRR (*r*):

	Rate of Return	Present Value Factor	Present Value Factor
	10.00%	6.145	6.145
	<i>r</i>		5.814
	12.00%	5.650	
Differences	2.00%	0.495	0.331

$r = 10\% + [(0.311 \div 0.495) \times 2\%]$
 $= 10\% + 1.34\%$
 $= 11.34\%$

The annual expected value for fire losses reduces the after-tax NCF and the rate of return.

Courtesy Risk assessment, 1st Edition AICPCU

Risk Management Options



Risk Control

- Loss Prevention/Reduction
- Separation of Loss Exposure
- Avoidance of Loss Exposure

Risk Financing

- Retain as current expenses
- Funded reserve
- Borrow funds
- Captive insurer
- Unrelated insurer(s)
- Contractual transfer
- Hedging

Combining Risk Management Techniques

Safety Professional/Risk Manager Role



Safety Professional >>>><<<<< Risk Manager

Understand the business operation

Understand economics of business

Understand the dynamics of risk and the costs of loss

Understand the insurance business

Quantify as well as qualify your proposals

Understand how liability for loss is transferred via contract

Put it all together

Engage where you must and can make a difference

Keep Up

Risk Management Resources



American Institute for Chartered Property Casualty
Underwriters/Insurance Institute of America (AICPCU)

Associate in Risk Management (ARM) Program

Chartered Property Casualty Underwriter (CPCU)

Risk and Insurance Management Society, Inc.

Business Insurance

www.businessinsurance.com

Risk and Insurance

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