

PMG510

Project Risk Management

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Risk assessment Considerations

Lecture 5



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Lecture 4 Summery

1. Risk management process:
2. Risk management context
3. Components of the RM context
4. Scope of the context
5. Designing a risk register
6. Risk Management Planning

Importance of risk assessment:

- **Risk Assessment:** is defined as the overall process of risk identification, risk analysis and risk evaluation.
- **The purpose of risk assessment** is to identify the significant risks that could impact the selected feature
- **An important feature of undertaking a risk assessment:** is to decide whether the identified risk is going to be evaluated at the inherent level or at the current (or residual) level.

Importance of risk assessment:

- **The benefit of undertaking assessment of inherent risk:** is that the difference between the current level and the inherent level can be identified.
- This will give an indication of the importance of the existing control measures and the information is used by internal auditors to help identify critical controls and set audit priorities.
- **For example,** if an assessment of an x-ray machine is being undertaken, the safety person will assume that the enclosure or cabinet is in good order and the risk should be assessed on that basis. The internal auditor will more easily recognize that the enclosure or cabinet is a vitally important control factor that has to be subject to a routine inspection.

Techniques of risk assessment:

- The main risk assessment techniques are as following:

1- Questionnaires and checklists: Use of structured questionnaires and checklists to collect information that will assist with the recognition of the significant risks.

2- Workshops and brainstorming: Collection and sharing of ideas at workshops to discuss the events that could impact the objectives, core processes or key dependencies

Techniques of risk assessment:

- The main risk assessment techniques are as following:

3- Inspections and audits: Physical inspections of premises and activities and audits of compliance with established systems and procedures.

4- Flow charts and dependency analysis: Analysis of the processes and operations within the organization to identify critical components that are key to success.

Advantages and disadvantages of RA techniques:

Advantages and disadvantages of RA techniques

Technique	Advantages	Disadvantages
Questionnaires and checklists	Consistent structure guarantees consistency Greater involvement than in a workshop	Rigid approach may result in some risks being missed Questions will be based on historical knowledge
Workshops and brainstorming	Consolidated opinions from all interested parties Greater interaction produces more ideas	Senior management tends to dominate Issues will be missed if incorrect people involved
Inspections and audits	Physical evidence forms the basis of opinion Audit approach results in good structure	Inspections are most suitable for hazard risks Audit approach tends to focus on historical experience
Flow charts and dependency analysis	Useful output that may be used elsewhere Analysis produces better understanding of processes	Difficult to use for strategic risks May be very detailed and time-consuming



Nature of the risk matrix:

Definitions of likelihood

Likelihood	Frequency
Unlikely	Can reasonably be expected to occur, but has only occurred 2 or 3 times over 10 years in this organization or similar organizations
Possible	Has occurred in this organization more than 3 times in the past 10 years or occurs regularly in similar organizations, or is considered to have a reasonable likelihood of occurring in the next few years
Likely	Occurred more than 7 times over 10 years in this organization or in other similar organizations, or circumstances are such that it is likely to happen in the next few years
Almost certain	Has occurred 9 or 10 times in the past 10 years in this organization, or circumstances have arisen that will almost certainly cause it to happen



Nature of the risk matrix:

Definitions of impact

Descriptor	Definition
Small	No impact on patient health; minor reduction of reputation in the short run; no violation of law; negligible economic loss which can be restored
Moderate	Minor temporary impact on patient health; small reduction of reputation that may influence trust for a short time; violation of law that results in a warning; small economic loss that can be restored
Severe	Serious impact on health; serious loss of reputation that will influence trust and respect for a long time; violation of law that results; large economic loss that cannot be restored
Catastrophic	Death or permanent reduction of health of patient; serious loss of reputation that is devastating for trust; serious violation of law; considerable economic loss that cannot be restored



Nature of the risk matrix:

- Identification of potentially significant risks will be undertaken during a risk recognition exercise. It is necessary to decide the:
 1. Magnitude of the event should the risk materialize;
 2. Size of the impact that the event would have on the organization;
 3. Likelihood of the risk materializing at or above the benchmark;
 4. Scope for further improvement in control.

Attitude to risk:

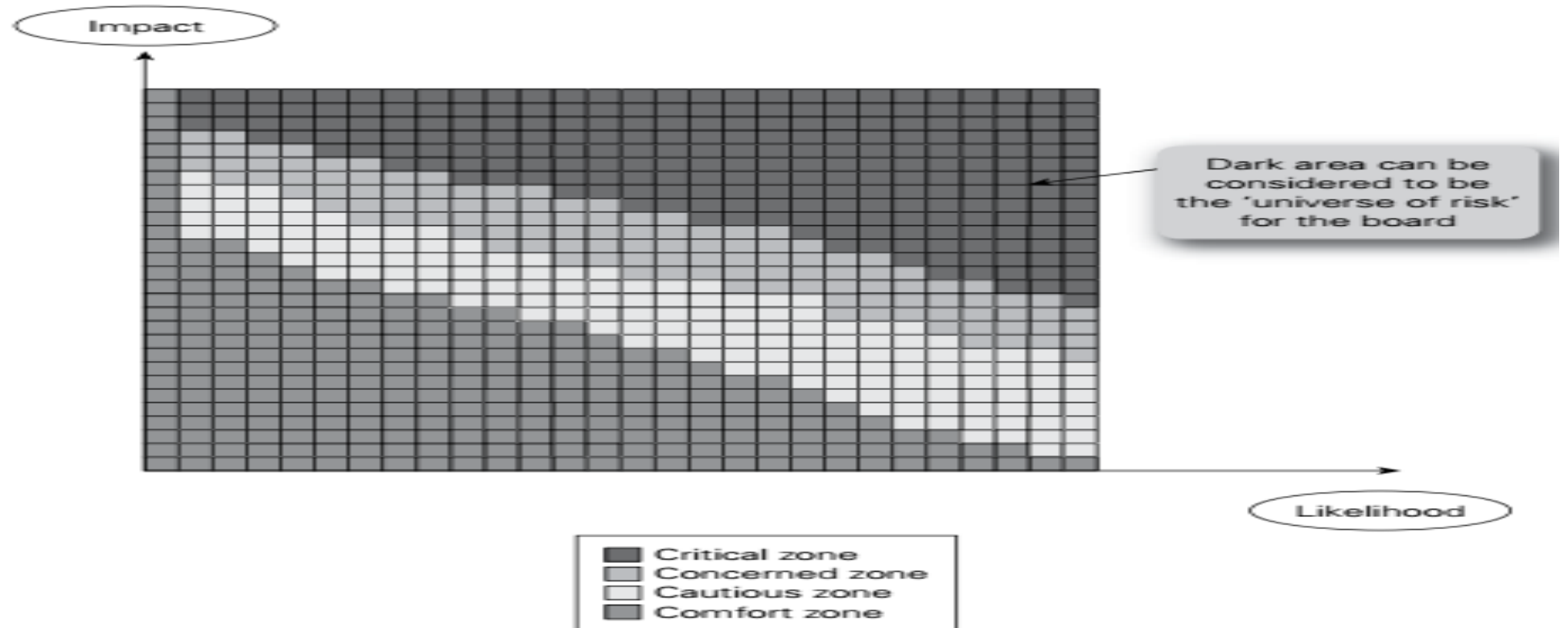
- **Risk attitude** represents the long-term approach of the organization to risk
- It is becoming more common for a risk attitude matrix to contain four sections.
- These sections can be represented by the 4Cs of **comfort, cautious, concerned and critical**.

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Risk assessment considerations

Attitude to risk:

Risk attitude matrix



Attitude to risk:

Example risks involved in buying a car:

- As an example that brings together the ideas of risk appetite and hazard, control and opportunity risks, consider the decision to buy a car.
- When deciding which car to buy, there is a need to evaluate hazard tolerance and acceptance of uncertainty, as well as the sum of money that will be invested in the opportunity of owning a new vehicle.
- Together, these components represent the risk appetite to buy and run a car. In order to achieve an upside of taking the risk of buying a car, the benefits obtained must exceed the costs involved

Attitude to risk:

Example risks involved in buying a car:

- If undertaking a risk-based evaluation of buying a car is to help with the decision-making process, the intended benefits of car ownership should be established. This is equivalent to identifying the objectives associated with car ownership.
- The actual financial capacity and ability to run a car also needs to be considered. When buying a new vehicle, the buyer needs to make sure that the vehicle selected will not lead to more risk and cost than anticipated. The risks that are associated with owning a vehicle include breakdown, repairs, accidents, servicing costs and insurance, as well as the purchase price and the anticipated annual depreciation.

Attitude to risk:

Example risks involved in buying a car:

- Assume that the decision has been taken to buy a two-year-old prestigious car. The car will cost much less money than a new vehicle and the depreciation costs will be much less (opportunity risks). However, the repair and maintenance costs may be higher than for a new vehicle (control risks). The exposure to accidents, theft and repair costs will be similar for most vehicles (hazard risks).
- Remember that the opportunity risks enhance the possible achievement of the benefits of owning a car. The control risks increase uncertainty or doubt about achieving these benefits and the hazard risks inhibit the achievement of the car ownership benefits

1- short-, medium- and long-term risks:

- The classification of risks into short, medium and long term helps to identify risks as being **related (primarily) to operations, tactics and strategy**, respectively.
- This distinction is not clear-cut, but it can assist with further classification of risks.
- there will be some short-term risks to strategic core processes and there may be some medium-term and long-term risks that could impact operational core processes.

1- short-, medium- and long-term risks:

- **A short-term risk** has the ability to impact the objectives, key dependencies and core processes, with the impact being immediate.
- **Medium-term risks** usually impact the ability of the organization to maintain effective and efficient core processes that are concerned with the management of tactics, projects and other change programmes.
- **Long-term risks** usually impact the ability of the organization to maintain the core processes that are concerned with the development and delivery of effective and efficient strategy.

1- short-, medium- and long-term risks:

- The next Figure illustrates short-term, medium-term and long-term risks in terms of the source of these risks.
- The risks arise from the operations, tactics and strategy adopted by the organization.
- For the sake of completeness, the category of compliance risks is also included, since this is an additional category to operations, tactics and strategy.

1- short-, medium- and long-term risks:

- The need to respond to risks according to whether they arise from strategy, tactics, operations or compliance (STOC) is summarized by embrace, manage, mitigate and minimize (EM3) respectively.
- The purpose of the bow-tie illustration of risk management is to demonstrate that sources of risk can lead to events that have consequences

1- short-, medium- and long-term risks:

Bow-tie representation of risk management



1- short-, medium- and long-term risks:

- The pervious Figure provides an example of the bow-tie being used to represent the three components of risk: source, event and impact.
- In this high-level representation, risk sources are identified as strategic, tactical, operational or compliance.
- Impacts are represented using the FIRM risk scorecard, as described in the following Table.
- At the center of the bow-tie is the event, as described by the component of the organization that will be impacted by the event.

2- FIRM risk scorecard:

- The classification system also reflects the idea that every organization should be concerned about its finances, infrastructure, reputation and marketplace success. In order to give a broader scope to commercial success, the headings of the FIRM risk scorecard are as follows:
- **F** Financial;
- **I** Infrastructure;
- **R** Reputational;
- **M** Marketplace.

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Risk classification systems

short-, medium- and long-term risks:

Attributes of the FIRM risk scorecard

	Financial	Infrastructure	Reputational	Marketplace
Description	Risks that can impact the way in which money is managed and profitability is achieved	Risks that will impact the level of efficiency and dysfunction within the core processes	Risks that will impact desire of customers to deal or trade and level of customer retention	Risks that will impact the level of customer trade or expenditure
Internal or external risk	Internal	Internal	External	External
Quantifiable	Usually	Sometimes	Not always	Yes
Measurement (performance indicator)	Gains and losses from internal financial control	Level of efficiency in processes and operations	Nature of publicity and effectiveness of marketing profile	Income from commercial and market activities



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Risk classification systems

short-, medium- and long-term risks:

	Financial	Infrastructure	Reputational	Marketplace
Performance gap	Procedures Failure of procedures to control internal financial risks	Process Failure of processes to operate without disruption	Perception Failure to achieve the desired perception	Presence Failure to achieve required presence in the marketplace
Control mechanisms	CapEx standards Internal control Delegation of authority	Process control Loss control Insurance and risk financing	Marketing Advertising Reputation and brand protection	Strategic and business plans Opportunity assessment



3- PESTLE classification system:

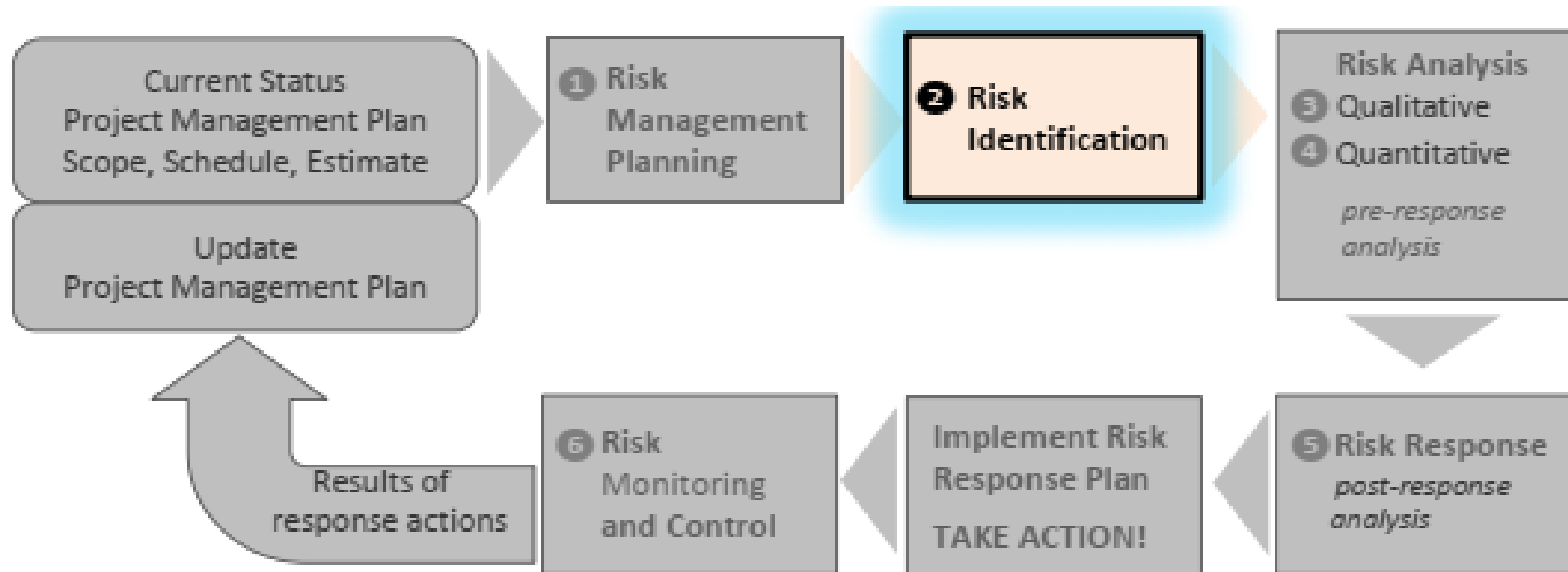
PESTLE classification system

Category of risk	Description
Political	Tax policy, employment laws, environmental regulations, trade restrictions and reform, tariffs and political stability
Economic	Economic growth/decline, interest rates, exchange rates and inflation rate, wage rates, minimum wage, working hours, unemployment (local and national), credit availability, cost of living, etc
Sociological	Cultural norms and expectations, health consciousness, population growth rate, age distribution, career attitudes, emphasis on safety, global warming
Technological	Technology changes that impact your products or services, new technologies, barriers to entry in given markets, financial decisions like outsourcing and supply chain
Legal	Changes to legislation that may impact employment, access to materials, quotas, resources, imports/exports, taxation, etc
Ethical or Environmental	Ethical and environmental aspects, although many of these factors will be economic or social in nature



4- Compliance, hazard, control and opportunity

- Categorizing risks according to a single risk classification system is not always helpful
- Risks need to be classified according to the source or impact as well as according to the timescale of the impact.
- Therefore, a combination of the FIRM risk scorecard and the classification of risks as hazard, control and opportunity risks, or classifying them according to whether they are short term, medium term or long term, all can be used to provide a complete picture.

Project Risk Identification:

Project Risk Identification:

2-1 Risk Identification during Project Development:

Risk identification is ongoing through project development:

1. Planning
2. Scoping
3. Design/Plans, Specifications, and Estimate (Engineer's Estimate)
4. Construction

Project Risk Identification:

2-2 Risk Identification: Inputs, Tools and Techniques, Outputs:

2-2.1 Risk Identification Inputs

- The most important first input is a defined project. In order to fully understand and assess project risks we must ensure a mutual understanding of the project under evaluation.
- Fundamental information about a project includes a clear statement of need. To focus on risks and uncertainties our project will face, we must know the project in context, scope, schedule, and estimate.
- Information is commensurate with the level of project development at the time of risk analysis. Progressive elaboration should not be confused with scope creep.

Project Risk Identification:

2-2 Risk Identification: Inputs, Tools and Techniques, Outputs:

2-2.2 Risk Identification Tools and Techniques

- Brainstorming: An effective method, brainstorming can range from a small informal project team effort for simpler projects to a full-blown CEVP® workshop. Effective brainstorming requires a skilled facilitator, working together with the project team and specialists who can bring additional expertise.
- Checklists and/or questionnaires to “specialty groups”: Checklists/questionnaires are quick and easy to use, but limited in nature; they only deal with the items on the list. Each project is unique, so a standard list will often not capture the project-specific risks of most concern. Though it can be limited, a checklist/questionnaire can spark thinking prior to a more formal brainstorming process.



Project Risk Identification:

2-2 Risk Identification: Inputs, Tools and Techniques, Outputs:

2-2.2 Risk Identification Tools and Techniques

- **Examination of past similar projects:** Lessons learned from past projects help us to avoid repeating mistakes. Using past examples requires prudent and objective judgment, since a previous project may be similar but is nonetheless different because each new project has unique requirements and features, including uncertainties and risks.
- A combination of the above methods and/or others: It is quite likely that for most projects, a
- combination of the above methods will be used to identify risks.

Thanks



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