

Project Risk Management

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PMG 510
Project Risk Management

Lecture 10



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Lecture Organization

Project Risks in a Turbulent Environment

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1. **Introduction to Risk in Turbulent Environments.**
2. **Geopolitical Risk and Its Characteristics.**
3. **Traditional Risks vs Systemic Risks.**
4. **Geopolitical Context and Regional Dynamics.**
5. **Supply Chain Disruptions and Logistics Risks.**
6. **Energy Price Shocks and Cost Structures.**
7. **Macroeconomic and Financial Risks.**
8. **Advanced Risk Management Tools**

General Framework

- The business environment in the Middle East represents a vivid example of what is known as highly turbulent environments, where economic, financial, and geopolitical factors intersect in complex ways. This necessitates a fundamental shift in how project risks are understood and managed. It is no longer sufficient to rely on traditional risk management tools; instead, a dynamic and strategic perspective must be adopted—one that accounts for the evolving and unpredictable nature of risks.

Definition of Risk in the Context of Geopolitical Crises

- **Traditionally, risk is defined as:**
- “the probability of an undesirable event occurring and its impact on project objectives.”
- However, this definition becomes insufficient when dealing with geopolitical crises, as such risks exhibit fundamentally different characteristics.

Definition of Risk in the Context of Geopolitical Crises

- **In this context, project risks can be defined as:**
- “A set of unexpected or semi-expected threats arising from political, military, or economic shifts at the regional or international level, which directly or indirectly affect project continuity, cost, schedule, quality, and even economic feasibility.”

Characteristics of Geopolitical Risks:

- High impact: may lead to complete project shutdown
- Low predictability: difficult to model accurately
- Rapidly evolving: change over short periods
- Transnational: not confined to one country
- Interconnected: affect multiple dimensions simultaneously (financial, operational, logistical)

Characteristics of Geopolitical Risks:

Practical Example

- Disruptions in shipping routes or rising energy prices are not merely “operational risks,” but direct consequences of geopolitical factors, elevating risk from the project level to the entire economic system.

Difference Between Traditional Risks and Systemic Risks

First: Traditional Risks

These arise within the project boundaries or within a relatively controllable scope, such as:

- Supplier delays
- Cost overruns
- Design errors
- Weak human resource management

Difference Between Traditional Risks and Systemic Risks

First: Traditional Risks

Characteristics:

- Identifiable
- Quantifiable
- Relatively controllable
- Limited impact within the project

Difference Between Traditional Risks and Systemic Risks

Second: Systemic Risks

Systemic risks originate outside the project and affect entire economic or sectoral systems, often spreading across sectors.

Definition:

“Macro-level risks that cause widespread disruptions in economic, financial, or logistical systems, affecting multiple projects and organizations simultaneously.”

Difference Between Traditional Risks and Systemic Risks

Second: Systemic Risks

Characteristics:

- Non-isolatable
- Cascading effects
- Wide impact across the economy
- Confidence-driven (e.g., financial crises)
- Difficult to predict and model

Required Shifts in Project Management

- **Shift toward flexibility**
 - Adaptive planning
 - Iterative project phases
- **Scenario-based planning**
 - Best-case
 - Base-case
 - Worst-case

Required Shifts in Project Management

- **Decision-making under uncertainty**
 - Judgment-based decisions
 - Reduced reliance on purely quantitative models
- **Enhanced responsiveness**
 - Faster adaptation
 - Reduced decision-making time

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Geopolitical Context and Its Impact on Projects

- Geopolitics has become a key determinant of the business environment. Projects no longer operate in purely economic contexts, but within a complex global system influenced by conflicts, alliances, energy security, and strategic routes.

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Implications of Conflict with Iran on the Middle East

- Any military or political escalation involving Iran represents a strategic turning point due to its geographic position, energy market influence, and regional role.

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Implications of Conflict with Iran on the Middle East

Dimensions of Impact:

A. Economic:

- Rising oil and gas prices
- Increased inflation in energy-importing countries
- Decline in foreign investments

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Implications of Conflict with Iran on the Middle East

Dimensions of Impact:

B. Financial:

- Currency volatility
- Higher financing costs (risk premium)
- Stock market instability

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Implications of Conflict with Iran on the Middle East

Dimensions of Impact:

C. Logistical:

- Threats to maritime shipping routes
- Supply chain disruptions
- Increased transport and insurance costs

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Implications of Conflict with Iran on the Middle East

Dimensions of Impact:

D. Institutional:

- Reassessment of project feasibility
- Delays or cancellations
- Greater focus on crisis management

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Implications of Conflict with Iran on the Middle East

Impact on Projects:

- Cost instability
- Schedule disruptions
- Reduced ROI
- Increased risk of failure

Strategic Importance of the Strait of Hormuz

The Strait of Hormuz is one of the world's most critical chokepoints:

- Carries ~20% of global oil trade
- Key route for LNG exports
- Strategic leverage point in global conflicts

Scenario: Closure or Disruption of the Strait

Immediate Effects:

- Sharp increase in energy prices
- Inflation resulted from increasing cost of production
- Supply chain disruptions
- Rising transport and insurance costs

Scenario: Closure or Disruption of the Strait

Project-Level Impact:

- Budget overruns
- Schedule delays
- Reduced quality
- Potential loss of feasibility

Scenario: Closure or Disruption of the Strait

Long-Term Effects:

- Supply chain restructuring
- Shift toward nearshoring and diversification

Geopolitics and Business Continuity

Business Continuity Definition:

The ability to maintain or quickly recover operations during disruptions.

Geopolitical Impact:

- Supply interruptions
- Resource shortages
- Stakeholder pressure

Integration Requirement:

Risk Management must be integrated with Business Continuity Planning (BCP).

Energy Price Shocks and Their Impact

Energy is a critical input across all economic activities.

Impacts:

- Increased operating and production costs
- Reduced profit margins
- Higher break-even points
- Lower project feasibility (NPV decline)

Energy Price Shocks and Their Impact

Financial Forecasting Risks:

- Budget uncertainty
- Model inaccuracy
- Cash flow instability

Global Supply Chain Disruptions

Key Effects:

- Increased freight costs
- Delays and uncertainty
- Logistics bottlenecks

Strategic Shift:

- From efficiency → resilience
- Reshoring / Nearshoring

Global Supply Chain Disruptions

Impact on Projects:

- Schedule delays
- Cost overruns
- Quality degradation

Macroeconomic and Financial Risks

Imported Inflation

- Higher input costs
- Profit margin pressure
- Budget instability

Macroeconomic and Financial Risks

Exchange Rate Volatility

- Increased import costs
- Revenue instability
- Planning challenges

Macroeconomic and Financial Risks

Rising Interest Rates

- Higher cost of capital
- Reduced project feasibility
- Limited access to financing

Macroeconomic and Financial Risks

Liquidity Risk

- Inability to meet short-term obligations
- Operational disruptions
- Potential project collapse

Compound Risks

Definition:

Risks resulting from the interaction of multiple risk types.

Cascading Risks Example:

Oil disruption → energy price increase → cost rise → delays → reduced ROI → financing difficulty

Management Tools:

- Network mapping
- Scenario analysis
- Stress testing

Advanced Risk Management Tools

Scenario Planning

- Multiple future possibilities
- Improved decision-making

Stress Testing

- Simulating extreme conditions
- Identifying breaking points

Advanced Risk Management Tools

Sensitivity Analysis

- Identifying key risk drivers

AI in Risk Prediction

- Predictive analytics
- Sentiment analysis
- Pattern recognition

Advanced Risk Management Tools

Early Warning Indicators

- Financial, operational, external signals
- Proactive risk response

Mitigation and Adaptation Strategies

Key Strategies:

- Supplier and energy diversification
- Financial hedging
- Business continuity planning
- Organizational resilience

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Managing Extreme Uncertainty

Key Approaches:

- Decision-making under pressure
- Agile project management
- Continuous reprioritization

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Role of Project Managers in Crises

Transformation:

From:

Plan executor

To:

Strategic risk leader

Required Skills:

- Strategic thinking
- Crisis management
- Stakeholder communication

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Role of Project Managers in Crises

New Role:

- Decision-maker
- Risk analyst
- Crisis leader



Thank You